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Editorial

Dear Readers,

Greetings from **GIABR !**

The primary objective of GIABR is to encourage business research with application focus rather than theory development. The theme of the GIABR 2013 international conference held in Auckland in Oct 2013 was Research for Results. The theme was chosen to highlight the significance of the need to make the business research relevant to industry. Research in any discipline, with application focus, acts as a link between academics and practitioners building a mutually beneficial relationship. Accordingly, the primary focus of business research should be to create value to industry. Otherwise, the outcome of business research, regardless of the academic rigour, will be of little value to the practitioners. Prof. Kate Kearins in her key note address said:

Following international trends, academics will increasingly have to demonstrate who their research matters to, and why. The challenge is to marry the rigour of traditional academic work with practical interventions and research of a more applied nature, and to provide compelling evidence of impact.

The pace of globalisation, developments in Information and Communication technology, changes in management structures and styles, provide opportunities and challenges for applied business research. Given that the present day managers are overloaded with information and constrained by time, it is a real challenge for business researchers to draw the formers' attention to the research findings. The emphasis must be on the relevance of the topic and the value to the practitioners.It is hoped that the articles published in this issue would enable the managers to make better decisions.

Dr. S. Gonuguntla

Editor

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CONTENTS

A Study of the Pass-through effects of Exchange rates and International Prices shocks on Inflation in the Fiji Islands

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Abstract

The main purpose of this study is to examine the effects of the exchange rates, international prices, and the demand shocks on inflation in Fiji Island . The study covers the annual data from 1975 to 2010.The variables are transformed into changes/per cent and then Ordinary Least Squares methodology (OLS) is used. The appropriateness of the OLS assumptions is tested including the normality of the residuals, autocorrelations , heteroskedasticity and functional forms. The main findings are that the Fijian dollar depreciation increases, the international price shocks in the form of Australian consumer prices increase, the Keynesian demand shocks increase, and the devaluation events increase the consumer price inflation in Fiji. As a monetary policy instrument the flexibility of the exchange rate policy is indispensable for Fiji to absorb appropriately the international supply and price shocks. We have been able to include the international supply shocks, the domestic demand shocks, the exchange rates, and devaluation dummies in our model. Though we have used a simple OLS model, the originality of our study is the comprehensiveness of the theoretical variables in our model. This study will have an important implication for the small open economy of Fiji especially its exchange rate policy.

Keyword(s):

Demand shocks, Devaluation, Inflation, exchange rates, International supply shocks, Small open economy

1. Introduction

This paper seeks to study the impact of the exchange rate, the international prices, the demand shocks, and the devaluations done on different years on inflation in the Fiji Islands for the years (annual data) 1976-2010. This research paper attempts to study the effects of exchange rates on domestic consumer prices in Fiji after controlling the effects of the supply shocks represented by the foreign prices, and the domestic demand shocks, and the devaluation episodes.

The transmission mechanism of the effects of the exchange rates on the domestic consumer prices is through import prices and export prices, and the domestic aggregate demand. Thus, changes in exchange rates imply changes in export and import prices, volume of exports and imports,

investment decisions, and last but not the least in consumer prices. The main factors influencing the degree of pass-through are openness and size of economy, besides relative elaticities of demand and supply for traded goods and macroeconomic conditions and micro economic environment (MacFarlane 2006). The author further gives a flow chart in which exchange rate depreciation has the direct effect through imported inputs become more expensive and production costs rise and thus leading to higher consumer prices, and similarly imports of finish goods become more expensive and leading to higher consumer prices. The exchange rate depreciation has indirect effects also of the domestic demand for import substitutes rising, and the demand for substitutes and exports raising their prices, and demand for labour increases and wages increase, and they all also lead to higher consumer prices.

However, the 'rational expectation hypothesis' can short circuit all those intermediate transmission mechanism between exchange rates and domestic consumer prices, and the exchange rates changes or even expected changes in exchange rates can move directly the domestic consumer prices.

There is another direct channel due to the operation of law of one price based on the purchasing power parity theory (PPP) .It is argued that the exchange rate between two monies/currencies is determined by the relative movements in the prices levels in two countries. The intellectual origins of PPP began in the early 1800s, with the writing of Wheatly and Ricardo. These ideas were subsequently revived by Cassel (1921). The Casselian approach begins with the observation that the exchange rate 'E' is the relative price of two currencies. Since the purchasing power of the home currency is 1/P and the purchasing power of the foreign currency is $1/P^*$, in equilibrium the relative value of two currencies should reflect their relative purchasing powers, $E = P/P^*$. The Casselian view suggests the consumer price index. The implication of the Casselian view is also that trade weighted exchange rate is not necessary in the empirical studies of the Purchasing Power Parity , and that of inflation studies in relatively open economies.

(CPI) is typically used in empirical implementation of the theory. However, this theory implies that the long run real exchange rate, $q = E + P^* - P$ is constant over time which assumption may not be realistic though mean reversion to the long run Q is a good possibility.

The commodity-arbitrage view of PPP, articulated by Samuelson (1964) says that the law of "one price" is applicable only for all internationally tradable goods. Therefore this theory is more applicable to tradable goods only which can be expressed in the following way:

$P = P^* E$

Where P = domestic currency price of imported goods

E is the exchange rate expressed as units of domestic currency per unit of foreign currency

P^* is the foreign price index.

Expressing in log form:

$Log P = ß \log P^* + â \log E$

The law of one price implies that $ß = â = 1$ in which case changes in exchange rates completely pass through to domestic price of the traded goods.

In a pass-through exchange rates to inflation model but the dependent variable as the import prices of the USA, Hellerstein, Daly, and Marsh's (2006) study the US import price's responsiveness to the changes in US dollar for various time periods.

1.1 Exchange Rate and Monetary Policy Regimes in Fiji

Fiji has been following the fixed exchange rate regimes since 1975 and its currency the Fiji dollar came to be linked to a basket of five currencies of its major trading partners: Australia, Japan, New Zealand, the UK and the USA. From the beginning of 2000, the British pound was replaced by euro. Fiji has witnessed three episodes of devaluation of its currency since 1975: the first was in 1988 by 33% to prevent the capital outflows arisen out of two military coups in 1987, in 1998 by 20% to withstand the pressures of the Asian financial crisis, and in 2009 by 25% because of the global financial crisis and subsequent world recession of the year 2008. The Reserve Bank of Fiji is allowing the varying the exchange rate by market forces with in bound from +/- 0.07% of the central rate. The main exchange rate restrictions are on capital account transactions by the residents.

Fiji's central bank, the Reserve Bank of Fiji (RBF) has two objectives: maintaining price stability and maintaining adequate level of foreign reserves. In regard to the objective of price stability RBF seeks to keep headline inflation low in the range between 0-3 per cent. As regards the second objective RBF seeks to maintain an adequate level of foreign exchange reserves, which may cover at least four months of imports of goods and services. During the 2000 – 2010 period average headline inflation has been around 3.8 per cent. In 2007, inflation was around 4.3 per cent. In 2008, higher import prices raised food prices. Inflation spiked from 5.8 per cent in May 2008 to a 20 year high of 9.8 per cent in September 2008, though subsequently it has fallen to 8.5 per cent. As a result of Fiji's devaluation in 2009 April of its currency by 20 per cent, again consumer prices reached 8 per cent.

The endogenity of the quantity of money in a fixed exchange open economy has been a central proposition of the so-called "monetary approach" to balance of payments analysis associated the work of Johnson (1972) and Mundell (1971). It is common knowledge that in a pegged exchange rate regime with open economy, the domestic price level will be determined greatly by the international price level. However in Fiji Island's case the exchange rate regime retain some flexibility though it is a pegged exchange rate system.

The next section will survey the literature on the studies on Fiji regarding the exchange rate pass through, and the monetary transmission mechanism.

2. Literature Survey on Inflation Study for Fiji

Katafono (2000) in an interesting study on inflation in Fiji over the period 1966-1998 examined the relation between various monetary aggregates, and inflation and real GDP using the time series technique of Vector Auto Regression. They have done the VAR in first differences as many data are non-stationary. Their main conclusions are that M1 definition of money is Granger causing inflation in Fiji, inflation is not Granger causing M1, broad money and inflation are not Granger causing each other, M1 is Granger causing nominal GDP and nominal GDP is not Granger causing M1, nominal GDP is Granger causing Quasi money and not vice versa, nominal GDP and broad money are not Granger causing each other, real GDP and M1 are Granger causing each other, real GDP and broad money are not Granger causing each other. Their findings are interesting, especially that M1 is Granger causing inflation in Fiji. Their further results on block exogenity etc show that there is no single monetary aggregate which has clear explanatory power over inflation and real output in Fiji. The main drawback of their research methodology is that though they tested for non-stationarity and found

that many variables are non-stationary, they have not tested if there is cointegration between non-stationary variables, and without knowing that, they have gone for first differencing the data and for doing VAR with differenced variables. Jayaraman et al (2010) have examined the period 1970-2007 for Fiji the relation between real domestic product(RGDP), a monetary aggregate(M2), and consumer prices through cointegration and error correction models. Though their reported cointegrating vector in that article is only for GDP as the dependent variable, one can indirectly calculate the price as normalized to unity and can find the correct positive sign for money supply cointegrating coefficient, which is also statistically significant, as the independent variable and the price as dependent. However, they subsequently point out that when the vector error correction model is run, they find that when the change in RGDP is taken as the dependent variable only the error correction coefficient has the right negative and significant coefficient between 0 and minus one, and not when the change in consumer price is taken as the dependent variable. In the VEC model, the change in money supply is positive and significant in explaining the change in the price level as a short run phenomenon, and we are not sure about the long-run effect as the error correcting factor, though negative, is not statistically significant. Therefore, the implication of Jayaraman et al (2010)'s results is that for Fiji the inflation cannot be explained by the exogenous money supply as the monetarists argue. In the cointegrating vector, when Jayaraman et al normalized the LRGDP as the dependent variable, the coefficient of the price level is negative and significant, the money supply is positive and significant, and the exchange rate is negative and significant, and the lending interest rate is negative but not significant. It implies that if we normalize for the price level, the exchange rate is negative

and significant. An exchange rate depreciation leads to the increasing price level. But we should be careful in interpreting the cointegrating vector as this vector does not give the causal relations. It is interesting to note that in the VEC model, when the change in GDP is taken as the dependent variable, the change in exchange rate is positive and statistically significant. But Jayaraman et al (2010) do not give any explanation about this the short run relationship between exchange rate appreciation and increase in GDP in their reported results of the VEC model.

But Jayaraman et al give the forecast error variance results of the price level where after 5 years the money supply and exchange rates explain much of the variance in price level. But contradicting that finding, their impulse response function shows that the response of the price to the monetary shocks is positive and significant only for the first five years. They do not give any explanation for the inconsistency between the two results of the variance decomposition and impulse response functions. However, Jayaraman et al (2010) reach a general conclusion that they find the most variability in output and inflation is explained substantially by money shocks. They assert, "therefore, money does matter in Fiji", and they affirm the conclusions reached by Rao and Singh (2006) in their survey article on monetary policy that "Fiji's central bank should use the money supply as its main policy instrument, instead of interest rate or the bank rate." However, we are of the view that Jayaraman et al's (2010) final conclusions and their empirical results presented in different tables are not necessarily very consistent with each other as they initially reported that when the change in price is taken as the dependent variable, they did not get a statistically significant negative error correcting coefficient.

Jayaraman et al (2012) analyse the exchange rate pass-through in Fiji for the period 1982-2009.

They have used the log of the consumer prices in Fiji, log of M2, log of the exchange rate Fiji dollars per unit US dollar, and log of the Treasury Bill rate as variables and found one cointegrating vector among those non-stationary variables. In the cointegrating vector when log of consumer prices is normalized as unity, the coefficient of the M2, and the exchange rates are positive and significant, and that of the interest rate is negative though not significant. In the VEC form when the change in the consumer price is taken as the dependent variable, the coefficient of the error factor as expected is negative and significant. Jayaraman et al conclude that exchange rate pass-through effect is true for Fiji to the consumer prices. However, they have found that for the post coup period 1987- 2009 period this pass-through effect is weakened. They argue that this weakening effect may be due to the stability in exchange rate movements, and more competitive pricing environments.

Narayan et al (2012) in an interesting study on Fiji for the period 1975-2005 about the monetary transmission mechanism use structural VAR and come out with very drastic but mostly pessimistic conclusions: "we find that a monetary policy shock statistically significantly reduces output initially, but then output is able to recover to its pre-shock level. In addition, we discover that a monetary policy shock instigates inflationary pressure, leads to an appreciation of the Fijian currency and reduces the demand for money. We also analysed the impact of a nominal effective exchange rate(NEER) shock (an appreciation) on real output and found that it leads to a statistically significant negative effect on real output. " "…..In addition, we discover that a monetary policy shock instigates inflationary pressure, leads to an appreciation of the Fijian currency and reduces the demand for money. We also analysed the impact of a nominal effective

exchange rate (NEER) shock (an appreciation) on real output and found that it leads to a statistically significant negative effect on real output ." The drastic and debatable finding of them is that a tight monetary policy would lead to more inflation in Fiji. They justify the findings further: "The RBF increased official interest rates twice in 2006, from 2.25 to 4.25 per cent, despite which inflation has increased from1.8 to around 6 per cent. It should be noted that in Fiji the interest rate spread is high. In 2006, the savings deposit rate was 0.84 per cent while the average lending rate was around 7.89 per cent. A savings deposit rate of less than 1 per cent is not a sufficient incentive for consumers to save…." Though one may have sympathy with Pares Naryan et al (2012) findings, one may not fail to find an inconsistency in the arguments that the tight monetary policy can lead to inflation and therefore to exchange rate depreciation fear, and at the same time, leading to an appreciation of the exchange rate and therefore to the reduction in output!

In another important article, IMF economists Peiris and Ding (2012) argue "Therefore, pegged exchange rate regimes should not preclude considerations to introduce some flexibility to increase the role of the exchange rate in absorbing external shocks and to provide additional freedom for monetary policy." "McCallum (2006) compares the performances of Taylor-rule type interest rate rules and exchange rate based approaches to inflation targeting in an economy with varying degrees of openness. The key finding is that as the degree of openness increases an exchange rate based approach to inflation targeting does much better than the standard interest rate based approach in stabilizing output, with no adverse consequences for inflation variability. The reason for this result is that in an interest rate based approach, the variability of the interest rate is low while that of the exchange rate is high, while in an

exchange rate based approach, the opposite is found. These results suggest that in an economy with a high exchange rate pass-through to imported goods prices and low interest rate sensitivity of aggregate expenditures, smoothing the exchange rate rather than interest rates may help control inflation and reduce output volatility."

Peiris and Ding's (2012) main results and conclusions are: "The impact of monetary impulses on headline inflation is not as significant as exchange rate fluctuations. The pass-through of the exchange rate to headline inflation is 60 percent within 4 one year, with a complete pass-through within the second year. On the other hand, the impact on and variation of headline inflation explained by monetary impulses is relatively small whether one considers broad money, domestic credit, reserve money, or interest rates, as in the baseline model. In fact, higher interest rates are associated with greater inflation possibly indicating a reverse causation where exchange rate changes and inflation determine the level of interest rates."

Another important finding by Peiris and Ding (2012) is that real GDP is not well explained by the shocks considered except its own innovations, probably reflecting the importance of supply-side factors and policy variables not captured such as fiscal policy. Interestingly, global commodity prices appear to affect economic activity more than global GDP indicating a relatively weak impact of external demand compared to terms of trade, although none of the these effects are statistically significant.

The major point emerging out of the literature survey is the dominant role of exchange rates, and the exogenous international prices in transmitting the inflation in to the Pacific economies.

The role of and the transmission mechanism of the monetary policy in these Pacific countries, is still an area where there are different views by the scholars and more research is needed.

3. The Model and the Variables of the study

A simple OLS model is proposed to study the effects of exchange rate pass-through effect on the consumer prices in Fiji:

$$P_t = ? + 1?_{i=0}\, a_i\, e_{t-i} + 1?_{j=0}\, b_j\, w_{t-j} + c_t\,(Y_t) + ?_t$$

Where P_t is an index of Fiji consumer prices at time t. ? is a constant . e_{t-i} is the Australian dollars / Fijian dollar nominal exchange rate at time t minus i (previous time period), w_{t-j} is a control for supply shocks (the Australian consumer prices index is taken as a proxy) that affect domestic consumer prices independently of exchange rates, Y_t is a control variable for demand shifts that may affect import prices (GDP at current prices minus exports plus imports is taken as a proxy). Each of the variables is in per cent change terms except the Fijian dollar exchange rate where it is only the change in variable. Exchange rate pass-through is the sum of the a_i coefficients on the nominal exchange rate coefficient e at time t plus four lagged variables. Domestic demand, defined as GDP minus exports plus imports, serves as a proxy for domestic demand shifts. Foreign production costs (Australian consumer prices) serve as a proxy for supply shocks.

3.1 Variables for Pass Rate Model

For this OLS model variables are in changes or per cent form.

1. CPIF: CPI for Fiji

2. CCPIF: Change in CPIF

   = ((CPI Yr 2-CPI Yr 1)/CPI Yr1)*100

3. EXAUS:

   Exchange rate for Australia (A$/F$)

4. CEXAUS: Change in EXAUS

   = (EXAUS Yr 2 - EXAUS Yr 1)

5. DS: Demand shock

6. CDS: Change in DS
    = ((DS Yr 2-DS Yr 1) /DSYr1)*100

7. CPIA: CPI for Australia as a proxy of supply shock.

8. CCPIA: Change in CPIA=((CPI Yr 2-CPI Yr 1)/CPI Yr1)*100

9. DD: dummy for devaluation years, 1988, 1998, and 2009.

Sources of data are from the Reserve Bank of Fiji publications.

3.2.Sample Time period

The original data period is from 1975 to 2010 annual data. But once we take per cent and or differences of the variables, one year is lost and then one lag is used and so the period adjusted sample is 1977 to 2010.

4. Results and Interpretations

As shown in Table 2 below, we can observe that the dependent variable, the per cent change in Fiji consumer price index (CCPIF) is well explained by the independent variables in the OLS model. All the independent variables have the expected right signs and the coefficients are statistically significant. The change in the exchange rate variable has the negative sign and statistically significant at 5 % level. The depreciation of Fiji dollar creates inflation and appreciation reduces inflation in Fiji. Fiji has about 60 to 70% of imports and exports in GDP and exchange rate is highly relevant when targeting inflation at Fiji. This exchange rate variable in change form is not normalized by dividing by the previous year (not per cent form) as the absolute change in the exchange rate is more relevant as an independent variable in causing domestic inflation. The supply shock proxy variable, the per cent change Australian consumer price index (CCPIA), has the

right positive sign and is statistically significant at one per cent level, and the order of magnitude of the coefficient of 0.6 is of much economic significance as it is expected to be near unity from a purchasing power parity framework. Once we control for exchange rate, there is almost one to one correspondence between foreign inflation and the domestic inflation in Fiji.

The demand shock variable, CDS, which is created by nominal GDP minus exports plus imports, also has the expected positive sign and is statistically significant at 5 per cent level. This is in line with a Keynesian perspective that demand shocks have also been important in explaining inflation in Fiji. All components of GDP like the wage pressures etc are relevant here.

Last but not least, the devaluation dummies are also of the expected positive signs and are statistically significant at 5 per cent level. The devaluations had definitely inflationary effects in Fiji.

Other statistical inference criterion like the R2 of 0.48 is fairly alright. The normality of the residuals is tested by JB criterion and the null of normality is not rejected. No autocorrelation hypothesis is accepted by BG LM test, there is no heteroskedasticity, null is not rejected at 1 % level, and the right functional form Ramsey test is also accepted at 1 % level. Therefore, the OLS model is very appropriate for our purposes, and the variables are put in the appropriate transformation and functional form.

5. Conclusions

In the small open economy of Fiji the exchange rate is an important determinant of inflation. The Fijian dollar depreciation has increased inflation and the appreciation has reduced inflation in Fiji. This is consistent with

the earlier findings of Jayaraman et al (2010), and Peiris and Ding (2012). This substantially corroborates the argument of Peiris and Ding (2012) that the exchange rate flexibility is to be recognized as a more relevant tool of monetary policy than interest rates or money supply rather than the argument of Jayaraman et al (2010) and Rao and Singh (2005) that the money supply is the relevant tool of monetary policy in Fiji. However, we need more studies on the endogenity and exogeneity issue of the money supply in the more or less pegged exchange rate regime of Fiji.

The inflation in Fiji is also greatly determined by the foreign consumer prices of Australia. The mining boom and high real estate and property prices in Australia and other foreign supply shocks influence the inflation in Fiji. The foreign supply shocks and terms of trade shocks etc influence much the inflation in Fiji. This also points to the necessity for a flexible exchange rate policy in Fiji. For example, if the Australian consumer price increases, and if the Fijian dollar nominal value remains constant, the inflation in Fiji would increase. When Australian prices increase exogenously as foreign supply shock, Fiji has a policy choice of appreciating its currency to prevent imported inflation. Please note that this would have automatically happened if it has a freely floating exchange rate regime. This is the policy choice of the advantage of the exchange rate flexibility which Fiji can utilize to which our results in this study, and that of Peiris and Ding (2012) point towards. We have made here a humble contribution to the debate on the pegged versus flexible exchange rate policy for the small island countries of the Pacific , and our empirical research corroborates the view that the pegged exchange system should have more flexibility in the Pacific small countries.

Keynesian demand shocks are also not unimportant in explaining inflation in Fiji. The wage increases, fiscal deficits, etc can come indirectly under this category though our variable demand shock is only nominal GDP minus exports and plus imports.

The devaluations happened in Fiji on three occasions, in 1988, 1998, and 2009, positively affected the inflation. Once the inflation increases, the effect of nominal depreciation of Fiji dollar gets reduced as the real exchange rate can even appreciate, defeating the objective of promoting exports and import competing industries.

Though we used only OLS as research methodology, we have been able to consider most of the relevant variables, the exchange rate, the foreign prices as supply shocks, the demand shocks, and the exogenous devaluations in explaining inflation in Fiji.

Figure 1: Graph illustration of inflation rate as represented by percentage in CPI for Fiji.
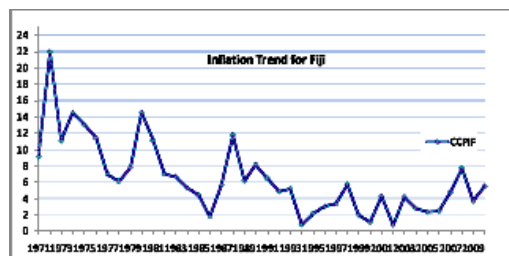
Table 1: Inflation in Fiji

	Change in CPI Fiji (%)	Change in Ex. Rate (AUS/FJ)	Change in CPI Aus. (%)	Change in Demand Shock (%)
1976-1980 (Avg.)	9.37	0.01	10.59	12.96
1981-1990(Avg.)	6.82	-0.02	8.13	7.47
1991-2000 (Avg.)	3.48	0.00	2.22	6.35
2001-2005 (Avg.)	2.88	-0.01	3.03	8.81
2006	2.49	-0.01	3.54	12.75
2007	4.80	-0.03	2.33	-1.63
2008	7.73	0.01	4.35	9.39
2009	3.69	-0.10	1.82	-7.50
2010	5.54	-0.09	2.85	6.45

Data Source: Reserve bank of Fiji, World Development Indicators (WDI Online)

Table 2: OLS Results

Dependent Variable: CCPIF Method: OLS   Sample (adjusted): 1977 : 2010 (34 Observations)

Variable	Coefficient	t-Statistic
CEXAUS(-1)	-10.93846	-2.084795**
CCPIA	0.650894	7.474825***
CDS	0.172621	3.366572***
DD	2.953996	2.100994**
R-squared	0.483594	Mean dependent var 5.207599
Adjusted R-squared	0.431954	S.D. dependent var 3.120381
S.E. of regression	2.351795	Akaike info criterion 4.658365
Sum squared resid	165.9281	Schwarz criterion 4.837937
Log likelihood	-75.19221	Hannan-Quinn criter. 4.719605
Durbin-Watson stat	1.809072	

*Note: *, **, *** significance level at 10%, 5% and 1% level respectively.*

Diagnostic Test

	Null Hypothesis	P Value	Test	Decision
Normality	Normally distributed	0.67	JB	Do Not reject null at 1%.
Autocorrelation	No auto correlation	0.57	BG LM	Do Not reject null at 1%.
Heteroskedasticity	No Heteroskedasticity	0.82	BPG	Do Not reject null at 1%.
Functional form	Correct functional form	0.66	Ramsey	Do Not reject null at 1%.

Indicating all OLS conditions are fulfilled.

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Motivation for Adopting ISO 9000 Quality Management System and Firm Performance: A Case of Malaysian Construction Firms

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Abstract

This study was conducted to investigate the motivation for construction firms in adopting ISO 9000 Quality Management System (QMS) and to examine the impact of ISO 9000 QMS on the performance of construction firms. A questionnaire survey was used to collect data amongst 125 ISO 9000 certified construction firms in Malaysia. The findings revealed that the implementation of ISO 9000 QMS has a significant positive impact on the operational performance and business performance. It was found that both external motivation and internal motivation are of importance for Malaysian construction firms in adopting ISO 9000 system. However,internal motivation for certification was found to have a stronger positive effect on the implementation effort of ISO 9000 QMS, compared to external motivation such as regulatory requirement for certification from The Construction Industry Development Board (CIDB) Malaysia. The implementation effort of ISO 9000 QMS was found to have partial mediating effect on the relationship between the motivation for certification and the organizational performance of Malaysian construction firms. Managers need to recognize that the commitment and effort of employees in ISO 9000 implementation is crucial in gaining improvements in organizational performance.

Keyword(s):

construction, motivation,performance,quality management.

1. Introduction

In today's competitive business world, it is very important for an organisation to have a good quality management system to increase its market share, to improve business performance and to gain a competitive advantage (Sohail and Teo 2003; Vouzas 2007). ISO 9000 QMS standards is widely known as the international standard of quality management (Lee et al, 2009). Substantial research studies on ISO 9000 QMS have been conducted in the past two decades. However, mixed results were found on the relationship between organizational performance and the implementation of ISO 9000 QMS (Prajogo, 2011). Therefore, numerous studies further looked into the factors that can influence the implementation and benefits of ISO 9000 QMS (Prajogo, 2011). Motivation for certification is one of the major factors (Mallaket al, 1997; Sun, 2000; Singelset al, 2001; Williams, 2004; Mahmood et al, 2006; Terziovski and Power, 2007; Jang and Lin, 2008; Srivastav, 2010;Prajogo, 2011).

1.1 . Background

Although many manufacturing and service

companies widely accepted ISO 9000 QMS (Willaret al, 2010), it is not widely accepted by the construction industry (Bubshait and Al-Atiq, 1999; Said et al, 2006). The construction industry is one of the major contributors for Malaysia's annual Gross Dosmetic Product (GDP). Even though it only accounts for less than 4% of GDP for the past 5 years (Bank Negara Malaysia, 2012)the output of construction industry affects the growth of other economic sectors, such as manufacturing and financial services. Therefore, it is very important to maintain the Malaysian construction industry as a healthy, growing business.

All organizations that want to carry out any construction works in Malaysia must register with Construction Industry Development Board (CIDB) Malaysia.In 2006, CIDB Malaysia announced to impose the regulation that all registered Grade G7construction firms (no limit of tendering capacity, above RM10 million) must obtain ISO 9001 certificate, effective 1 January 2009. CIDB Malaysia contended that ISO 9000 certification can enhance the quality initiative in the construction industry and performance of individual construction firm (CIDB Malaysia, 2007). However, mixed results were found by studies that focused on the relationship between organizational performance and the implementation of ISO 9000 QMS (Prajogo, 2011).

Previous studies by Arumugan et al(2008), Naser et al(2004), Said et al (2006) and Kong et al (2010) showed that the implementation of ISO 9000 QMS can improve the performance of firms, including construction firms. Numerous studies further looked into the factors that can influence the implementation and benefits of ISO 9000 QMS (Prajogo, 2011). Motivation for ISO 9000 certification is found to be one of the factors that

can influence the implementation of ISO 9000 QMS and the performance of ISO 9000 certified organizations (Mallaket al, 1997; Sun, 2000; Singelset al, 2001; Williams, 2004; Mahmood et al, 2006; Terziovski and Power, 2007; Jang and Lin, 2008; Srivastav, 2010;Prajogo, 2011). Motivation for certification will determine the commitment of an organization to ISO 9000 implementation and the resources that an organization wants to invest for the ISO 9000 implementation (Leung et al, 1999; Gotzamani and Tsiotras, 2002; Prajogo, 2011). However, none of the above mentioned studies investigated the impact of motivation for certification on the implementation and benefits of ISO 9000 QMS in Malaysian construction sector - a sector that acts as a stimulant to the growth of other sectors in an emerging economy.

The objective of this study is to determine the relationships between motivation for ISO 9000 certification, implementation effort and organizational performance in the construction industry of an emerging economy, using Malaysia as a case.

1.2. Scope and Outline of paper

This empirical study presents data, analysis and findings from a survey conducted in the construction sector in Malaysia. An instrument adapted from the global survey instrument of Corbett and Luca (2002) and Pan (2003) was utilised.

The paper is organised as follows. Section 2 presents a review of previous studies on motivation for ISO 9000 certification, ISO 9000 implementation effort and organisational performance.Section 3 discusses the methodology used while section 4 presents the results. This is followed by the discussion of results and conclusion in the last two sections.

2.Literature review

A review of relevant literature is presented in this section.

2.1 Motivation for ISO 9000 certification and implementation effort of ISO 9000 QMS

Motivation for ISO 9000 certification is one of the factors that can influence the implementation of ISO 9000 QMS and the performance of ISO 9000 certified organizations (Sun, 2000; Huarnget al, 1999; Singelset al, 2001; GotzamaniandTsiotras, 2001; Boiraland Roy, 2007;Prajogo, 2011).Some researchers (Escancianoet al, 2001; Inaki et al,2006;Castkaet al, 2006; Zaramdini, 2007; Lee, 1998; Dissanayakaet al, 2001)listed all the necessary motivation factorsin their studies. However, some researchers further classified the motivation factors into different types in their studies. Table 2.1 shows the classification of ISO 9000 motivation factors from the different studies.

Table 2.1: Classification of Motivation Types

Studies	Motivation Types
Anderson *et al* (1999)	compliance related motivation, quality management and communication related motivation
Huarng*et al* (1999)	active motivation, passive motivation and international motivation
Leung *et al* (1999)	customer-driven motivation, non-customer–driven motivation
Singels*et al* (2001) GotzamaniandTsiotras (2002)	internally motivated, externally motivated true quality improvement motives, motives focused on external pressure
LlopisandTari (2002), Zaramdini (2007)	internal reason, external reason
Boiraland Roy (2007),Sampaio*et al* (2009)	Internal motivation, external pressure
Terziovskiand Power (2007), Jang & Lin (2008), Prajogo (2011)	Internal motivation, external motivation
Lo (2002)	External need, Internal need, Cost

Except for the study by Leung *et al* (1999), the literature reviewed showed that motivation for certification is a significant factor in determining the success of ISO 9000 QMS implementation.

Based on the literature reviewed, the motivation for ISO 9000 certification can be categorized into internal motivation and external motivation. When an organization really feels that it is needed or there are internal forces pushing to implement ISO 9000 QMS for operational improvement, such as quality improvement, cost reduction and process efficiency improvement, the motivation is referred to as internal motivation.When an organization gets certification just because of external pressure such as customers' requirement, desire to increase market share, governmental regulation and pressure from certified competitors, the motivation is referred to as external motivation (LlopisandTari, 2003; Zaramdini, 2007; Jang and Lin, 2008; Sampaio*et al*, 2009; Prajogo, 2011).

External motivation for certificationcan only bring external benefits such as competitive advantage from a good image and an improvement

of market penetration from certification requirement (Kemenade*et al*, 2011). However, internal motivation for certification can bring both external and internal benefits (Zaramdini, 2007; Kemenade *et al*, 2011). Studies by Singels*et al* (2001), GotzamaniandTsiotras (2002), LlopisandTari (2002), William (2004), Terziovskiand Power (2007), Zaramdini (2007) and Feng *et al* (2008)showed that internally motivated ISO 9000 certified organizations will gain greater benefits than externally motivated certified organizations. Internal motivation for certification can provide a favourable context and internal improvement focus for an organization to implement ISO 9000 QMS effectively (Prajogo, 2011). Internal motivation for certification is more likely to motivate the top management and employees for the full commitment of ISO 9000 implementation (Leung *et al*, 1999; Williams, 2004; Jang and Lin, 2008; Kemenade*et al*, 2011). The findings of Jang and Lin (2008) and Prajogo (2011) showed that there is a positive relationship between internal motivation for certification and the implementation of ISO 9000 QMS. On the other hand, some studies (Lee, 1998; Lo, 2002; LlopisandTari, 2002; Ahmed *et al*, 2005; Terziovskiand Power, 2007;Dissanayaka*et al*, 2001) found that external motivation is the main motivation for their sampling organizations to get ISO 9000 certification. Most of the studies showed that external motivation for certification had no or less impact on the performance of the ISO 9000 certified organizations.

2.3 Implementation effort of ISO 9000 QMS and organizational performance

Inconsistent resultswere found in the literature reviewed on the impact of ISO 9000 QMS on organizational performance. The contradictory findings may be due to different samples, research methodologies and data analysis techniques (Singels*et al*, 2001; Haversjo, 2000; Costa and Lorente, 2007). However, numerous studies (Huarng *et al*, 1999; Han *et al*, 2007; Jang and Lin, 2008; Lin and Jang, 2008; Feng *et al*, 2008; Kong *et al*, 2010; Prajogo, 2011; Fotopoulus and Psomas, 2010) which used causal analysis consistently found that the implementation of ISO 9000 QMScan positively (directly or indirectly)affect the performance improvement of certified organizations.If the ISO 9000 QMS is not implemented effectively, the desired benefits cannot be realized (Psomas*et al*, 2010; Sampio *et al*, 2009).

Different studies used different dimensions of organizational performance for investigating the impact of ISO 9000 QMS (Said *etal*, 2006). For the purpose of this study, organizational performanceis classified into two dimensions - operational performance and business performance, based on the studiesby Feng*et al* (2008) and Lin and Jang (2008). The operational performance refers to the performance of the company's internal operation including operatingprocesses, working procedures, product quality, employee involvement and customer satisfaction. Business performance refers to the company's market development and financial performance such as profit, sales and market share.

2.4 Effects of organization size and length of ISO 9000 implementation

The studies of Leung *et al* (1999), GotzamaniandTsiotras (2001), Yong and Wilkinson (2001), LlopisandTari (2003), BayatiandTaghavi (2007), Feng *et al* (2008), Mady (2009), Fotopoulos andPsomas (2009) and Dissanayaka*et al* (2010) used comparative analysis to test the effect of the organization size and length of ISO 9000 implementation on the benefits and implementation of ISO 9000 QMS. Larger companies have more funds and resources

than smaller firms, to implement ISO 9000 QMS (Yong and Wilkinson, 2001; Mady, 2009; Fotopoulos andPsomas, 2009). Thus, motivation for certification shall have a stronger positive effect on the implementation effort of ISO 9000 QMS in larger firms compared to smaller firms.

Organizations with a longer duration of ISO 9000 implementation have a higher implementation level of quality management practices due to a higher level of quality commitment (Gotzamani

and Tsiotras, 2001; LIopisand Tari, 2003). Thus, for organizations with a longer period of ISO 9000 implementation or a more mature QMS, the implementation effort of ISO 9000 QMS shall have a stronger positive effect on the organizational performance.

2.5 Theoretical Framework and hypotheses

Based on the literature reviewed, the following theoretical framework was developed:-
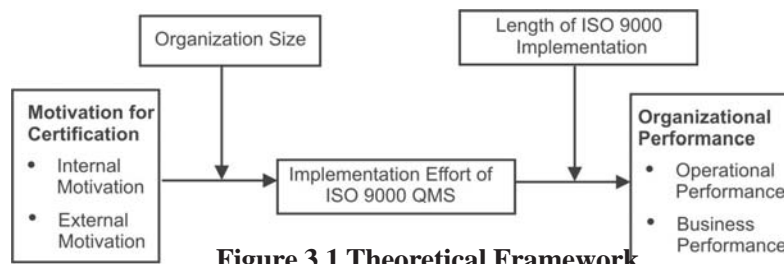
Figure 3.1 Theoretical Framework

Based on the theoretical framework in Figure 3.1, the following hypotheses were posed to be examined in the context of Malaysian construction firms:-.

H1: There is a positive relationship between motivation for certification and implementation effort of ISO 9000 QMS.

H1a: There is a positive relationship between internal motivation for certification and implementation effort of ISO 9000 QMS.

H1b: There is a positive relationship between external motivation for certification and implementation effort of ISO 9000 QMS.

H2: There is a positive relationship between implementation effort of ISO 9000 QMS and organizational performance.

H2a: There is a positive relationship between implementation effort of ISO 9000 QMS and operational performance.

H2b: There is a positive relationship between implementation effort of ISO 9000 QMS and business performance.

H3: Implementation effort of ISO 9000 QMS mediates the relationship between motivation for certification and organizational performance.

H4: Organization size has a moderating effect on the relationship between motivation for certification and implementationeffort of ISO 9000 QMS.

H5: Length of ISO 9000 implementation has a moderating effect on the relationship between implementation effort of ISO 9000 QMS and organizational performance.

3.Research Methodology

This section provides an overview on the development of the survey instrument, sampling design and data collection method .

3.1 Survey instrument

This study adopted the questionnaire survey technique to gather data.There are three sections in the questionnaire. The first section is to gather the background information of sampling organizations. The second section of questionnaire is to gather the background information of the

15

respondents. The third section is to gather the data regarding the variables, as shown in the theoretical framework, based on the respondents' perception.

The measure items in the questionnaire of this study were basically adopted from the global survey instrument of Corbett and Luca (2002) and Pan (2003).According to Corbett and Luca (2002), this global survey instrument had been administered in fifteen countries. Jang and Lin (2008), Lin and Jang (2008) and Feng *et al* (2008) also developed their survey instruments based on this global survey instrument.Additional measure items were adopted from the studies of LowandYeo (1997), Dissanayaka *et al* (2001), Zaramdini (2007) and Prajogo (2011) as these items are more applicablefor Malaysian construction firms.

To measureinternal and external motivation for certification, the respondents were asked to indicate how importanteach measurement itemis for their organizations in seekingand maintaining ISO 9000 certification. The items were assessed on a five-point Likert scale, where one represented 'not important at all' and five represented 'extremely important'.

For measuring the implementation effort of ISO 9000 QMS,the respondents were asked to indicate the perceived level of effort their organizations had to put into each ISO 9000 implementation's measure items. The items were assessed on a five-point Likert scale, where one represented 'no effort' and five represented 'very high effort'.

For measuring the improvement of operational and business performance after ISO 9000 implementation, the respondents were asked to indicate the perceived benefit level from ISO 9000 implementation for each performance measure items.The items were assessed ona five-point Likert scale, where one represented 'no benefits' and five represented 'very substantial benefits'.

3.2 Sampling design

A total of 2,086 ISO 9000 certified construction organizations were listed in CIDB's ISO certified construction organizations directory on 29 January 2011. Based on the minimum sample calculation formula suggested by Saunders*et al* (2007), the minimum sample size for this study is 324.However, the response rate for surveys in Malaysia is found to be below 20 per cent (Othman *et al*, 2001; cited by ZadryandYusof, 2006;Kanapathy and Jabnoun, 1998). With an estimated response rate of 20per cent,we set a larger sample size of 1620.

3.3 Data Collection

Prior to the distribution of questionnaires, the pilot survey toreview the clarity, relevancy and applicability of questionnaire was conducted.After conducting the pilot survey and gathering the comments, the questionnaire was slightly amended.

The samples of this study were randomly selected from the CIDB's ISO 9000 certified construction organizations directory.Based on the contact details of the companies in CIDB directory, the questionnaires of this study were sent out by email or fax to selected organizations. A total of1650questionnaires were successfully distributed.Only 130 questionnaires were returned back, with a response rate of 8 percent. 125questionnaires were found to be valid for analysis.

4. Results

Statistical analysis results are provided in this section.

4.1 Descriptive Statistics of respondents' information

A total of 23.5% of the respondent firms have been in the construction business for 10 years or less while the rest of the respondent firms have been in construction business for more than 10 years. However, only 11.2% of the respondent firms have implemented ISO 9000 QMS for more than 10 years. Seventy two percent of the respondent firms have been certified by ISO 9000 QMS forless than or equivalent to 5 years.

4.2 Descriptive statistic of measure items

The mean value for all variables' measure items and their rankings are presented in Table 1.

Table 1: Mean Value of Measure Items

Measure Items	Mean	Rank
Motivation For Certification (1 = Not important at all, 2 = Not important, 3 = Somewhat important, 4 = Important, 5 = Extremely important)		
a. Internal Motivation		
To improve the quality of work done	4.34	4
To reduce costs of operation	3.75	6
To increase efficiency and productivity in all areas of operation	4.26	3
b. External Motivation		
To meet local and overseas customers' demands	4.11	5
To improve corporate image and gain marketing advantage	4.38	2
To comply with government regulation (such as CIDB)	4.46	1
Implementation Effort of ISO 9000 QMS (1 = No effort, 2 = Little effort, 3 = Medium effort, 4 = High effort, 5 = Very high effort)		
Identification of quality aspects	3.95	7
Defining standard procedures	4.00	5
Documentation	4.22	1
Training	3.73	8
Capital Investment	3.39	9
Top management commitment	3.97	6
Employee involvement	4.10	2
Periodic internal audits	3.89	6
Following standard procedures	4.09	3
Implementation of corrective action	4.07	4
Organizational Performance (1 = No benefits, 2 = Minor benefits, 3 = Moderate benefits, 4 = Substantial benefits, 5 = Very substantial benefits)		
a. Operational Performance Reduction of costs of operation	3.16	9
Increase of efficiency and productivity in all areas of operation	3.68	5
Improvement of the quality of work done	3.94	3
Improvement of internal processes and procedures	4.01	1
Improvement of employee morale and motivation	3.49	6
Increase of on-time delivery to customers	3.76	4
Increase of customer satisfaction	3.97	2
b. Business Performance Increase of market share	3.19	7
Increase of organization's profit	3.27	7

4.3 Construct validity and reliability

Principle component analysis results for measure items with component loadings greater than 0.5, are presented in Table 2.

Table 2: Construct Validity (Component Loading) and Reliability Test

Variables Measure Items	Component Loading	Cronbach's Alpha
Internal Motivation		**0.83**
To improve the quality of work done	0.84	
To reduce costs of operation	0.85	
To increase efficiency and productivity in all areas of operation	0.87	
External Motivation		**0.67**
To meet local and overseas customers' demands	0.70	
To improve corporate image and gain marketing advantage	0.78	
To comply with government regulation (such as CIDB)	0.79	
Implementation Effort of ISO 9000 QMS		**0.92**
Identification of quality aspects	0.75	
Defining standard procedures	0.76	
Documentation	0.69	
Training	0.75	
Capital Investment	0.74	
Top management commitment	0.81	
Employee involvement	0.74	
Periodic internal audits	0.82	
Following standard procedures	0.79	
Implementation of corrective action	0.74	
Operational Performance		**0.90**
Increase of efficiency and productivity in all areas of operation	0.84	
Improvement of the quality of work done	0.81	
Improvement of internal processes and procedures	0.82	
Increase of on-time delivery to customers	0.59	
Increase of customer satisfaction	0.56	
Business Performance		**0.85**
Increase of market share	0.89	
Increase of organization's profit	0.85	

The results of reliability tests in Table 4.3 show that Cronbach'sAlpha for each variable is more than 0.6. Thus, all the variables have good inter-item consistency reliability (Cortina, 1993; cited by Prajogo, 2011).

After the construct validity and reliability tests, the composite scores of each variable were developed by averaging the scores of theirmeasure items which passed the construct validity and reliability tests(Prajogo, 2011). All thecomposite scores were used for the next analysis of measures.

4.4 Descriptive statistics of variables

The skewness and kurtosis values showed that the data is normally distributed.The mean values for each variable are presented in Table 3.

Table 3: Descriptive Statistics of Variables

Variables	Mean
Motivation for Certification	4.22
a. Internal Motivation	
(1 = Not important at all, 5 = Extremely important)	**4.12**
b. External Motivation	
(1 = Not important at all, 5 = Extremely important)	**4.32**
Implementation effort of	
ISO 9000 QMS (1 = No effort, 5 = Very high effort)	**3.94**
Organizational Performance	**3.69**
a. Operational Performance	
(1 = No benefits, 5 = Very substantial benefits)	**3.87**
b. Business Performance	
(1 = No benefits, 5 = Very substantial benefits)	**3.23**

A variable is considered to have a normal distribution if the absolute value of skewness is less than 3 and kurtosis value is less than 7 (Curran*et al*, 1996; cited by Prajogo, 2011). From the results as shown in Table 4.4, all the variableshave a normal distribution.

The results of paired t-test, as in Table 4 show that there isa significant difference between the level of external motivation and level of internal motivationand also between the perceived benefit levels of operational performance and business performance.

Table 4: Results of t-tests

Variable 1 (Mean)	Variable 2 (Mean)	p
External Motivation (4.32)	Internal Motivation (4.12)	0.004*
Operational performance(3.32)	Business performance (3.87)	0.000*
Significant at ?=0.05		

Bi-variate correlation analysis was also performed for all the variables and the results are presented in Table 5.

Table 5: Correlations

	Internal Motivation	External Motivation	Implementation effort of ISO 9000 QMS	Operational Performance	Business Performance
Internal Motivation	1	0.37[**]	0.52[**]	0.62[**]	0.48[**]
External Motivation	0.37[**]	1	0.42[**]	0.44[**]	0.40[**]
Implementation Effort of ISO 9000 QMS	0.52[**]	0.42[**]	1	0.63[**]	0.47[**]
Operational Performance	0.62[**]	0.44[**]	0.63[**]	1	0.67[**]
Business Performance	0.48[**]	0.40[**]	0.47[**]	0.67[**]	1

** Correlation is significant at at $\alpha = 0.01$

All the correlation coefficients are positive and significant ranging from 0.3 to 0.7. These results show that all the variables have only low to moderate correlations with each other (Zikmund, 2003). There is no multicollinearity problem among the variables because all the correlation coefficients are less than 0.8 (Kennedy, 2003). The correlations can only show the association between both variables, but not the causation (Cavan *et al*, 2001; Zikmund, 2003). For the purpose of examining the causation among the variables, a series of regression analyses were conducted.

4.5 Testing of hypotheses H1a, H1b, H2a and H2b – Regression analysis

The F-values in the regression model 1 to 3 as shown in Table 6 are at the significance level (p) less than 0.01. Thus, these three regression models are considered to be highly significant regression models. Furthermore, the results show that all the direct effects from the independent variables to dependent variables in the three regression models are highly significant because all the standardized Beta-values are at the significance level (p) less than 0.01. Thus, all the hypotheses H1a, H1b, H2a and H2b are supported.

Table 6: Results of regression model 1-3

Model	Independent Variable	Dependent Variable	R^2	F	Beta	T
1 (H1a) (H1b)	Internal Motivation, External Motivation	Implementation Effort of ISO 9000 QMS	0.34	30.68 ($p<0.01$)	0.42 0.27	5.34 ($p<0.01$) 3.36 ($p<0.01$)
2 (H2a)	Implementation Effort of ISO 9000 QMS	Operational Performance	0.39	78.95 (p<0.01)	0.63	8.89 (p<0.01)
3 (H2b)	Implementation Effort of ISO 9000 QMS	Business Performance	0.22	34.41 (p<0.01)	0.47	5.87 (p<0.01)

In addition, the values of the standardized Beta coefficient show that the internal motivation (Beta=0.42) has a higher direct effect on the implementation effort of ISO 9000 QMS compared to external motivation (Beta = 0.27).

The implementation effort of ISO 9000 QMS has a higher direct effect on the operational performance (Beta = 0.63) than on the business performance (Beta = 0.47) of the respondents' firms.

4.6 Testing ofhypothesis H3 –mediating effect

For examining hypothesis H3, three testing steps using the regression and calculation of z score presented in the studies by Baron and Kenny (1986) and Frazier*et al*(2004) were performed for testing the mediating effect of the implementation efforts of ISO 9000 QMS. The results are shown in Table 7.

Table 7: Results of three mediating effect testing steps and z score calculation

Testing Steps using regression Variables		B	SE	Beta
Step 1 IV ⟶ DV	IV: Motivation For Certification DV: Organizational Performance	0.88	0.09	0.66 at *p*<0.01
Step 2 IV ⟶ MV	IV: Motivation For Certification MV: Implementation Effort of ISO 9000 QMS	0.66 (a)	0.08 (sa) p<0.01	0.58 at
Step 3 IV ↘ DV MV ↗	IV: Motivation For Certification MV: Implementation effort of ISO 9000 QMS DV: Organizational Performance	0.61 0.41 (b)	0.10 0.09 (sb)	0.46 at p<0.01 0.35 at p<0.01
Z score calculation	$$Z = \dfrac{ab}{\sqrt{b^2\,sa^2 + a^2\,sb^2 + sa^2\,sb^2}}\text{ s}$$ $= 0.66 \times 0.41/(0.4120.082 + 0.6620.092$ $+ .0820.092)0.5$ $= 3.95 > 1.96$			

IV:Independent Variable, DV:Dependent Variable, MV: Mediating Variable, B:Unstandardized Regression Coefficient, SE:Standard Error of B, Beta:Standardized Regression Coefficient.

All the results of the three testing steps and the magnitude of mediating effect'sz score meet the requirementsofpartial mediating effect. Thus, the implementation effort of ISO 9000 QMS has a partial mediating effect on the relationship between motivation for certification and organizational performance.

4.7 Testing of hypotheses H4 and H5 – moderating effect

Hierarchical regressionwasusedfor testing the moderating effects of the organization size and the length of ISO 9000 implementation. The result of regression model 4 and 5 as presented in Table 8 and 9 show that the organization size (Beta = 0.09 and Beta = 0.04) and duration of ISO 9000 (Beta=0.16) implementation has no significant moderating effect; on the proposed relationships. Thus both hypotheses H4 and H5 are rejected.

Table 8: Result of regression model 4 (hierarchical regression)

Model 4		Standardized Coefficients Beta	t	Sig.
Step 1	Motivation for Certfication	0.58	7.82	0.000
Step 2	Motivation for Certification	0.57	7.57	0.000
	SizeMedium	0.01	0.11	0.912
	SizeLarge	0.02	0.22	0.830
Step 3	Motivation for Certification	0.57	7.43	0.000
	SizeMedium	0.02	0.27	0.787
	SizeLarge	0.02	0.28	0.783
	ZSizeMedium X ZMotivation	0.09	1.01	0.314
	ZSizeLarge X ZMotivation	0.04	0.41	0.681

Dependent Variable: Implementation Effort of ISO 9000 QMS Interaction Effect Variable: ZSizeMedium x Zmotivation, ZSizeLarge x ZMotivation

Table 9: Result of regression model 5 (hierarchical regression)

Model 5		Standardized Coefficients Beta	t	Sig.
Step 1	Implementation effort of ISO 9000 QMS	0.62	8.70	0.000
Step 2	Implementation effort of ISO 9000 QMS	0.61	8.38	0.000
	Length of ISO 9000 Implementation	0.04	0.61	0.543
Step 3	Implementation effort of ISO 9000 QMS	0.61	8.35	0.000
	Length of ISO 9000 Implementation	0.04	0.56	0.579
	ZImplementation effort of ISO 9000 QMS X ZLength of ISO 9000 Implementation	0.16	0.22	0.825

Dependant Variable: Organizational Performance Interaction Effect Variable: ZImplementation effort of ISO 9000 QMS XZLength of ISO 9000 Implementation

5. Discussion of Results

This study examined the relationship between three variables - motivation for certification, implementation effort of ISO 9000 QMS and organizational performance, in Malaysian construction firms.Analysis of mean value, t-test, correlation and regression were performed on the collected data.

Seventy two percent of the respondent firms have gained the ISO 9000 certification for a period of less than or equivalent to 5 years. This shows that the enforcement of ISO 9000 registration by CIDB Malaysia since 2009 has actually caused ahuge increasein the adoption of ISO 9000 certification in Malaysian construction firms, especially Grade G7.In addition, the most

important reason for Malaysian construction firms to adopt ISO 9000 certification is to comply with the government regulation.

Malaysian construction firms'level of external motivation for certification is significantly higherthan the level of internal motivation for certification. However, with the mean value of 4.12 (4=important, 5=extremely important), internal motivation is still important for Malaysian construction firms to seek and maintain ISO 9000 certification.The correlation results also show that there is a significant correlation between internal motivation for certification and external motivation for certification.While being forced to adopt ISO 9000 certification by CIDB Malaysia, Malaysian construction firms still have high level of internal motivation for ISO 9000 certification. This finding is consistent with the finding of Low and Yeo (1999) who focused on Singapore construction firms. However,Lo (2002) and Lau and Tang (2009) found that most of the Hong Kong contractors adopted ISO 9000 certification because of the external motivation (government regulation) only.

The regression analysesresults show that internal motivation for certificationhas a direct positive impact on the implementation effort of ISO 9000 QMS (H1a is supported). This supports the findings of Jang and Lin (2008) and Prajogo (2011).The regression analyses also show that external motivation for certification can directly and positively affect the implementation effort of ISO 9000 QMS (H1b is supported). This supports the findings of Prajogo (2011) but contradicts the findings of Jang and Lin (2008).With the positive effect of both types of motivation for certification on the implementation effort of ISO 9000 QMS, it can be concluded that motivation for certification of Malaysian construction firmshas a positive effect on their implementation effort of ISO 9000

QMS (H1 is supported).However, organization size is does not have any moderating effect on the relationship between motivation for certification and implementation effort of ISO 9000 QMS (H4 is rejected).

Internal motivation for certificationis also found to have a stronger positive effect on the implementation effort of ISO 9000 QMS, compared to external motivation for certification. This finding concurs findings from numerous studies that found internally motivated certified organizations tend to reap greater benefits and their employees tend to put more effort to implement ISO 9000 QMS, compared to externally motivated organizations (Singels*et al*, 2001; GotzamaniandTsiotras, 2002; LlopisandTari, 2002; William, 2004; Terziovskiand Power, 2007;Zaramdini, 2007; Jang and Lin, 2008; Prajogo, 2011; Kemenade*et al*, 2011).

The finding from the mean values (ranging from 2.10 to 5.00) of each respondent firm's implementation effort of ISO 9000 QMS shows that Malaysian ISO 9000 certified construction firms vary in terms of ISO 9000 implementation effort. This finding supports the finding by Lee *et al* (2009) who found that there are different implementation levels of ISO 9000 principles amongst ISO 9000 certified organizations.The average mean value of all the respondent firms' implementation effort of ISO 9000 QMS is 3.94 (where 3=medium effort, 4=high effort).This indicates that Malaysian construction firms put in high effort to implement ISO 9000 QMS.

All the mean values of organizational performance indicators are above 3 (3=moderate benefits, 4= substantial benefits). Thus, this finding supports the findings of Huarng *et al* (1999), Sun (2000), Said *et al* (2006), Terziovski and Power (2007), Bayati and Taghavi (2007), Wu and Liu (2010) and Zaramdini (2007), indicating that the

implementation of ISO 9000 QMS can improve organizational performance. The t-test results show that the improvement of operational performanceis significantly higher than the improvement of business performance(t=10.02 at $p<0.05$). As contended by Heras *et al* (2002), business performance is affected by a multitude of variables.

The regression analysisconfirmed that the implementation effort of ISO 9000 QMS can directly and positively affect the improvement of operational performance and business performance of Malaysian construction firms (H2a and H2b are supported). Thus, it can be concluded that the implementation effort of ISO 9000 QMS can directly and positively affect the organizational performance of Malaysian construction firms (H2 is supported). However, duration of ISO 9000 implementation does not have any moderating effect on the relationship between implementation effort of ISO 9000 QMS and organizational performance (H5 is rejected). This study revealed that there is asignificant positive causal relationship between the implementation effort of ISO 9000 QMS and operational performance of Malaysian construction firms. ISO 9000 practices are to manage and improve the firm's operation process with emphasis on quality improvement, employee involvement, cost reduction and customer satisfaction (Jang and Lin, 2008; Prajogo, 2011). However, amongst the studies using causal analysis, only Feng *et al* (2008) found a significant and positive causal relationship between implementation effort of ISO 9000 QMS and business performance.Feng *et al* (2008) actually found that organizational commitment and implementing procedures are the two ISO 9000 certification practices that can have positive effect on the business performance.

The regression analysis further found that implementation effort of ISO 9000 QMS has a stronger positive effect on the operational performancethan the business performance. This is consistant with t-test results discussed earlier.Thus, it can be concluded that ISO 9000 implementation will bring a higher improvement inthe operational performance than in the business performance of Malaysian construction firms.

The implementation effort of ISO 9000 QMS was found to have partialmediating effect on the relationship between the motivation for certification and the organizational performance of Malaysian construction firms (H3 is supported). This finding indicates that the positive effect of motivation for certification of a firm on its organizational performance improvement partially depends on whether or not the motivation of certification can really motivate its employees to put in the effort to implement ISO 9000 QMS. If top management cannot motivate their employees to put in more effort toimplement ISO 9000 QMS, then the improvement of organizational performance induced from motivation for certification will be less.According to Baron and Kenny (1986), a mediator's partial mediating effect actually indicates that there are other mediators in the relationship between the independent variable and dependent variable. As concluded by Lo (2002), after the implementation of ISO 9000 QMS, quality culture was not established in the Hong Kong ISO 9000 certified contruction firms and no improvement was found in their quality of services. Therefore, quality culture can be another potential mediator between motivation for certification and organizational performance.Prajogo (2011) suggested that knowledge or learning capacity is a potential moderator for the relationship between ISO 9000 implementation and performance. Therefore, knowledge or learning capacity of a firm can also be another potential mediator between motivation for certification and organizational performance.

6.   Conclusions

Findings of this study show that CIDB Malaysia made the right decision to impose the regulation on the adoption of ISO 9000 certification for all the Grade G7 contractors.The implementation of ISO 9000 QMS did improve the operational and business performance of Malaysian construction firms as what CIDB Malaysia (2007)contended, regardless of organization size or length of ISO 9000 implemenation.The external pressure from CIDB Malaysia actually encourages more Malaysian construction firms to adopt the ISO 9000 certification. It also led to more Malaysian construction industry personnel, especially top management, to look into and understand how ISO 9000 QMS can benefit them. However, it is important for the top management of Malaysian construction firms to know how to transform their high level of motivation for certification to the maximum effort that employeescan put in for implementing ISO 9000 QMSin order to gain the maximum benefits in terms of organizational performance improvement.

6.1   Limitations of the study

The first limitation of this study is that the survey is based on the subjective measure only. All the responses for the questionnaire survey are based on the perceptions ofrespondents and different respondents may use different standard to answer the questionnaire.

The second limitation is that the measure of quality improvement or customer satisfaction is from the perception of ISO 9000 certified construction firms. These measures should come from the response of customers of ISO 9000 certified construction firms so that the data is more precise (Kong *et al*, 2010). However, such data is not easily obtainable.

6.2   Implications for practitioners

The managers of Malaysian construction firms need to realize that internal motivation for certification has a higher driving effect on the implementation effort of ISO 9000 QMS than external motivation for certification. With a higher level of internal motivation for certification, the firms will have a higher implementation effort of ISO 9000 QMS which in turn will lead to better operational and business performance. To really outperform the competitors, a Quality Management Representative must ensure that his firm practices the ISO 9000 QMS with a higher level of internal motivation for certification than the competitors.

Implementation of ISO 9000 QMS can improve firms'operational performance and business performance. Even though there is no standardized product in construction industry like what manufacturers have, the contractors can still implement ISO 9000 QMS successfully and improve the companies' performance. The more efforts are put in for the implementation of ISO 9000 QMS, the more improvementsare made in terms of operational performance and business performance.

Improvements in organizational performance cannot be fully gained with a high level of motivation for ISO 9000 certification only. The commitment and effort of employees to ISO 9000 implementation is also important in gaining improvements in organizational performance. Therefore, it is very important for managers to communicate their motivation for certification to their employees and take steps to make sure that employees are motivated to put inhigh efforts to implement ISO 9000 QMS and ultimately lead to better organizational performance.

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Determinants of Web Based Financial Reporting in Malaysia

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Abstract

This study investigates empirically factors influencing Malaysian companies to disseminate their financial reports through Internet. This study examines relationship between level of internet financial reporting (IFR) between contingency factor and firm specific characteristic of the company. IFR represented by two main dimensions which are dimension of content and presentation. This study was supported by the results of the previous studies that have reported inconsistent findings related to the dimensions used to determine the level of IFR. This has prompted the existence of a stream of new research that suggests the need for researchers to take into account the more detailed variables to explain the key factor for practical of IFR. From the literature reviw of IFR, two factors for contingency factor and ten firm specific characteristics was identified. Specific characters of this study are measured using the three main variables: the structure, performance and market. Data were collected from 182 companies listed on the main board of Bursa Malaysia for the purpose of multiple regression analysis. The results showed that the three main features of the size of the company, the age of the company and return on equity significantly affect the level of IFR. The study also showed a negative relationship between profitability ratios with dimensions of contents and IFR overall index. This study provides important information to the accounting standard makers, legislators and the authoritative to create a guideline that could be adopted by companies listed on Bursa Malaysia regarding IFR practice. This the first study to examine the determinants of IFR between contingency factor and firm specific characteristic of the company.

Keyword(s):

Keywords: Determinant, Contingency factor, Firm specific characteristic, Internet financial reporting, Malaysia

Introduction

The growth of Internet were increase the demand for online corporate information such IFR as undergoing process also, company using IFR as a window to the company as transformation in paper-based method towards globalization process (Alali & Romero, 2012; Valentinetti & Rea, 2012). The adoption of internet as a global practice for the dissemination of financial information is common for an increasing number of publicy listed firms around the world (Boubaker et al., 2012). The use of the internet as a new platform for dissemination of corporate information is a recent, fast growing phenomenon and is expanding rapidly (Ali Khan et al, 2013). The rapid development of information and communication technology (ICT) has been changed the way companies communicate information to users of corporate annual reports (Bonson & Escobar, 2006). Internet emerged as

the preferred communication platform for the dissemination of information among corporations began in 1990s and its use is growing. The existence of the company's website into an important medium for corporate reporting purposes (Trabelsi et al., 2004). Website is used by companies to inform corporate information to investors around the world (Abdelsalam & Street, 2007), promoting the corporate identity (Poon et al., 2003; Topalian, 2003), convey information about the organization and its activities (Chan & Wickramasinghe, 2006; Sriram & Laksmana, 2006) and deliver financial information to shareholders, investors and other interested parties (Hodge & Pronk, 2006; Abdelsalam & El-Masry, 2008).

One of the key challenges related to quality of information that presented in the corporate website is the absence of guidelines issued by the regulator (Seetharaman & Subramaniam, 2006). Seetharaman and Subramaniam (2006) states there is still no regulations and standards of IFR from any professional body or government agency. This resulted in the quality and content of IFR varies among companies. In emerging countries, the development of corporate websites is, in some cases, in its initial stage (Alali & Romero, 2012). To date, IFR still be voluntary, without any legislation or guidelines to regulate and clarify information presented in a comprehensive manner (Ashbaugh et al., 1999; Bonson & Escobar, 2002; Marston & Polei, 2004; Hanifa & Ab. Rashid, 2005; Momany & Shorman, 2006; Kelton & Yang, 2008; Ismail & Sobhy, 2009; Ali Khan, 2010; Boubaker et al., 2012).

Although, many studies about IFR have been conducted around the world including developing countries like Malaysia, but an understanding the factors that influence IFR still not really understood. Accordingly, this study attempts a deeper dimension of refining used by researchers

to determine the level IFR. Difference in use of dimensions among researchers contributes to the differences in the findings. This resulted in the inability to clearly explain the phenomenon that occurs and what the determining factors that influence the practice IFR. Thus, the dimensions of the IFR index and factor exciting agenda, is important and should be investigated to provide significant and meaningful contribution to academics and industry practitioners. The findings of this study hopes to explain the inconsistent findings. The study is expected to help researchers to better explain the level of IFR and its determinants.

Most studies the use of the Internet has focused on many European countries or the United States than in Asian countries (Tan & Teo, 1998). Meanwhile, IFR studies mostly done in developed countries like the United States (Petravick & Gillett, 1996; Ashbaugh et al., 1999; Ettredge et al., 2001; Kelton & Yang, 2008), United Kingdom (Lymer, 1997; Marston & Leow, 1998; Craven & Marston, 1999; Abdelsalam et al., 2007), Japan (Marston, 2003), New Zealand (McDonald & Lont, 2001; Oyelere et al., 2003) and Ireland (Brennan & Hourigan, 1998; Abdelsalam & El-Masry, 2008). A few studies of IFR conducted in developing countries (Davey & Homkajohn, 2004; Khadaroo, 2005a; Celik et al., 2006; Barako et al., 2008: Al Arussi et al., 2009: Ali Khan, 2010; Ali Khan & Ismail, 2010; Ali Khan & Ismail, 2011; Ali Khan & Ismail, 2012; Ali Khan et al., 2013). In addition, a study on the level of reporting and IFR factor requires the evaluation and more detailed analysis (Hanifa & Ab. Rashid, 2005). This is because only a few studies conducted to investigate the factors that influence the practice of IFR (Chan & Wickramasinghe, 2006). According to Celik et al. (2006), the studies about relationship between IFR and specific character of the company was small compared with the

financial reporting or business that used hard copy. In the context of developing countries such as Malaysia, academic research about IFR is still at the initial stage (Hassan et al., 1999; Ismail & Tayib, 2000; Khadaroo, 2005a; Al Arussi et al., 2009; Ali Khan, 2010; Ali Khan et al., 2013). Even though previously published studies have comprised operating in both developed and developing countries, there is still a need for empirical studies on internet reporting due to the dynamic nature of internet reporting (Uyar, 2012). Furthermore, developments in internet-related technologies, regulatory recommendations and increasing demand for information disclosure to stakeholders, change the format and characteristics on online reporting (Uyar, 2012). Therefore, it may become necessary to study IFR factor in Malaysia.

The main objective of this study is to test empirically the relationship between the level of IFR and contingency factors and the firm specific characteristic of the company by using data from companies listed on Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange or KLSE). Consistent with the proposed by Thomas (1991) related to the information reporting practices, this study focused on contingency factors (environment and technology) and the firm specific characteristic of the company (variables related to the structure, performance and market) is expected can clarify the IFR. Although there are many studies have been conducted to clarify the determining factors IFR (Debreceny et al., 2002; Oyelere et al., 2003; Marston & Polei, 2004; Bonson & Escobar, 2006; Celik et al., 2006; Ezat & El -Masry, 2008; Ali Khan, 2010; Boubaker et al., 2012; Uyar, 2012), studies using a different dimension is represent IFR. Difference in this dimension has contributed to the differences in the findings. Accordingly, a more comprehensive dimension can represent IFR is necessary to clarify the level and determining factors of IFR.

The rest of the paper is structed as follows. A literature review is provided in Section 2. Section 3 deals with research design. Section 4 presents the important research findings, and the final section provides the conclusion and suggestions for future research.

2.0 Previous Studies and Hypotheses Development

Previous studies has applied various theories in order to explain the determining factors of IFR such as agency theory (Hassan et al., 1999; Oyelere et al., 2003; Marston & Polei, 2004; Xiao et al., 2004; Bonson & Escobar, 2006; Chan & Wickramasinghe, 2006; Abdelsalam et al, 2007; Barako et al., 2008; Al Arussi et al., 2009; Ali Khan, 2010), signalling theory (Hassan et al., 1999; Oyelere et al., 2003; Marston & Polei, 2004; Xiao et al., 2004; Bonson & Escobar, 2006; Chan & Wickramasinghe, 2006; Barako et al., 2008; Ali Khan, 2010), information asymetric (Oyelere et al., 2003; Chan & Wickramasinghe, 2006), political cost theory (Hassan et al., 1999; Oyelere et al., 2003; Chan & Wickramasinghe, 2006) and cost-benefit analysis (Hassan et al., 1999; Marston & Polei, 2004).The formation of the hypothesis for this study was developed based on the dominant theories that have been applied in our previous studies, such as contingency factor, agency theory and signalling theory.

Contingency theory was supported by the argument that there is no one best way to manage an organization. This is because the way of effective organization in one situation may not be appropriate for other situations (Xiao at al., 1996; Xiao et al., 1997). The use of agency theory is based on the argument that a lot of additional reporting and voluntary reporting is done by adopting more controlled mechanism would reduce the inconsistency of information (Watts & Zimmerman, 1978). Meanwhile, the use of

signalling theory were based on the contention that by implementing practical IFR, a company will give a signal to the market that it has followed developments by updated corporate culture with the latest technology (Chan & Wickramasinghe, 2006). Conversely, companies that do not practice IFR probably can be considered as non-competitive and try to hide unpleasant information (Bonson & Escobar, 2006).

Environment

Corporate financial reporting is likely to show the same features on the ground that may be similar (Thomas, 1986). The concept of care stipulates for future benefits are uncertain or difficult to accurately predict (Thomas, 1986). When a dynamic environment increases, companies with an efficient accounting information system will increase the frequency of reporting (Gordon & Miller, 1976). According to Thomas (1986), three main variables contingencies that could affect the selection of accounting methods are the environment, technology and size of the company. The study by Thomas (1986) showed that reporting of forecast information related to the environmental homogeneity. Meanwhile, the company that operates in *a* homogeneous environment will be more easily influenced by changes in demand and technology (Thomas, 1986). Market risk (systematic risk or beta) is an important determinant of the cost of capital, and reporting is one way to lessen the risk (Botosan, 1997; Sengupta, 1998). Market or systematic risk (measured with a beta of the company) can be considered as independent variables to explain the voluntary reporting (Marston & Polei, 2004). Marston and Polei (2004) felt that if the company can improve its information reporting, and investor uncertainty can be reduced it will leads to better assessment of risk through the market. Companies with low systematic risk have an incentive to apply

IFR and gesturing about the stability of the market (Chan & Wickramasinghe, 2006). Therefore, the study expects that the company has a low risk will report more financial information over the Internet rather than companies with high risk. Based on the discussion, the hypotheses tested in this study are as follows:

H_1: Low-risk companies will report more financial information over the Internet compared with high-risk companies

Technology

The technology used by the company is likely to influence the choice of accounting method (Marston, 1997). Perrow (1967) classified the production technology to two groups, routine or non-routine. Non-routine nature of technology is capital intensive, have long product development period as the space industry, electronics, oil and chemical products (Thomas, 1986). Meanwhile, technology tends to become routine as the industry is labour-intensive construction, engineering and retailing (Thomas, 1986). Thomas (1986) describes the main features to distinguish the two groups is the capital intensity. Capital intensity was measured by calculated the ratio of turnover assets (Thomas, 1986; Marston, 1997). The higher the amount of specific knowledge in an industry, the higher the agency costs for the industry (Jensen & Meckling, 1995). High-tech companies (eg, computers, electronics, and communications) to soft assets, such as research and intellectual capital, human resources, research and development programs, will report more information (Healy & Palepu, 1993; Amir & Lev, 1996). This is because of the high-tech companies; the number of income may not indicate the future prospects for the company. Such information not only failed to deliver future growth potential for the company, but not enough for making timely decisions based on the nature of time. The company

depend on rapid changes in technology and business environment. Next, use the current medium of instruction such as Internet may allow the various aspects and frequency of reporting in the development of new technologies and the interaction of the environment (Debreceny et al., 2002). Turnover asset ratio represents the capital intensity (i.e. revenue divided by capital employed) was used as a proxy for technology. Capital intensity defined as equal to what is referred by the contingency theory to represent technology (Thomas, 1991). Based on the discussion, the following hypothesis is formed:

H_2: Companies with high technology will report more financial information over the Internet compared to companies with low technology

Company Size

In general, large companies are assumed to report more information than the small-sized companies. This is due to the large corporate structure that more complex. This situation requires more reporting of information to enable prospective investors to make investment decisions efficiently. According to the theory of large-sized companies the agency has a higher agency costs than small-sized companies (Watts & Zimmerman, 1978). This high cost can be reduced by voluntary reporting. Watts and Zimmerman (1978) also states that the company would face large political costs are higher than small-sized companies. Large companies are more likely to attract regulatory agencies and voluntary reporting in order to reduce political costs. Cost of information production relative to large-sized companies assumed lower than the small-sized companies. This is likely due to small-sized companies do not have adequate resources to collect and provide advanced reporting, e.g. IFR. Many studies suggest a significant relationship (eg Cerf, 1961: Bubzy, 1975: Firth, 1979; Chow & Wong-Boren, 1987;

Ahmed & Nicholls, 1994; Hossain et al., 1994; Wallace & Fields, 1995; Cooke, 1991, 1992, 1993) between the size of the company to the extent of voluntary reporting done. Research involving IFR as Ashbaugh et al. (1999), Craven and Marston (1999), Pirchegger and Wagenhofer (1999), Breenan and Hourigan (2000), Debreceny et al. (2002), Ettredge et al. (2002), Bonson and Escobar (2006), Abdelsalam and El-Masry (2008), Ezat and El-Masry (2008), Kelton and Yang (2008), Alvarez et al. (2008), Ali Khan (2010) and Al-Htaybat (2011) shows the size of the company as one of the important factors for practical IFR.

Research on the reporting agency theory shows the signalling theory and cost-benefit analysis can be used to show a positive correlation between the sizes of the company with the level of voluntary reporting as IFR (Joshi & Al-Modhahki, 2003). According to agency theory, large-sized companies will report more information than small companies due to the need to raise capital at low cost. In addition, large companies also have high inconsistency of information. Thus, higher agency costs are likely to emerge from the inconsistency of such information. In order to reduce the agency cost large-sized companies have report more information than the small-sized companies (Firth, 1979; Chow & Wong-Boren, 1987). Evidence from previous studies suggests the cost of production work-related information specific accounting policies is high. But large companies are likely to have more resources to adopt these policies than small companies (Firth, 1979; Ball & Foster, 1982). Among the costs involved for developing the website and report the financial information via the website, including the cost of website hosting, infrastructure costs (servers and software to the website), and the cost of proprietary of corporate financial information (Hassan et al., 1999). Based on studies in UK such as Marston

and Leow (1998), and Craven and Marston (1999) found that company size has a significant positive relationship with IFR. In Malaysia, Hassan et al. (1999) found that company size has a significant positive relationship with IFR. In the U.S., Ashbaugh et al. (1999) also found that the size of the company as a significant factor in influencing IFR. Based on the above discussion, the following hypothesis is formed:

H_3: Large company will report more financial information over the Internet compared to small companies

Leverage

Leverage ratio shows the ability of the company in meeting its responsibilities or obligations to creditors (Zainal Abidin et al., 2005). Zainal Abidin et al. (2005) explains this leverage ratio measures the effectiveness of the management use and manages loan capital. Highly leveraged companies have an obligation to satisfy the long-term needs of the creditors by providing timely information (Watts & Zimmerman, 1978). In the era of information technology, high leveraged companies can provide more timely information on the Internet. In discussing the agency theory, Jensen and Meckling (1976) explain that high leveraged companies need high monitoring cost. Increase in reporting can occur through various forms of voluntary reporting, such as a hard copy of the financial statements and other media, such as IFR. Compared to paper copy, IFR can reduce the cost of supervision. Instead, the signalling theory has suggested the company that had low incentive to provide guidance to the market about the company's financial structure to implement a voluntary reporting (Oliveira et al., 2006). Agency theory is widely used to describe the relationship between leverage the reporting company. Companies with high leverage rate will report more information. This is because more information can

be used to avoid the cost of the agency in relationship between managers and owners to reduce the imbalance of information (Inchausti, 1997). This is because the agency costs are higher for companies with high debt levels in their capital structure. The voluntarily report can reduce the agency costs by make easier to debtors to assess the company's ability to satisfy the debt (Jensen & Meckling, 1976). Transfer wealth from bondholders to shareholders can be done in firms that have high leverage levels (Jensen & Meckling, 1976; Myers, 1977).

Companies with high leverage rates more motivated or motivated to increase the level of voluntary reporting of corporate information to shareholders through the financial statements in hard copy or through IFR (Oyelere et al., 2003). In addition, management may use a voluntary reporting as IFR to help solve the problem of continuous monitoring through the company website (Debreceny et al., 2002). Cost to update information via the Internet is low, high leveraged companies are more likely to practice IFR to inform their shareholders that the company is able to settle its debt obligations (Chan & Wickramasinghe, 2006). Accordingly, the next hypothesis can be stated as follows:

H_4: Companies with high leverage will report more financial information over the Internet compared to companies with low leverage

Ownership Structure

According Raffournier (1995), agency theory able to describe and predict the reporting of financial information in annual reports can be expected to solve the control problems that may arise between shareholders and creditors. Company that most their capital were funded by outside parties will face pressure to increase the reporting of information (Leftwich et al., 1981).

IFR allows the company to provide more comprehensive and timely information to consumers over traditional reporting (Ashbaugh et al., 1999). Company will report more information to help them obtain financing. Ownership structure variables (represented by the percentage of shareholding by the ten largest shareholders of the company) were found influenced the manager to willingly report information in the annual report (Ab. Manan & Mohd Iskandar, 2003). Meanwhile, a survey Pirchegger and Wagenhofer (1999) showed that the ownership structure (represented by the percentage of free float) influence IFR Austria company but not for German companies. Hossain et al. (1994) shows the ownership structure has influence the listed companies in Malaysia, when they voluntarily reported to us. Percentage of shareholding by ten largest shareholders of the company has been used as a measurement for ownership structure. High percentage of shareholding by the top ten investors showing shareholding companies those are not diverse. Meanwhile, a low percentage of shareholding by the top ten investors showing shareholding company is different. According to agency theory, company that majority owned by internal shareholder will not report information in annual reports. This is due to internal party may obtain information directly from the management. In this study, the percentage of shareholding by the top ten shareholders is a proxy for ownership structure. Based on this discussion, a hypothesis to be tested is as follows:

H_5: Level of IFR has a positive relationship with the ownership structure

Listing Period

Based on the signalling theory, the long-listed companies usually report more information in order to distinguish the organization of new companies listed on stock exchanges (Hughes, 1986). New variables such as listing that proposed for IFR study like study in Camfferman and Cooke (2002). Companies that have been listed on the stock exchange should improve the financial reporting practices from time to time (Alsaeed, 2006; Barako et al., 2008) and has a tendency to use the Internet as a mechanism to provide financial and non financial information to shareholders (Barako et al., 2008; Ali Khan, 2010). Company that has been long term listed with the last record be a reference of public reporting by the community (Owusu-Ansah, 1998, 2005). Based on the discussion, the following hypothesis is formed:

H_6: A company with a long term listing on Bursa Malaysia will report more financial information over the Internet compared to companies with short-listing period

Profitability Ratios

Signalling theory suggests that profitable companies have initiatives to distinguish them from less successful companies to raise capital at the possible lowest price (Marston & Polei, 2004). The reason is profitable company provides guidance on good quality management, which may be beneficial to companies to reduce political costs (Watts & Zimmerman, 1978; Deegan & Hallam, 1991). Reporting on a voluntary basis through the website is one way to achieve that goal. The absence of reporting of information on the Internet can be received as bad news by investors (Lev & Penman, 1990). Signalling theory suggest that only companies with good news to be reported will be willing to use a voluntary mechanism for reporting information, and failure to disseminate information is considered as negative indicators (Larran & Giner, 2002).

If a firm profit margin higher than industry average, the management is likely to report more information for the purpose of ensuring that

shareholders know the company has a strong financial position (Singhvi & Desai, 1971). Instead, Craven and Marston (1999) states that the firm that have weak financial position is likely to avoid use the Internet as an alternative medium of communication to disseminate more information to users of the accounting firm. Firm will report additional information, including the latest electronic networks like the Internet, as a medium to enhance the corporate image to see if the company is sensitive to political costs (Craswell & Taylor, 1992). The findings Hassan et al. (1999) showed that companies with high profitability also have a high level of IFR. Meanwhile, the opposite is true in the study of Ashbaugh et al. (1998) who found that profitability is not the variables that influence the practice IFR. When profitability is high, managers more motivated to report right information. Conversely, when profitability is low, manager will report less information to hide losses or decreased profits (Singhvi & Desai, 1971). Agency theory specifies the managers who earn higher profits will use external information for their own gain. As such, they will report financial information to support the continuation of their position. In signalling theory, the owner is deemed to be keen to spread the good news to the market to increase company value through share price (Barako et al., 2008) and the avoidance of undervalued shares (Inchausti, 1997). Therefore, the higher profitability of a company can cause higher level of reporting information (Inchausti, 1997).

The findings Hassan et al. (1999) showed that firms with high profitability and website are more likely to report financial information via the website compared to companies with low profitability and website. Instead, the results of study conducted by Marston (2003) showed no significant relationship in company at Japan. The study Ashbaugh et al. (1999) also showed no

significant relationship in company at U.S. Ettredge et al. (2002) also showed no significant relationship between the dissemination of information for investors in the U.S. company's website. Consistent with previous studies (Lang & Lundholm, 1993; Wallace et al., 1994; Wallace & Naser, 1995; Naser, 1998; Camfferman & Cooke, 2002; Naser et al., 2002; Alsaeed, 2005, 2006), the profit margin and return on equity is used as a proxy for performance-related variables. Accordingly, the hypothesis being tested is as follows:

H_7: Companies with higher profit margins will report more financial information over the Internet compared to companies with low profit margins

H_8: Companies with a high return on equity will report more financial information over the Internet compared to companies with low return on equity

Liquidity Ratio

Liquidity means how fast and efficient asset convertible to cash (Zainal Abidin et al., 2005). Referring to the theory of notification, the company has high liquidity have a strong urge to communicate detailed information about the company's ability to meet short-term financial obligations (Ho & Taylor, 2007). Ratio liquidity was measured the company's ability to meet current liability. Liquidity ratios are good indicators for performance management and companies with high liquidity ratio tend to report more information (Naser et al., 2002). Previous findings indicate that liquidity is an important determinant of corporate reporting (Wallace & Naser, 1995; Owusu-Ansah, 1998; Oyelere et al., 2003). It is important because liquidity ratio can be used to predict the bankruptcy of a company (Owusu-Ansah, 2005). Therefore, the regulatory body, including investors and borrowers are concerned about the continuation status of the

company (Wallace and Naser, 1995; Owusu-Ansah, 2005). This has prompted companies with high liquidity report the level of liquidity using a voluntary reporting through the Internet (Owusu-Ansah, 1998; Wallace & Naser, 1995). IFR can be used as a sign of management confidence in the strength and future prospects of the company (Oyelere et al., 2003). Therefore, the hypothesis tested was as follows:

H_9: Companies with a high current ratio will report more financial information over the Internet compared to companies with low current ratio

Audit Firm

Auditing is a mechanism to reduce agency costs (Jensen & Meckling, 1976; Watts & Zimmerman, 1986), reducing the information gap and enhance the credibility of the reporting (Oliviera et al., 2006). Healy and Palepu (1993) stressed the managers can improve communication with investors (owners of the firm) to develop an effective reporting strategy. To strengthen the credibility of the company, the company will choose the appropriate reporting strategy to respond as a sign of quality to the market, including using the services of large audit firms. The previous study showed that a large audit firm (formerly known as the Big Five, Big Six or Big Eight and now known as the Big Four) provide a better audit quality than non-Big Six audit firms (DeAngelo, 1981; Becker et al., 1998).

According to Inchausti (1997), companies audited by large audit firms usually report more information than companies audited by small audit firms. Audit firm may use the information reported by the customer to show their quality. Singhvi and Desai (1971) also state the audit firm size plays a role in determining the company's reporting policy. Large audit firms encourage companies to report more information to protect their reputation. Auditors are instrumental in controlling the

behaviour of agents and to reduce agency costs between principal and agent (Jensen & Meckling, 1976). Jensen and Meckling (1976) add that companies audited by large audit firms have higher agency costs. Therefore, they try to sign a contract with audit firm that the agency costs can be reduced. Large audit firm can encourage companies to report more information (Singhvi & Desai, 1971) due to several factors: first, to maintain the company's reputation (Dumontier & Raffournier, 1998; Chamlers & Godfrey, 2004); second, to develop expertise (Mora & Rees, 1998); and third, to ensure that audit firms can retain their clients (Malone et al., 1993). Based on the above discussion, the next hypothesis is stated as follows:

H_{10}: Companies audited by a Big Four audit firms reported that more financial information over the Internet compared to the companies audited by non-Big Four audit firms

Listing Status

Listing status had a significant relationship to the extent of reporting done by the quality of external reporting (Singhvi & Desai, 1971). There are two reasons, namely: first, a company listed will more alert against the financial interest of accurate reporting and have more incentives to use information technology to improve internal reporting as compared to non-listed company, the second-listed companies must comply with the requirements and regulations of the stock exchange, means the minimum requirements more stringent than the non-listed companies. Perspective based agency theory, stock exchange listing can be regarded as the institution of internal controls (Hill & Jones, 1992). In compliance with the minimum requirements of listing rules and additional reporting requirements, listed companies are likely to affect the cost of control. Company listed need to compete in order to get

more liquidity and reduce the cost of capital in financial markets. This will provide incentives to companies to improve reporting.

Companies that have operations in international or multinational company are exposed to higher demand of information due to the type and number of larger claims (Meek et al., 1995; Raffournier, 1995). Cooke (1989) states that additional reporting information will attract new shareholders for the disclosure of information can help to reduce information risk and lower cost of capital. Cooke (1991) also describes the degree of internationalization of a firm is likely to have a relationship with the level of reporting on a voluntary basis because they need to raise capital internationally. In fact, companies listed on overseas stock exchanges face the additional reporting requirements and will provide more information in the annual report compared to companies that are not bound by the rules of international reporting (Cooke, 1992). Therefore, companies will have a capital cost reduction initiatives through the dissemination of information on a voluntary basis (Choi, 1973; Owusu-Ansah, 1998). In this context, IFR provide quick access to potential investors from abroad to obtain financial and non financial information relating to the business of small companies at the cost of both the investor and the reporting entity (Ashbaugh et al., 1999; Craven & Marston, 1999; Williams & Pei, 1999). Based on the above discussion, the following hypothesis is formed:

$H_{11:}$ Companies listed on at least one foreign stock exchange will report more financial information over the Internet compared with only company listed on Bursa Malaysia.

Industry Type

According to Craven and Marston (1999), the relationship between the reporting and industry type is suggested by the theory of political process and signalling theory but not the agency theory. Signalling theory suggests type of industry also cause differences in the reporting (Oyelere et al., 2003). Craven and Marston (1999) state enterprises in the industry accept the same level of reporting. If a company in the industry did not follow the action of other companies, including IFR then the company may be interpreted as a market indicator that is not good to try because try to hide bad news (Craven & Marston, 1999; Oyelere et al., 2003). The company in the same industry will report similar information reporting financial even information if the policy is different from the industry (Inchausti, 1997). In addition, the company is in the same industry tend to use the same accounting procedures (Watts & Zimmerman, 1978). Industry type is one factor that can explain differences in reporting between the levels of industry (Craig & DIGA, 1998). In addition, different industry sectors have different characters, such as differences in liquidity, the need, types of assets, use of technology, profitability and growth rate (Syed Ahmad et al., 2007).

Empirical findings found the relationship between the types of industry and mixed IFR. It might be due from each industry has a different proprietary costs and there are some industries more advanced in terms of technology use (Abdul Hamid & Md Salleh, 2005). The findings Hassan et al. (1999) on companies in Malaysia showed no significant correlation between the types of industries and practice IFR. Craven and Marston (1999) study found there is no significant correlation between the types of industries with the IFR for companies in the UK. Marston (2003) developed earlier study by detailing the types of industries (i.e. financial services, public services, utilities and manufacturing) in his research on

companies in Japan. The results Marston (2003) showed a significant relationship for the industry in Japan with IFR. As expected for some industries, particularly banking and manufacturing sectors is likely to take the initiative to report more financial information over the Internet (Chan & Wickramasighe, 2006). Based on the above discussion, this study attempts to answer the question of whether there is a relationship between the types of industries IFR. Therefore, the hypothesis being tested in the form of null hypothesis is as follows:

$H_{12:}$ There was no significant relationship between the levels of reporting financial information over the Internet by industry type

Regression Model

In this study, the IFR for a company is based on a variable range of contingency factors and the firm specific characteristic of the company. Regression analysis was used to analyze the results by testing the hypothesis. Relationship between the variables in the model study described as follows:

IFR = á+ $â_1$ Risk + $â_2$ Technology + $â_3$ Size + $â_4$ Leverage + $â_5$ Ownership + $Â_6$ Period + $â_7$ MK + $â_8$ PAE $â_9$ Current.

+ $â_{10}$ Audit + $â_{11}$ Status + $Â_{12}$ Consumer + $â_{13}$ Services + $â_{14}$ Build + $â_{15}$ Plantation + $î$ ...(1)

where the definition of variables:

IFR = Index IFR

Risk = Beta

Technology = Revenue per capital employed

Size = Logarithm base 10 of the total assets

Leverage = Ratio of total debt per total assets

Ownership = Percentage of ownership holdings by ten shareholders largest company of its total shares issued

Period = The listing on the Bursa Malaysia

MK = Net income after tax per revenue or sales

PAE = Net income after taxes per total equity

Current = Total current assets per total current liabilities

Audit = *Big 4* audit firms evaluated 1, *non-Big 4* audit firms are valued 0

Status = Listing on Bursa Malaysia and outside of Bursa Malaysia assessed a listing on Bursa Malaysia only evaluated 0

Consumer = Consumer products industry are assessed first, if not rated 0

Service = Service industry and trade are assessed first, if not rated 0

Build = The construction industry and property valued 1, if not rated 0

Plantation = The plantation industry are assess first, if not rated 0

$î$ = A random error

á, $âi$ = Constant or estimated parameters, i = 1, ..., 15

Industrial products industry excluded from the model equations in order to avoid the trap idol variables (Gujarati, 2003).

3.0 RESEARCH DESIGN

The method used in this study is content analysis method. Content analysis method is the most popular and frequently used in the field of IFR (Petravick & Gillett, 1996; Pirchegger & Wagenhofer, 1999; Hassan et al., 1999; Debreceny et al., 2002; Oyelere et al., 2003; Lodhia et al., 2004; Xiao et al., 2004; Chan & Wickramasinghe, 2006; Abdelsalam et al., 2007; Kelton & Yang, 2008; Al Arussi et al., 2009; Ali Khan, 2010; Ali Khan & Ismail, 2011; Ali Khan & Ismail, 2012). The population consist of all companies listed on Bursa Malaysia main board on December 31, 2007. Listed companies in the financial industry, trusts and closed-end funds are excluded in this

study. Financial industry (banks, insurance companies and securities firms) are excluded due to the banking institutions in Malaysia are subject to various regulations and guidelines issued by the Central Bank of the Banking and Financial Institutions Act 1989 (Grace & Mohd Iskandar, 2004; Abd Aziz et al., 2006). Companies in the financial sector, banking, insurance, unit trusts, closed and securities is subject to different rules than other sectors (Hashim & Saleh, 2007; Bue et al., 2008). Financial industry trusts and closed-end funds have different properties in the structure of the financial statements and reporting requirements (Ku Ismail & Chandler, 2004; Mohd Isa, 2006). As a result, companies in the finance, insurance and unit trusts are excluded from the sample due to differences in the regulation and reporting requirements (Hossain et al. 1994; Haniffa & Cooke, 2002; Abd. Ghaffar et al., 2004; Haniffa & Hudaib, 2006; Mohd Ghazali & Weetman, 2006; Hashim & Saleh, 2007; Jaffar et al., 2007; Bue et al., 2008).

Sampling procedure began by exempting companies that are included in the financial industry, banking, insurance, unit trusts, closed-end funds and securities sectors. This approach is the same as Hashim and Mohd Saleh (2007). This study focuses on companies listed on the main board of Bursa Malaysia main board as the company is larger than that of companies listed on the second board (Hashim & Saleh, 2007). Based on information obtained from Bursa Malaysia (as at June 12, 2008), there is only one company in the mining industry sector, five companies in the hotel industry and eight companies in the industrial sector infrastructure projects. Companies in the mining industry, hotels and infrastructure projects are also excluded from the sample because the company is not sufficient to make a comparison between the industrial sector

(this approach as: Hashim & Saleh, 2007). During the collection process financial data, researchers cannot collect financial data related to the specific character of the company are available for companies in the sectors of infrastructure, technology and the hotel. Therefore, companies in the financial industry, closed-end funds, and mining, hotel, technology and infrastructure projects are excluded from the sample. Accordingly, only the five main sectors used in this study of consumer goods, industrial goods, services and trading, construction and real estate, and farming based on the classification of industry sectors from Bursa Malaysia. The full list of companies listed for 2007 in Bursa Malaysia as at 12 June 2008 amounted to 984 companies (636 Main, 223 Second Board and 125 MESDAQ Market) can be obtained by visiting the website of Bursa Malaysia. The main reason for the selection of all the main board listed companies is to examine the readability of each listed company to attract investors to invest in their companies by providing information on the company's website. This study will allow researchers to give conclusion and an overview of the current reporting of financial information is presented through the company website. Thus, the population consisted of companies listed on the main board of Bursa Malaysia amounted to 564 companies (after excluding the financial sector, infrastructure projects, hotels, mining, technology and closed-end funds). If the inaccurate sample is selected, then it will give the weaknesses of the research. If the sample of population was too large and too small, it is possible tendency for the selected sample cannot be trusted. Therefore, the principle of sampling is to ensure the ability to sample representative of the population (Konting, 2000; Ayob, 2005). Table for determining sample size of the population developed by Krejcie and Morgan

(1970) in (Sekaran, 2003) was used as a basic guide to the selection of sample size for this study. Sample size that using the schedule of determination as proposed by Krejcie and Morgan (1970) and based on the population of 564, the sample size for this study was 234. Sample containing one-third of the sampling frame is sufficient (Ku Ismail & Chandler, 2004).

A variety of appropriate guidelines or guidance or rules of thumb that can be used in relation to the number of data required for multiple regression analysis (Pallant, 2006). There are two indicators used to determine sample size for regression analysis of 10 data for each independent variable in a model, or 15 data for each independent variable (Field, 2005). As suggested by Coakes and Steed (2007), the minimum requirement for regression analysis is at least five times or more independent variables. Bausell (1986) suggests at least 25 subjects for each independent variable and using a large sample (n > 200) to study multiple regression analysis. Green (1991) and Tabachnick and Fidell (2007) suggested a minimum requirement for regression analysis is at least 50 plus eight times with independent variables (N > 50 + 8m, where m = number of independent variables). Myers (1990) and Stevens (2002) suggested, 15 subjects for each independent variable is needed for a reliable regression equation in social science research. The sample size has a direct impact with statistical power for multiple regression analysis. It is proposed that the minimum ratio is 5:1, meaning that it must have five observations for each independent variable. However, the required ratio is between 15 to 20 observations for each independent variable (Hair et al., 2006, p. 196). Therefore, the required sample size in this study is 15 multiplied by 12 is equal to 180. Researchers feel that the sample size was adequate based on as long as the sample size in the range of 30 to 500. This view of Roscoe (1975)

in (Sekaran, 2003) suggest appropriate indicators to determine the sample size are: (1) the sample size must be greater than 30 and less than 500 are appropriate for most research, (2) the sample is divided into several subsample (for example, male / female, junior / senior, etc.), then the minimum sample size is 30 for each category is required, (3) for the multivariate study (including multiple regression analysis), the sample size should be several times (suggested 10 times or more) of the number of variables involved, and (4) for experimental research brief, with tight control (matching pairs, etc.), a study can be successful with small sample sizes, ranging from 10 to 20.

By taking all the above tips into account (Roscoe, 1975; Myers, 1990; Green, 1991; Stevens, 2002; Field, 2005; Hair et al., 2006; Coakes & Steed, 2007), factors such as time and budgets researchers in the field, then the sample size for multiple regression analysis was of 182 companies are already adequate in this study. It is because this study is to find a relationship between various industry and IFR levels. The selection of proportional random sample was used, at least every industry in the samples taken between 20 to 45 percent for the representative of the population concerned. Distribution of selected companies from various industries is shown in Table 1.

Table 1: Sample and Population by Industry

The industrial sector	Population	Samples	Percent (%)
Consumer goods	87	20	22.99
Industrial products	156	42	26.92
Services and trade	147	50	34.01
Construction and property	133	57	42.86
Plantation	41	13.	31.71
Total	564	182	32.27

Measurement IFR

There are various definitions used by researchers to determine the definition IFR. In this study, the company is classified as a company that practices IFR when the company reported the

important financial information, part of the financial statements and/or complete annual reports in the company's website. IFR defining this as other researchers (Craven & Marston, 1999; Oyelere et al., 2003; Mohamad et al., 2003; Momany and Al-Shorman, 2006). Next, the variable IFR level measured by using index reporting (as Oyelere et al., 2003; Marston & Polei, 2004; Xiao et al., 2004; Bonson & Escobar, 2006; Chan & Wickramasinghe, 2006; Celik et al., 2006; Abdelsalam et al., 2007; Kelton & Yang, 2008; Al Arussi et al., 2009; Ali Khan, 2010; Ali Khan & Ismail, 2011). According to Marston and Shrives (1991), evaluating the quantity of information offered by the company can be done using the index. Therefore, based on literature review, checklist reporting index has been developed. To assess the company's Web site, the checklist has two dimensions which are content and presentation. In addition, the evaluation is not only the information that is transmitted via the Internet, but also to assess how it is presented with a choice of technology used to produce user-friendly website. In this study, the dimensions of the content will provide information on the type of information reported by the company through the website. Dimensional presentation will provide information about the use of the latest display features in disseminating corporate information and website design company. This study used a non-weighted index reporting, assuming each reporting category is important (Meek et al., 1995). Many researchers support the use of non-weighted item because it said that every item has the same interests (Cooke, 1989; Chavent et al., 2006). Use of non-weighted index reporting is better because this study did not focus on the importance of specific user groups (Cooke, 1989; Hossain et al., 1994: Hossain et al., 1995; Chau & Gray, 2002). In addition, measurements using non-weighted index reporting

in order to avoid subjectivity and not bias to the element of any group of accounting information's user (Raffournier, 1995). This is reinforced by the empirical results reporting the use of index-weighted index and not reporting the weights give similar results (Spero, 1979; Firth, 1980; Robbins & Austin, 1986; Chow & Woren-Boren, 1987; Adhikari & Tondkar, 1992; Wallace & Naser, 1995).

There are many ways to build a scoring scheme to determine the level of reporting (waterfall, 2008). Items in the checklist will be measured by using the basic dikotomus / dwivalue (yes or no), which score 0 is given for not reporting and a score of 1 is given if there is reporting. The checklist is used to determine the total score, by evaluating the content and presentation of the company's website. The study assumes that investors are interested to know the accounting and financial information provided (content variable), and was also interested in getting information as quickly as possible, is supported by the navigation user-friendly website in the company's website (variable presentations). Items in the content dimension indicates whether the information reported by the company through the company website. Meanwhile, the items in the dimension of the presentation shows how the information is presented (eg, whether the information in the format processing) and ease of use (for example, there is a search engine). For each company, the level of IFR measured by the total score calculated as the percentage of the ratio on the actual total score compared with the maximum score. The independent variables constructed from the items in index reporting. The main measurement was the total score. The measurements are consistent with studies Debreceny et al. (2002), Marston and Polei (2004), Xiao et al. (2004), Bonson and Escobar (2006), Abdelsalam et al. (2007) and Kelton and Yang

(2008) that distinguishes dimensions with the dimensions of content presentation. The maximum score will be obtained for a company is 87 points. Scores for reporting index is calculated based on actual number of items were reported compared with the maximum number of reporting items (Hossain et al., 1994; Naser, 1998; Camfferman & Cooke, 2002; Haniffa & Cooke, 2002; Naser et al., 2002; Abd. Ghaffar et al., 2004; Bonson & Escobar, 2006; Hashim & Jaffar, 2006; Mohd Ghazali & Weetman, 2006; Abdelsalam et al., 2007; Jaffar et al., 2007; Lopes & Rodrigues, 2007; Curuk, 2008; Kelton & Yang, 2008; Al Arussi et al., 2009; Ali Khan, 2010; Ali Khan & Ismail, 2011). Thus, for each item IFR reported in company's website clarifies dichotomous score as score 1 for item scores reported and 0 otherwise. Here is the formula used to calculate the index IFR:

Index =

$$\frac{\Sigma \text{ IFR actual scores obtained by the company}}{\Sigma \text{ The maximum score}}$$

4.0 Finding And Discussion

Table 2 shows the demographic information of the sample. In total, 182 companies has been chosen as samples in this study. 31.3 percent of the samples consisted of the construction industry and property, 27.5 per cent of the trade and service industries, 23.1 percent of the industrial goods industry, 11.0 percent of the consumer goods industry, and 7.1 percent of the plantation industry.

Table 2: Distribution of Sample Firms

Industry Sectors	Number of States	Percent (%)
Consumer goods	20	11.0
Industrial products	42	23.1
Services and trade	50	27.5
Construction and property	57	31.3
Plantation	13	7.1
Total	182	100

Table 3 reports descriptive statistics for the dimensions of level IFR reporting. The results showed that the average index is 65.096 IFR with minimum and maximum values, respectively 48.27 and 78.16. Average content dimension is 51.715 with the minimum and maximum values, respectively 37.93 and 60.92. The maximum score for the content dimension is 77.01. The maximum score for the presentation dimension is 22.99. The average dimension of the presentation is 13.354 with minimum and maximum values, respectively 10.34 and 19.54. Standard deviation for content dimensions is not too different with IFR index. Standard deviation for presentation is different with the dimensions of the contents and index IFR which is 1.458. The results showed that a total of 40 companies with 21.98 percent IFR index between 70 and 79.9, followed by the majority of companies of 113 companies (62.09%) which has an index IFR between 60 to 69.9. There have 28 companies (15:37%) with IFR index between 50 and 50.9. The study reported that only 5.5 percent of a company that has IFR index value below 50. Overall, the results showed a total of 153 companies is 84.07 percent of the samples have IFR index at more than 60.

Table 3: Frequency of Disclosure Level

	Contents	Presentation	IFR Index
Mean	51,715	13,354	65,096
Median	51.72	13:22	64.94
Standard deviation	4101	1458	4496
Minimum	37.93	10:34	48.27
Maximum	60.92	19:54	78.16
Skewness	-0331	0893	-0046
Kurtosis	0301	1701	0318
Significant KS	0021	0000	0021

IFR Index	Number of States	Percent (%)
70 - 79.9	40	21.98
60 - 69.9	113	62.09
50 - 50.9	28	15:38
40 - 49.9	1	5.5
Total	182	100.0

Correlation analysis performed to test the bivariate relationships between all the variables either nominal or continuous. The test is very important to know whether there is or not a problem, especially multicollinearity correlation coefficient of 0.80 over (Gujarati, 1999; Gujarati, 2003; Cooper & Schindler, 2006). In order to detect potential issue multicollinearity, correlated independent variables either nominal or measured continuously. Overall, the results also show that there is no problem multicollinearity and the average and low correlation between the independent variables tested. Based on the test multicollinearity, the tolerant and VIF value at the appropriate intervals of the tolerant values of greater than 0.1 and smaller VIF value of the value of ten (Hair et al., 2006). Therefore, regression analysis was carried out free of multicollinearity problem. Then, after five assumptions of regression tests followed (normality, linearity, homoskedastisity, outliers and multicollinearity),

the results of regression analysis is shown to be reliable, independent of the problem and the problem of heteroscedasticity multicollinearity.

Table 4 reports the regression analysis of comparison between the index IFR, content of dimension and presentation of dimension. Regression analysis results showed that the listing on the Bursa Malaysia has a significant positive relationship with the dimensions of the presentation and index IFR respectively at $p < 0.05$ and $p < 0.10$. The results showed that the amount of debt leverage divided total assets have a significant positive relationship at $p < 0.05$ with the dimensions of the content. The analysis showed that the profit margin after tax net income divided by revenue has a significant positive relationship at $p < 0.05$ with dimension of contents and index IFR. The results showed that the return on equity has a significant positive relationship at $p < 0.05$ with contents and index IFR dimension.

Table 4: Results of Regression Analysis

Independent Variable	DV = Content		DV = Presentation		DV = Index IFR	
	β	sig	β	sig	β	sig
Risk	0.739	0.393	0.280	0.421	0.953	0.366
Technology	-0.035	0.901	0.058	0.610	0.006	0.986
Size	3.024	0.000***	0.294	0.202	3.296	0.000***
Leverage	-2.918	0.086**	0.184	0.786	-2.523	0.221
Ownership structure	-0.017	0.386	-0.005	0.496	-0.021	0.389
Period	0.026	0.290	0.017	0.086**	0.044	0.146*
Profit margin	-0.012	0.040**	0.000	0.954	-0.012	0.098**
Return on equity	0.024	0.021**	-0.001	0.748	0.022	0.078**
Current ratio	-0.114	0.295	0.012	0.784	-0.080	0.546
Audit	-0.650	0.312	0.256	0.322	-0.340	0.663
Listing status	0.239	0.772	0.333	0.315	0.544	0.588
Consumer goods	1.138	0.273	0.282	0.499	1.418	0.262
Services and trade	1.220	0.117	-0.006	0.986	1.296	0.171
Construction and property	-0.554	0.480	-0.508	0.108	-1.049	0.273
Plantation	1.516	0.202	-0.628	0.188	0.909	0.529
Constant	25.551	0.000	10,320	0.000	35.895	0.000
	$R^2 = 0.301$		$R^2 = 0.107$		$R^2 = 0.273$	
	R^2 adjusted = 0.238		R^2 adjusted = 0.026		R^2 adjusted = 0.207	
	Statistic F = 4.761		Statistic F = 1.324		Statistic F = 4.148	
	sig = 0.000		sig = 0.193		sig = 0.000	

DV = the dependent variable, â = beta, se = standard error * Sig = p <0.10, ** sig = p <0.05, *** sig = p <0.01

In addition, the analysis shows that the size of company is logarithm-based base 10 total assets have a significant positive relationship at $p < 0.01$ with contents and index IFR dimension. This shows that large companies are more likely to provide a website and use it to practice IFR. These findings explain the size of the company is the dominant factor affecting the level of a company IFR. This is caused by the industry to develop and provide the company's website is still at early stage. Therefore, the cost of construction and maintenance of web sites require a large amount. Large-sized companies have many financial resources, and this finding is not surprising to see large size companies to easily practice IFR and have IFR at higher level. As explained by Chan and Wickramasinghe (2006), the theory of political costs states that large companies usually will attract more attention of the public, the company will have greater incentive to signal that the company is a leading in innovation compared with traditional attitude or conservatism in applying information technology in the company. In addition, this study also showed IFR more prevalent in the service industry and trade, and the construction industry and real estate compared to other industries.

The result of multiple regression analysis is different if the presentations are used as the dependent variable. The analysis uses the presentation score ($R^2 = 0107$) as the dependent variable has explanatory power which is low compared to content analysis using score ($R^2 = 0301$). This result was consistent with the previous studies (Marston & Polei, 2004). The analysis explains that the specific character of the company (e.g. company size) describes the amount of information presented on the company website is larger than that of the information presented. It is likely that the display characteristics are presented for the company's website has a low impact on the usefulness of the information provided compared to what is expected (Marston & Polei, 2004).

The study also compares the value of the coefficient of determination (R^2) with several previous studies, including studies Larran and Giner (2002) showed that the coefficient of determination value equal to 33.2, the study and Polei Marston (2004) showed that the coefficient of determination for the overall score for 2000 is equal with 38.4, studies Abdul Hamid and Md Salleh (2005) showed that the coefficient of determination value equal to 22.1, the study Bonson and Escobar (2006) showed that the coefficient of determination value equal to 50.77, the study Chan and Wickramasinghe (2006) showed that the coefficient of determination value equal to 52.0, Celik et al study. (2006) showed that the coefficient of determination value equal to 37.09, and the study of Ali Khan et al. (2007) showed that the coefficient of determination value equal to 4.24. This research shows that the coefficient of determination (R^2) was 27.3, which means 15 independent variables tested in the model can explain 27.3 per cent variation in the index IFR. The coefficient of determination lower than previous findings show that there are other variables that need to be tested empirically (Owusu-Ansah, 2005) to more fully know what the determining factors that influence IFR in Malaysia.

5.0 CONCLUSION

This study was conducted with the aim of investigating the determinants of the extent of IFR by Malaysian listed companies. The results showed three main features of the size of the company, the age of the company and return on equity significantly affect IFR level. Significant positive relationship between the size of the company with the IFR which is consistent with previous studies

(eg, Ashbaugh et al., 1999; Craven & Marston, 1999; Hassan et al., 1999; Pirchegger & Wagenhofer, 1999; Oyelere et al., 2003; Abdul Hamid & Md Salleh, 2005; Bonson & Escobar, 2006; Chan & Wickramasinghe, 2006; Ali Khan, 2010). This could be due to the process of collecting, preparing and reporting information involves large capital outlays (Bubzy, 1975). Only large-sized companies can afford to incur such expenses as compared to small-sized companies (Naser et al., 2002). Large companies are also more dependent on capital markets to raise funds from small-sized companies (Ahmed & Nicholls, 1994). Large company requires completed reporting (Lang & Lundholm, 1993; Naser et al., 2002) including the reporting information of financial and non financial reporting over the Internet. These findings support the use of agency theory in the study IFR consistent with previous studies (Marston & Polei, 2004; Bonson & Escobar, 2006; Ali Khan et al., 2007). The management will report financial information through the Internet as proof to shareholders that they have discharged their duties properly. In fact, IFR is a perfect medium to reduce the agency conflict between managers, shareholders and debt holders (Barako et al., 2008). IFR able to attract more investors and potential investors to make investment decisions more efficient (Marston & Polei, 2004).

There is significant positive relationship between the age of company with the IFR also consistent with previous findings (such as Barako et al., 2008; Ali Khan, 2010). Companies that have been listed on Bursa Malaysia showed a higher level of IFR compared to newly listed companies. This means that the longer a company listed on Bursa Malaysia, the company is more likely to use the Internet for corporate financial reporting to shareholders. This is likely due to the old

company has extensive experience are more likely to report more information in the annual report with a view to enhancing the reputation and image to the market (Akhtaruddin, 2005). Large-sized companies and has been listed on Bursa Malaysia, can leverage the Internet as an alternative medium for communicating business performance related to certain parties such as shareholders, investors, potential investors, financial analysts, creditors and other interested parties. The finding is consistent with agency theory that the long period in which the management were encouraged to do more reporting of financial information over the Internet. This is caused by management are required to report more information to reduce uncertainty and increase confidence of investors in the company (Haniffa & Cooke, 2002). These findings are also consistent with expectations theoretical of notification that the old company often report more information in order to distinguish the organization of new companies listed on stock exchanges (Hughes, 1986).

The results also showed a significant positive correlation between return on equity with the level of IFR. This may be due to companies with high return on equity has the resources to put into practice IFR which this practice will give the impression that the company is in line with current technology that uses the Internet to disseminate information. Furthermore, these findings consistent with agency theory expectations that high return on equity which led the management to report more financial information over the Internet. This is caused by the management to indicate the efficiency of operating managers. These findings are also consistent with the theory that presupposes notification that the company has good news tend to report more information (Ross, 1979).

This finding is particularly interesting because most previous studies related to IFR

(Marston, 2003: the ratio of earnings before taxes on capital employed; Abdul Hamid & Md Salleh, 2005: earnings per share; Chan & Wickramasinghe, 2006: the ratio of earnings before interest and income before interest and tax to total assets) found that profitability ratios do not affect the management to practice IFR. The results showed a significant profit margin on the dimensions of content and the overall index IFR. However, the estimated coefficients show a negative correlation between profit margins with overall dimensions contents and IFR index. These findings showed that the higher the profit margin the company, the less financial information reported in the overall dimensions IFR of contents and index. This is in line with research findings related to corporate annual reports by Wallace and Naser (1995) who found that profitability (the ratio of earnings before tax to total sales) have a significant negative relationship with the reporting of information in corporate annual reports. Although it was difficult to explain, this negative relationship may be due to: (1) of the view that investors are satisfied with the results reported higher profit and does not require additional information, and (2) does not require detailed information to be presented in the following year as described by Wallace et al. (1994).

Independent variables (contingency factor and the firm specific characteristic of the company) explained a significant 20.7 percent variance in the index IFR. The results showed three main features of the specific character of the size of the company, the age of the company and return on equity significantly affecting IFR level. In other words, the size of the company, the age of company and return on equity is a determining factor IFR. The results also showed that the risk and contingency factor technology is the determining factor that influences the level IFR. Further, the study also showed no evidence to indicate that the level of leverage ratio IFR influenced by the structure of ownership, profit margins, current ratio, the audit firm, the listing status and industry type. On the whole, all the dimensions that describes IFR is index IFR, content and presentation explained 27.3 percent of variance in IFR index, 30.1 percent of the variance in content dimension and 10.7 percent of the variance in the dimension of the presentation.

The selection of the management regarding corporate financial reporting practices depending on the different constraints in the entity (Thomas, 1991). Practical difference in IFR expected due to several factors including the environment (e.g. risk) and organizational attributes (e.g. size of the company and technology). Therefore, studies the relationship between contingency factors and the firm specific characisctic of the level of conducted and confirmed IFR understanding the factors that affect IFR related differences in the level of reporting. The empirical analysis found that contingency factors (risk and technology) are the determining factor IFR. The levels IFR found to have significant relationship with the size of the company (Ashbaugh et al., 1999; Craven & Marston, 1999; Hassan et al., 1999; Pirchegger & Wagenhofer, 1999; Oyelere et al., 2003; Abdul Hamid & Md Salleh, 2005; Bonson & Escobar, 2006; Chan & Wickramasinghe, 2006; Ali Khan, 2010), the age of the company (Barako et al., 2008; Ali Khan, 2010) and return on equity (Ismail, 2002; Debreceny & Rahman, 2005; Ali Khan, 2010). The results of this study not only support previous findings, but also provide input to the accounting policy makers in Malaysia to understand behaviour in relation to IFR reporting.

Therefore, the likely policy implications in relation to these findings lead to large-sized companies, companies that have been listed on Bursa Malaysia and companies with high equity

returns should be more attention from the relevant bodies of authority. Larger companies have more resources and more easily accessible by the capital market if the company reported more information on the Internet. Companies that have been listed on the main board of Bursa Malaysia are more likely to report financial information over the Internet. In terms of profitability ratios, the company that has a high return on equity are more likely to practice IFR to give a good indication of the capital market and financial position of the company's reputation. However, the study also showed that the higher the profit margin (measured by the ratio of net income on revenue or sales tax) less the company to report financial information over the Internet.

This research has a number of limitations. First, the scope of this study is limited to a sample of 182 Malaysian listed companies and they may not represent all the possible listed companies. Thus, it might have been better to look at companies from a wider range. Second, the findings of this research may not be generalise to different countries at different stage of development, or with different business environment, culture and accounting standards. A comprative study of IFR practice for different countries with emerging capital market might also be fruitful. Therefore, it would be interesting to replicate this study in other emerging capital market countries which have many similarities to the Malaysian environmnet. Third, while an unweighted disclosure index was used in this research, the findings might be different if a weighted disclosure index, which assesses the importance of each ítem in accordance with specific user group perspective was used. Forth, the explanatory power (adjusted R^2) is regression model range between 0.026 and 0.238, which mean that the multiple regression models which contained 12 variables explain about $0.026 - 0.238$

of the variation in the IFR. Although this percentage is considerable, it means that other variables that were not included in the study affect the extent of IFR. Future research could investigate of other potential explanatory variables such as those related with corporate governance and cultural variables which were out of the currrent study.

In conclusion, a IFR practice guidelines required for companies listed on Bursa Malaysia for the purpose of reducing the disparity in levels of reporting. Similarly, it is hoped all companies will be able to apply the guidelines in the present financial and non financial information on the company's website. It aims to increase the confidence of consumers of business information such as investors, shareholders, financial analysts and creditors of the information reported in the company's website. The study was conducted in the vicinity of web based financial reporting in Malaysia. The same survey will produce a comparative study it can be implemented in several countries in the world with a history of the community, the financial reporting system, legal system, culture, corporate governance components and background factors of the different management. Such studies are expected to contribute meaningfully to the company management about the importance of reporting of financial information in annual reports on the Internet for stakeholders and users of accounting information to make decisions more meaningful.

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Disclosure Practices in Financial Reporting in Pakistan

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Abstract

The primary objective of this study is to determine the level and extent of information disclosed by the Pakistani listed companies in their annual reports. Disclosure plays an elementary role in allocation of funds among the companies in an economy. Creditors and investors' decision, whether to establish/ continue relationship with a company or not, is usually based on the quality of disclosures being made in financial reporting by a company. Various regulatory authorities require listed companies to disclose information sufficient in scope for economic decision making by creditors and investors, potential as well as existing. There seems to be paucity of research on disclosures in Pakistanmaking this study worthwhile. This study would also help regulators and standard setting bodies to take measures for improving the quality of financial reporting in the country. The research used the previously established methodology for disclosure study. Descriptive statistics was obtained and for checking association among various variables with each other, Pearson correlation analysis was applied, where t-test was significant at 0.01 and 0.05. Multiple regression analysis was also conducted. The overall regression was highly significant at 0.05. The overall disclosure practices in Pakistan were found comparable with the rest of the world.

Keyword(s):

Annual reports, disclosure, disclosure indices, financial reporting, IAS/IFRS

Introduction

Financial reporting is the process of arranging, organizing and disseminating all the relevant information about the financial status and performance of a business entity to a variety of stakeholders. Traditionally financial reporting was confined to the concept of financial statements showing the financial position and results of operation of the business entity. In contemporary corporate world, the concept of financial reporting has, however, acquired far more components and dimensions, leading to an enhanced importance of the subject. It also includes a variety of narrative reports, encompassing financial as well as non-financial information. These all reports, narrative as well as financials, are usually collected into a single document popularly known as annual report, prepared on yearly basis. Interim reports are also prepared on quarterly or half yearly basis. The basic objective of these reports is to disclose information in order to facilitate the users in making decisions regarding their relationship with the business entity. Users of this information include investors, creditors, customers, governmental agencies, etc. It means that every user makes decision on the basis of the information available in corporate reports (annual, or interim).

Does the user make decision solely on the basis of these information is beyond the scope of present study. But the corporate entities are supposed to make "true and fair" presentation of their state of affairs.

1.1 Objective of Financial Reporting

International Accounting Standard (IAS) 1 describes the "objective of general purpose financial statements" as "to provide information about the financial position, financial performance, and cash flows of an entity that is useful to a wide range of users in making economic decisions". More precisely financial statements disclose information "about an entity's assets, liabilities, equity, income and expenses including gains and losses, contributions by and distributions to owners and cash flows", supplemented with more disclosures in notes. The stakeholders make use of these disclosures "in predicting the entity's future cash flows and, in particular, their timing and certainty" (IAS 1). Williamset al. (2010) also described the objective of accounting as to disseminate "information that is useful for decision making purposes". Bushman and Smith (2003) stated that "financial accounting information is the product of corporate accounting and external reporting systems that measure and routinely disclose audited, quantitative data concerning the financial position and performance of publicly held firms." Akintoye (2009) termed "Accounting information" as "the most basic input into any informed economic decision making". He observed that the importantobjective of accounting information is to facilitate "potential investors" for making "an informed judgment on whether to invest" in a particular entity or not. It also facilitates "current investors" for monitoring "their investments". FASB concept statement No.2 states that "financial reporting should provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions".

1.2 Financial Reporting Environment in Pakistan

Financial reporting environment in Pakistan is comprised of IAS/IFRS, Companies Ordinance 1984, circulars and pronouncements of Securities and Exchange Commission of Pakistan (SECP), prudential regulations and circulars of State Bank of Pakistan (SBP), and stock exchange regulations. Pakistani companies are required to prepare their financials as per the requirements of IAS/IFRS, Companies Ordinance 1984, circulars and pronouncements of SECP, and prudential regulations and circulars of SBP where applicable.

1.3 Statement of the Problem

Financial reporting is meant to provide/ disclose information to the users for making decisions regarding the financial health, performance, and cashflows of the business entity. The volume and quality of disclosure is still a question of subjective debate depends on the user requirements. The importance of disclosure is, however, very clearly reflected from the role it plays in the overall economic and financial set up of a country. Based on the disclosures, the companies make, creditors and investors(potential as well as existing), decide whether to establish or continue relationship with the company or not. Thus, the disclosure plays an elementary role in allocation of funds (credits or investments) among the companies in an economy. Therefore, various regulatory authorities require these companies to disclose information sufficient in scope for economic decision making by creditors and investors, potential as well as existing. The primary objective of this study is to measure/ determine the level and extent of information disclosed by the Pakistanilisted companies in their annual reports.

1.4. Research Objectives

- To identify the essential information that the corporate annual reports are supposed to disclose.

- To study the level of information that the corporate annual reports actually disclose.

- To investigate the correlation/association between the total disclosure and various disclosure's components of corporate annual reports.

1.5 Rationaleof The Study

The area of disclosure in corporate (annual) reports is not new. It has always been the focal point of researcher in finance. Plenty of research is available on disclosure in financial reporting in a number of countries. In Pakistan, probably there is paucity of such research. Besides, financial reporting is an area, where changes and development occur on continuous basis opening new avenues for research. The increasing number of IAS/IFRS, the perpetual existence of IASB, and FASB, and their increasing requirements for more disclosure by corporate entities are more than sufficient reasons for keeping researcher attentive to the scope of disclosure in financial reporting. Moreover, almost all the research studies fell short of finding a full disclosures (100 %) score, leaving room for further research. The given rationale is also supported by Hope (2003) who observed that corporate "disclosure practices" has been an area of research for decades, and it still had/has a lot of potentials for research.

This study would observe the level of disclosure in corporate annual reports helping regulators and standard setting bodies to take measures for improving the quality of financial reporting in the country.

2. LITERATURE REVIEW

Patel and Dallas (2002) carried out an overview of the study published by Standard & Poor (2002) observing "the transparency and disclosure (T&D) practices of major public companies around the globe". The methodology used by Standard & Poor for analyzing the T&D practices integrated 98 disclosure items, segregated into three main categories including (i) Ownership structure and investor rights, (ii) Financial transparency and information disclosure, and (iii) Board and management structure and process. Disclosure data was collected from annual reports, considered to be "the primary source of corporate disclosure". Each item was scored 1, if disclosed in the annual report. For the sake of consistency, objectivity, and "global comparison", S & P did not take into account other sources of company information and only concentrated "on core public disclosure documents".

Hope (2003) focused on "the roles of legal system and national culture" asinfluential factors in determining the level of disclosures in annual reports. He compared the role of "legal origin with that of culture" in explaining the disclosure practices by business entities. He observed that "neither legal origin nor culture" was more instrumental for disparity in disclosure scores of different firms. However, "legal origin"was found imperative"for the role of culture", but culture was also not found "unimportant in explaining firm disclosure after controlling for legal origin". Ashraf et al (2005), however, concluded that "cultural values" did not forecast "disclosure levels once legal origin was considered".

Aksuand Kosedag (2005) highlighted the importance of "transparent and full disclosure of information for Turkey". They undertook a research on "transparency and disclosure scores and their determinants in the Istanbul stock exchange" applying the same methodology developed by S&P. They analyzed a sample of 52 "largest and most liquid firms" listed on the Istanbul Stock Exchange (ISE), getting disclosure

information from their "annual reports and websites". They claimed to provide a "first time", unbiased evaluation of the "disclosure practices of ISE firms". They also found that the disclosure practices were "moderate and varied with respect to the three sub-categories of T&D". They compared the average T & D scores of their sample and found that such disclosure was highest in UK and US. It was slightly lesser in "continental Europe and developed Asia" and "lowest" in "emerging Asia and Latin America". They also pointed out that the score was varying among various categories of T&D.

Ashraf and Ghani(2005) conducted a study on "the origins and the development of accounting in Pakistan". They pointed out that implementation of IFRS "as national standards" did not improve "the quality of financial reporting" in Pakistan. They contended that the "enforcement mechanisms" were the primary determinants for "improving the quality of financial reporting". They observed that "the colonial background of a country" must be considered if the "relationship between culture and financial reporting systems" was to be tested. In case of Pakistan, they determined that "the effect of culture on the accounting system" could not be explained clearly owing to "her colonial past". They determined that "lack of investor protection, judicial inefficiencies and weak enforcement mechanisms" were more crucialfactors forillustrating the "financial reporting practices in Pakistan than cultural factors".

Akhtaruddin (2005) examined "the disclosure practices of listed companies in Bangladesh". He was basically interested to observe compliance of corporates with the disclosure requirements declared "mandatory by the regulatory bodies". The study also observed"the association between company characteristics and the extent of disclosure". He collected data from 94 non-financial companies listed on a stock exchange in Bangladesh.He developed the "disclosure index" on the basis of information required by the "regulatory" authorities of the country. Disclosure score for each company was determined by assigning 1 to the information item if it was disclosed and 0 if the item was not disclosed, following an "unweighted approach". He observed that mandatory disclosure, as required by the regulators, was "poor" in the"corporate annual reports", having an average disclosure of "43.53" percent of the information items chosen. The poor "disclosure performance" was "attributed to organizational culture, poor monitoring, and lapse in enforcement by the regulatory body". He also observed that the company "age", "status" and "profitability" did not have any "effect on disclosure", while "size" if measured in terms of "sale" was "marginally significant".

Dahawyand Conover (2007) conducted a research study on the "compliance of Egyptian companies to disclosure requirements" and the intrinsic "conflict between international standards and cultural values of Egypt". They were of the opinion that the international standards were not synchronized with the "cultural values" of the country and therefore created "conflict". They also pointed out that the local companies were not ready to implement the "foreign standards" and were "selective" in meeting the "disclosure requirements" of the international standards. They used a disclosure checklist developed by Capital Market Authority (CMA) of Egypt. They scored each item as 1 or 0, depended on their being present or absent. "Not applicable" response was also included in their scoring if no disclosure was required. They found that most of the companies did not conform to the "disclosure requirements". They pointed out that "socioeconomic factors affected the

implementation of IAS in Egypt."

Hossain and Hammami (2009) studied "voluntary disclosure" practices in Qatar. They wanted to observe the level of "voluntary information" by corporates in their annual reports, in 2007. They selected a sample of 25 companies, listed on Doha Securities Market. They selected "44 items" to be disclosed "in the annual reports of Qatari companies" and developed a disclosure index accordingly. The selected "44 items" were segregated in to 8 groups. Each item was scored 1 if disclosed and 0, otherwise.They observed the relationship among "age, assets, complexity and assets-in-place", taken as independent variables, and "voluntary disclosure", dependent variable, were "significant", while, the relationship was found to be "insignificant" between "profitability" and "voluntary disclosure".

Kothari (n.d.) synthesized "the theoretical and empirical literature onthe effects of disclosure of financial information on the risks of financialmarkets". He noticed that "market participants"were interested in "high-quality financial information"due to its alleviating effects on "information asymmetry", leading to reduced "cost of capital and the volatility of security prices".Thus, he pointed out, "regulators" put efforts"for highqualityaccounting standards". He further added that "institutional factors such as investor protection laws, corporate governance structures, the quality of law enforcement and mandated standards determine properties of reported financial information". Therefore, he suggested, all these factors should be considered when "standards" were being framed.

The literature review reflected that all disclosure indices were developed and disclosures were measured on the basis of information in published accounts (annual reports). It is probably due to the convenient availability of such data.

Cultural and legal forces and monitoring and enforcement mechanism were also found to be determining factors of disclosure in various countries. In case of Pakistan the "lack of investor protection, judicial inefficiencies and weak enforcement mechanisms" were more crucial factors for illustrating the "financial reporting practices" than "cultural factors" (Ashraf and Ghani, 2005). It is also observed that research studies have been conducted in many countries on disclosure practices and their associated dimensions but in Pakistan there seems to dearth of such study. It is therefore necessary to conduct such a study in Pakistan for observing and evaluating the disclosure practices in Pakistani listed companies and comparing it with other countries of the world. It is also observed that international standards do not consider the respective national cultural and legal factors leading to complications in implementation.

3. RESEARCH METHODOLOGY

3.1 Sample Selection & Data Collection

Sample was selected from companies listed on Karachi Stock Exchange (KSE). The technique used in sample selection may be termed as random-cum-convenience sampling, as the annual reports were searched through search engine where every company had equal chance of being chosen, if made its report available. It was convenience sampling because whichever company report conveniently available from the target population was included in the sample. The target population comprised all non-financial companies listed on KSE. A total of 50 non-financial listed companies were included in the sample. The criteria also considered the existence/listing of the companies on KSE for the whole reporting period.Almost all the research studies on disclosure followed the same criteria for sample selection: (i) availability of annual reports, (ii) listing of the firm on the

respective stock exchange for the entire period of the respective study. The industry wise break up is presented below.

Table 1: Summary of sample companies

S.No.	Industry	No. of Comp	% in sample
1	Construction and Materials (Cement)	11	22
2	Food Producers (Sugar)	10	20
3	Personal goods (Textile)	12	24
4	Chemicals	03	6
5	Electronic and Electrical Goods	01	2
6	Industrial metals and Mining	02	4
7	Pharma and Bio Tech	05	10
8	Oil and Gas	02	4
9	Electricity	01	2
10	General Industrial	01	2
11	Household Goods	01	2
12	Real Estate Investments and Services	01	2
	Total	**50**	**100**

3.2 Analysis of Data

For analysing the data, various statistical tools and measures including averages, standard deviations, minimum, maximum, correlation and multiple regression analysis were applied using computer software excel. Results are presented in tables (table 2-4).

3.3 Disclosure Index

Various research studies on disclosure practices such asRauf (2011), Hossain and Hammami (2009), Dahawy and Conover (2007), Akhtaruddin (2005), Aksu and Kosedag (2005), and Patel and Dallas (2002), were analyzed. They all, voluntary or otherwise, developed a disclosure checklist, using an "un-weighted approach". The un-weighted assigned a score of 1 for each disclosed item and 0, if no particular item was not disclosed,according to the requirements of checklist.

All the above mentioned disclosures' indices were considered as reference guide and disclosure requirements of all laws applicable in Pakistan were studied. As a result a comprehensive disclosure index was developed. The index items were grouped in to five categories including (1) General corporate information (GCI), (2) Corporate governance information (CGI), (3) Management & employee information (MEI), (4) Financial statements and accounting practices (FSAP), and (5) Financial performance & ratios for 5 or more years (SFPR). It made up a total of 95 elements. CGI was further categorized into four subgroups including (i) corporate social responsibility, (ii) board information, (iii) auditor's information, and (iv) ownership structure. Each chosen company was scored by assigning 1, for each information item, if disclosed, and 0, in case of non-availability of the information item. The total disclosure score of each company was calculated using the following formula.

n

$$TDS = \sum_{i=1} d_i \qquad \underline{\hspace{3cm}} \qquad (A)$$

TDS= total disclosure score;

d_i = {1 if the ith information item is disclosed;

　0 if the ith information item is not disclosed

n = the maximum number of items

Formula (A) was also used to determine the score of each category i.e. GCI, CGI, MEI, FSAP, and SFPR.

4. RESULT AND DISCUSSION

4.1 Descriptive Statistics

Table 2, given on the following page, shows descriptive statistics for the sample companies. The results shows that the average of the total disclosure score is 53.46 on a scale of maximum of 95 score with a standard deviation of 9.897866. The maximum score obtained by a firm is 79 and the minimum score got by a firm is 40. The mean of GCI is 6.82 on a scale of maximum of 15 score with a standard deviation of 2.561011. The maximum score obtained by a firm is 14 and the minimum score of a firm is 3. The mean of CGI, another independent variable was measured on a scale of maximum of 28 disclosure items categorized in to four subgroups including (i)

corporate social responsibility, (ii) board information, (iii) auditor's information, and (iv) ownership structure. The average score of CGI is 16.9 with a standard deviation of 3.092123. The maximum score obtained by a firm is 24 and the minimum score of a firm is 12. MEI was measured on a scale of maximum of 12 disclosure items. The results show an average 4.12 with a standard deviation of 1.437685 for MEI. The maximum score got by firm is 9 while the minimum is 2 resulting in a range of 7. FSAP was measured on a scale of maximum of 27 disclosure items. The results show an average 18.32 with a standard deviation of 1.448996838 for FSAP. The maximum score got by a firm is 22 while the minimum is 16 resulting in a range of 6. The comparatively reasonable variation is attributed to the nature of disclosure items included in FSAP which are more or less statutory requirements for disclosure. SFPR was measured on a scale of maximum of 16 disclosure items. The results show an average 7.38 with a standard deviation of 4.246919652 for SFPR. The maximum score got by firm is 14 while the minimum is 0 resulting in a range of 14. This is probably due to the voluntary nature of disclosure in this category that the variation is comparatively high.

Table 2: Descriptive statistics for independent variables

Summary Statistics	TDS (95)	GCI (15)	CGI (28)	MEI (12)	FSAP (27)	SFPR (16)
Mean	53.46	6.82	16.9	4.12	18.32	7.38
Standard Error	1.39977	0.362182	0.437292	0.203319	0.204919098	0.600605137
Median	51	6	16	4	18	7.5
Mode	48	5	15	3	19	8
Standard Deviation	9.897866	2.561011	3.092123	1.437685	1.448996838	4.246919652
Sample Variance	97.96776	6.558776	9.561224	2.066939	2.099591837	18.03632653
Kurtosis	-0.11357	0.912097	-0.56189	2.143038	0.075713024	-0.916709278
Skewness	0.808964	1.059106	0.714454	1.326706	0.500292492	0.022964863
Range	39	11	12	7	6	14
Minimum	40	3	12	2	16	0
Maximum	79	14	24	9	22	14
Sum	2673	341	845	206	916	369
Count	50	50	50	50	50	50

TDS- Total disclosure score, 98 items

GCI- General corporate information, 15 items

CGI- Corporate governance information, 28 items

MEI- Management and employee information, 12 items

FSAP- Financial statement and accounting practices, 27 items

SFPR- Summary of financial performance and ratios for 5 or more years, 16 items

4.2 Pearson CorrelationAnalysis

To check association of TDS, GCI, CGI, MEI, FSAP, and SFPR with each other, Pearson correlation analysis was applied.Table 3 presents the Pearson correlation analysis of these six variables with each other. The results show that correlation is significant at 0.01, and 0.05 between all the variables except FSAP, whose correlation is insignificant with any one of the rest of the five variables. This insignificance of FSAP with any of the other variable is attributed to the compulsory nature of the disclosure item on the scale of FSAP.

Table 3: Pearson Correlation analysis results (N=50)

	TDS	GCI	CGI	MEI	FSAP	SFPR
TDS	1					
GCI	0.84386**	1				
CGI	0.819716**	0.582688**	1			
MEI	0.776226**	0.604608**	0.695957**	1		
FSAP	0.187319	0.048836	0.025507	0.049766	1	
SFPR	0.894901**	0.678158**	0.635463**	0.590679**	0.046164	1

**t-test is significant at 0.01 and 0.05

3.3 Multiple Regression Analysis

Multiple regression model analysis was also conducted and the following model was applied.

$$TDS = a_0 + b_1 GCI + b_2 CGI + b_3 MEI + b_4 FSAP + b_5 SFPR$$

The results of the multiple regression analysis are presented in table 4 given on the following page.TDS is dependent variable and GCI, CGI, MEI, FSAP, and SFPR are independent variables. The dependent variable, TDS, is directly proportional with every one of the independent variable. Increase in the disclosure score in any one of the independent variable results in an increase in the dependent variable. The regression analysis shows that the overall regression is statistically significant at 0.05 and also the regression coefficients associated with GCI, CGI, MEI, FSAP, SFPR are statistically significant at 0.05. A unit increase in GCI results 1.172 units increase in TDS. Similarly a unit increase in CGI, MEI, FSAP, and SFPR causes 0.8444, 1.0369, 0.9468, and 0.9934 units increase in the TDS respectively.

Multiple R is 99.82%, R^2 is 99.65% and adjusted R^2 is 99.61%, indicating that more than 99% of the variation in the dependent variable (TDS) is explained by variations in the independent variables (GCI, CGI, MEI, FSAP, SFPR). This result is in agreement with the results of other similar studies on disclosure in financial reporting e.g. Akhtaruddin (2005) with adjusted R^2at 54.7% and Hossain, and Hammami (2009) with adjusted R^2at 61.7%.

Table 4: Multiple regression

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.998231382
R Square	0.996465892
Adjusted R Square	0.996064289
Standard Error	0.620945096
Observations	50

ANOVA					
	Df	SS	MS	F	Significance F
Regression	5	4783.454796	956.6909593	2481.219963	0.000*
Residual	44	16.96520374	0.385572812		
Total	49	4800.42			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	2.24758936	1.24325449	1.807827262	0.077472192	-0.258025425	4.753204145
GCI	1.172021905	0.050522834	23.19786522	2.62654E-26**	1.070199823	1.273843987
CGI	0.844382183	0.043619887	19.35773439	3.75273E-23**	0.756472078	0.932292289
MEI	1.036905576	0.092142354	11.25330027	1.54754E-14**	0.851204864	1.222606289
FSAP	0.946809903	0.061333803	15.43699974	2.25476E-19**	0.823199745	1.070420061
SFPR	0.993435494	0.031285089	31.75428008	5.69098E-32**	0.930384539	1.056486449

5. CONCLUSION

Financial reporting provides an essential input to investors and creditors for decision making. Disclosing more and accurate information strengthen the confidence of users of financial reporting. The study under review was meant to examine the extent of total disclosure made by Pakistani corporate entities in financial reporting listed on Karachi stock exchange (KSE) in the year 2011. The disclosure was measured on the basis of a disclosure index composed of 98 information items. The outcome indicates an optimal level of disclosure by KSE listed companies. The research was conducted on the previously established methodology for disclosure study. The overall disclosure practices in Pakistan are comparable with the rest of the world with an average of 56.27%, while the average in Bangladesh was 43.53% (Akhtaruddin, 2005). In Egypt most of the companies did not conform to the "disclosure requirements" (Dahawy and Conover, 2007). The comparison may not be much reliable due to the differences in disclosure indices used in each of the study as well as temporal differences, as there is a significant time difference in between 2005, 2007, and the current study of 2012 (based on annual reports for the year 2011).

6. LIMITATIONS OF THE STUDY

The small sample size may be considered as a limitation of the present study. The research is limited to only 50 companies out of more than 650 listed companies limiting the generalizability of the research. Future research may comprise a much larger sample leading to more generalizability of the results. Further, the present research selected a heterogeneous sample consisting of 12 industrial sectors hiding inter industrial variation in disclosure practices, but future research may be conducted on mutually exclusive industrial sectors finding sector-vise differences in disclosure practices.

The study under review took a cross-sectional view of the disclosure practices covering only one year (i.e.2011). Longitudinal study for more years

would reveal the trends of disclosure practices in financial reporting by Pakistani companies. This would be helpful in finding any improvement occurred in disclosure practices overtime.

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The Impact of Employment Equity Perceptions
on Psychological Ownership

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Abstract

Psychological ownership is the psychologically experienced phenomenon that occurs when an employee develops possessive feelings towards a target. The idea of psychological ownership inthe environment of anorganisation has been receiving increasing attention from scholars and practitioners as it is seen as a positive resource for studying factors that impact on human performance in organisations. In addition, several factors influence the emergence of psychological ownership, one of them being contextual factors. The South African Employment Equity Act that was implemented to grant equitable opportunities to previously disadvantaged employees could be a significant contextual factor. This study aimed to determine if perceptions of employment equity function as an antecedent of psychological ownership in the South African work environment. A quantitative survey was conducted with a purposive sample of 202 respondents employed in a large South African mining house. A structural equation modelinganalysis revealed a significant causal relationship between perceptions of employment equity and the emergence of psychological ownership. The research contributes new insights into and knowledge of how external factors might influence employees' psychological ownership. Organisationsthat seek to retain employees targeted through equity initiatives need to find ways to enhance and develop the psychological ownership of these employees.

Keyword(s):

Employment equity, psychological ownership, structural equation modeling

Introduction

To compete in thecurrent unpredictable environment caused by trends inglobalisation and technological sophistication, organisations need employees to be psychologically connected with their work and their organisation (Arnold and Randall 2010). Pierce, Kostova and Dirks (2001) have developed their construct of psychological ownership based upon the psychology of possession and ownership. This construct concerns the psychological relationship formed between an individual and anorganisation and has been proved to be distinct from other related constructssuch as organisational commitment, identification and internalisation(Pierce and Jussila 2011). Psychological ownership is a phenomenon that can be described as the psychological experience of an employee when that employee develops possessive feelings towards the target of ownership (an organisation, for example). The presence of psychological ownership among organisational members can have a positive effect on organisational effectiveness, and this presence is seen as a potentially important predictor of employee attitudes and behaviours (Brown 1989; VandeWalle, Van Dyne andKostova 1995).

Having psychologically attached employees is,

however, not the only prerequisite for organisationaleffectiveness. According to Robbins, Odendaal and Roodt (2003), organisationsmust be able to adapt successfully to internal and external forces of change. Pierce et al. (2001) state that several factors influence the emergence of psychological ownership, and one such factor is contextual factors. A significant contextual factor,and an external force of change in the form of government legislation, is the Employment Equity Act. The Employment Equity Act, 1998 (Act No 55 of 1998)was implemented in South Africa to achieve equitable opportunities for previously disadvantaged employees.

The aim of the study was, therefore, to determine therelationship between employment equity perceptions andpsychological ownership.

LITERATURE REVIEW

Defining psychological ownership

Psychological ownership has been described as a cognitive-affective construct based on individuals' feelings of possessiveness towards and of being psychologically tied or attached to objects that are material (for example, tools or work) and immaterial (for example, ideas or workspace) in nature. Psychological ownership, therefore, refers to the state of mind of individuals who feel as though the target of ownership or a piece of that target is theirs ("It is mine!"), and this feeling of psychological ownership reflects the individuals' "awareness, thoughts and beliefs regarding the target of ownership" (Pierce, Kostova and Dirks2003:86). According to Van Dyne and Pierce (2004), psychological ownership asks the question, "How much do I feel this organisation is mine?"
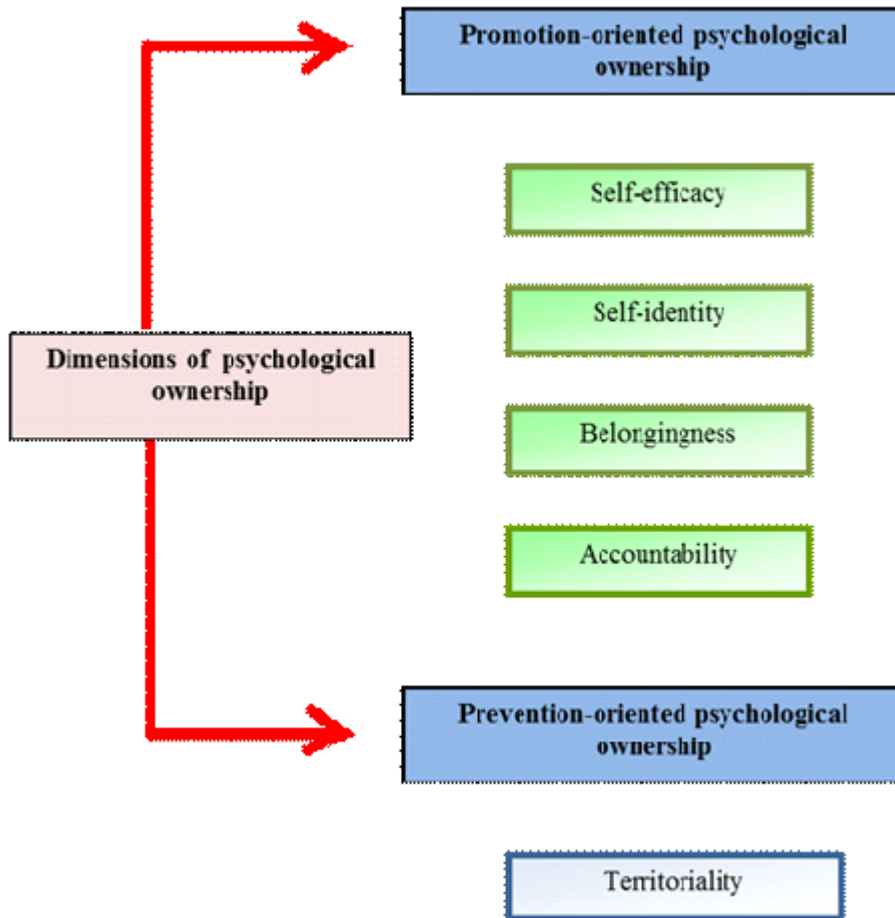
Dimensions of psychological ownership

Originally, the construct of psychological ownership was based on three dimensions, namely self-efficacy, self-identity and belongingness

(Pierce et al. 2001). Avey, Avolio, Crossley and Luthans (2009) have expanded on the development of this constructby categorisingits dimensions as either promotion- or prevention-oriented and by positing the additional dimensions of territoriality and accountability.The distinction that Avey et al. (2009) make between these two unique and independent forms of psychological ownership (promotion-oriented and prevention-oriented psychological ownership)is based on the regulatory focus theory of Higgens (1997). According to Higgens (1997), people have two basic self-regulation systems. The one system regulates the achievement of rewards and makes individualsfocus on promotion goals, whereas the other system regulates the avoidance of punishment and makes individuals focus on prevention goals. Promotion goals,which represent the 'ideal self', include wishes, hopes and aspirations. Prevention goals, which represent the 'ought self',include obligations, duties and responsibilities. Both promotion and prevention goals are important for the survival of the human being, and the one approach is not necessarily more desirable than the other. In certain contexts the promotion focus is necessary to pursue development and improvement, whereas in other contexts a more preventive focus is needed if individuals seek to ensure safety, stability and predictability (Higgens 1997). According to Avey et al. (2009), individuals who are promotion-oriented might experience quite different feelings towards targets of ownership compared to individuals who are prevention-oriented.

Therefore, according toAvey et al. (2009), psychological ownership is a multi-dimensional construct that comprises four promotion-oriented dimensions (self-efficacy, self-identity, belongingness and accountability) and one prevention-oriented dimension (territoriality) that

impact the extent to which psychological ownership is experienced. The multi-dimensional construct of psychological ownership and its proposed dimensions are displayed in Figure 1, and these will be discussed in more detail.

Figure 1: Dimensions of psychological ownership

Promotion-oriented psychological ownership

Four promotion-oriented psychological ownership dimensions have been identified: self-efficacy, self-identity, belongingness and accountability (Avey et al. 2009; Pierce et al. 2001).

Self-efficacy:Bandura (1995) defines self-efficacy as one's belief about one's personal capability to perform particular tasks. According to Furby (1978), feelings of efficacy and control are tied to the meaning of and motivation for possession.

If individuals feel they are in control and are able to successfully manipulate the environment, theywill experience a sense of competence and self-efficacy, and this can lead to the creation of psychological ownership.

Self-identity:According to Dittmar (1992:86), people's sense of identity or self-definition is "established, maintained, reproduced and transformed" through interaction with tangible possessions and also with intangibles (such as an

organisation), coupled with a reflection upon their meaning. According to Kron and Saunders (cited in Pierce et al. 2003), interacting with their possessions provides people with a space in which they experience comfort, autonomy, pleasure and opportunity, and thisfacilitates the development and cultivation of their identity. Therefore, the need for self-identity has been identified as the second dimension of psychological ownership.

Belongingness:Individuals are innately territorial and need to have a certain own area or space, 'a home', in which to dwell (Weil 1952). According to Pierce et al. (2001), a person's feelings of psychological ownership through attachment to a place or an object result in that place or object becoming 'home' to that person. Individuals who experience a positive sense of ownership at work will probably report that they have a place in the organisational context where they belong. A particular job, work team, division, or even an organisation as a whole, might satisfy the need of an individual to belong in a workplace (Avey et al. 2009).

Accountability:Lerner and Tetlock (1999:255) define accountability as "the implicit or explicit expectation that one may be called on to justify one's beliefs, feelings and actions to others". According toAvey et al. (2009),accountability refersto an individual's tendency to feel responsible forcallingindividuals andorganisationsto account for influences on their object of ownership.

Prevention-oriented psychological ownership

Prevention-oriented psychological ownership is characterised by only one dimension, namely that of territoriality.

Territoriality:According to Brown, Lawrence and Robinson (2005:580), "the stronger an individual's psychological ownership of an object, the greater the likelihood he or she will engage in territorial behaviour toward that object". Avey et al. (2009) state that territoriality might lead to people becoming too preoccupied with the 'objects of ownership' with the result that they might not want to share the object (for example, machinery or physical space), and this happens at the expense of their performance or other pro-social behaviours. However, despite these potentially negative outcomes, it is possible that feelings of territoriality might promote positive organisation outcomes. Avey et al. (2009:176) illustrate this by means of the following example:

[I]f the individual's work is less team-based and more based on being an individual contributor, for example, a sales agent who "owns a particular territory", then a territorial orientation may lead to positive outcomes.

Therefore, territorial psychological ownership might have positive consequences even though it might typically have a negative connotation.

Factors influencing psychological ownership

According to Pierce et al. (2001), a number offactors, such as target, individual, process and context, influence the emergence of psychological ownership. For the purposes of this study, the focus will be on contextual factors. Although Pierce et al. (2003) anticipate that contextual elements such as structural and cultural aspects will have an effect on the emergence of psychological ownership, this discussion will focus on the structural aspects.]

Structural aspects or 'fences', such as boundaries, government structures, laws, customs and societal mores, that are 'placed' around objects that stand between an individual and that individual's potential target of ownership, might limit the individual's opportunity to engage in key behaviours that lead to psychological ownership. These structural aspects mightblock the fulfilment of one or more of the original motives of ownership

(namely self-efficacy, self-identity and belongingness by 'fencing in' the object.

Furthermore, Dirks, Cummings and Pierce (1996), in their psychological theory of change, argue that psychological ownership provides insight into why, and the conditions under which, individuals both promote and resist change. According to Dirks et al. (1996), there are three categories of change: self-initiated versus imposed; evolutionary versus revolutionary; and additive versus subtractive (each of which has different psychological implications). Depending on the strength of their feelings of ownership towards the target of change, individuals might feel positive about some types of change and might resist other types. When the change is self-initiated (because it supports the individual's need for control and efficacy), evolutionary (because it strengthens the individual's sense of self-continuity) and additive (because it contributes to the individual's need for control, self-enhancement and feelings of personal efficacy), the individual probably wants to promote change in a target towards which he or she feels ownership. However, an individual will almost certainly resist endeavours to change a target of psychological ownership when the change is imposed (because it is seen as threatening the individual's sense of control), revolutionary (because it is a threat to self-continuity) and subtractive (because it takes away from or diminishes the core of that to which the individual has formed an attachment).

A significant contextual factor, and an external force of change in the form of government legislation, is the Employment Equity Act.The Employment Equity Act, 1998(Act No 55 of 1998) was implemented in South Africa to achieve equitable opportunities for previously disadvantaged employees. Employment equity is defined as "the equal employment of previously disadvantaged people into the workforce; its purpose is also to implement affirmative action measures in the organisation to redress the disadvantages in employment experienced by designated groups to ensure their equitable representation in all occupational categories and levels in the workforce" (Employment Equity Act,1998). The aim of the Employment Equity Act is to provide a more productive, trained workforce that will help to make the organisation more efficient and competitive. Therefore, for South African organisations to besuccessful, their employees must accept the legislation and the change that goes along with it. The question that can be asked is whether employees experience the outcome of the implemented Act as having a positive effect on their psychological ownership.

Hypothesis 1: Employees' perceptions of employment equity significantly influence their psychologicalownership.

RESEARCH DESIGN

Research approach

The researcherused a cross-sectional survey design to achieve their research objective. Data were collected at onetime in a South African mining house.

Research method

Research participants

The researcher drew an initial purposive sample ($N = 411$) from a diverse group of professional, highly skilled and skilled individuals (with access to electronic mail) employed in a large South African mining house. The participants who voluntarily participated in the study yielded a response rate of 49% ($N = 202$). Mattes and Richmond (2000) have defined skilled, highly skilled and professional employees as follows: a skilled employee is one who possesses some special skill, knowledge or ability to perform his or her

work. A skilled worker might have attended a university, college or technical school, or might have learned skills on the job. A highly skilled worker is a worker who is capable of working efficiently, exercising substantial independent judgement, carrying out duties with responsibility and usually efficiently supervising the work of skilled employees. A professional is an individual who typically possesses a large body of knowledge derived from extensive, specialised educational training (usually tertiary), earns a comfortable salary, usually exercises autonomy in the workplace, is frequently engaged in challenging work that is intellectual and creative, and is expected to exercise independent judgement and professional ethics in carrying out his or her responsibilities.

The sample consisted of 65.84% ($n = 133$) males and 34.16% ($n = 69$) females. Of the sample, 71.29% ($n = 144$) were white respondents and 28.71% ($n = 58$) were black. Of the respondents, 25.25% ($n = 51$) were 29 years and younger, 23.27% ($n = 47$) were between 30 and 39 years of age, 29.7% ($n = 60$) were between 40 and 49 years of age, and 21.78% ($n = 44$) were over the age of 50. Many respondents in the sample (52.48% ($n = 106$)) had completed postgraduate studies. The least represented category (21.29% ($n = 43$)) was the one consisting of respondents whose highest qualification was a degree or diploma. Employees who had completedGrade 12 (final year of school in South Africa)and/or an apprenticeship constituted 26.23% ($n = 53$) of the sample.Of the respondents, 24.75% ($n = 50$) functioned on an operational level, 25.25% ($n = 51$) on a junior management level, 33.17% ($n = 67$) on a middle management level, and 14.36% ($n = 29$) on a senior management level. Most of the sample respondents, namely 34.65% ($n = 269$), had been working in theorganisation for a period of less than five years;

18.81% ($n = 38$) had been working in theorganisation between six and ten years; 17.33% ($n = 35$) had been working in the organisation between 11 and 20 years; and 29.21% ($n = 59$) had been working in theorganisation for more than 21 years.

Measuring instruments

The psychological ownership questionnaire (POQ) developed by Avey et al. (2009) was used to measure psychological ownership. The POQ is a multi-dimensional measure consisting of 16 items;three items for each of the four components that measures promotion-oriented psychological ownership (self-efficacy, self-identity, belongingness and accountability) and four items measuring prevention-oriented psychological ownership (territoriality). The responses were captured on a six-point Likert-type scale ranging from 1 = strongly disagree to 6 = strongly agree. Alberts (2012) confirms the construct validity in a South African context (CFI = .995; NNFI = .942) of the psychological ownership questionnaire developed by Avey et al. (2009).With regard to internal consistency, Alberts (2012) reports the following Cronbachalpha coefficients: self-efficacy (.85), self-identity (.82), belongingness (.90), accountability (.85) and territoriality (.78).

An adapted version of the perceptions of employment equity questionnaire(EEQ), based on the theory of Martins (1999) and used in a study by Janse van Rensburg and Roodt (2005), will be used. The authors obtained permission to use this adapted version. The EEQ comprises 25 items, and responses were captured using a five-point scaleranging from 1 (to no extent) to 5 (to a very large extent).Smith and Roodt (2003) have stated that the EEQ has face validity because the instrument covers the practices indicated in the Employment Equity Act. This statement has been supported by Walbrugh and Roodt (2003). Janse

van Rensburg and Roodt (2005) have reported a Cronbach alpha of 0.92 for the EEQ.

Research procedure

Prior permission was obtained from the necessary authorities to conduct the research. Several organisations were approached to take part in the research voluntarily, and participants' informed consent was obtained. The purpose of the research was clearly explained to the respondents. Data was collected by means of an electronically self-administered questionnaire; in some cases hard copies were employed. The confidentiality and anonymity of the respondents were respected at all times.

Statistical analysis

The researchers conducted the statistical analysis with the aid of the SPSS (version 17) program (SPSS 2010) and the EQS (version 6.1) program (Bentler 2005).The researchers conducted an exploratory factor analysis on the 25 items of the perceptions of employment equity questionnaire in order to establish how many factors in this scale suited this study's data best. A maximum likelihood factor analysis with a direct oblimin rotation was used toestablish whether there was a relationship between the factors (Tabachnick and Fidell 2007).

The internal consistencies of the measuring instruments were assessed by using Cronbach alpha coefficients. According to Clark and Watson (1995), alpha coefficients convey important information about the amount of variance in a scale. An acceptable value for Cronbach's alpha of at least .70 is an acceptable level of internal consistency (Nunnally and Bernstein 1994).

Structural equation modeling (SEM), which is a multivariate analysis technique, was used to determine the relationship between the constructs (employment equity and psychological ownership). However, two SEM approaches were subsequently followed: the strictly confirmatory approach (to confirm the measurement model specifiedfor the EEQand the POQ) and the model development approach (to find the models which fitted the data well statistically) (Garson 2009).

The chi-square statistic was used to determine the extent to which the data fit the theoretical model under normal distribution assumptions. However, whenever the normal distribution assumption is not met, the measurement model can be evaluated using a robust maximum likelihood estimate (MLE), and when distributional assumptions are violated, as was the case in this study, the Satorra-Bentler scaled chi-square statistic can be used (Byrne 2006). According to Garson (2009), the Satorra-Bentler chi-square is a corrected chi-square that attempts to rectify the bias that is presented when the data distribution is noticeably non-normal. In addition, the following indexes were used in the study: the Comparative Fit Index (CFI), the Standardised Root Mean Square Residual (SRMR) (Hu and Bentler 1999) and the Root Mean Square Error of Approximation (RMSEA) (Brown and Cudeck 1993) and the 90% confidence interval of the RMSEA.

According to Hu and Bentler (1999), the CFI values should be equal to or greater than .95 for the model to be accepted. However, Marsh, Hau and Wen (2004) argue that the value of .95 is too restrictive and that CFI values in the range of .92 to .94 should also be considered reasonable indicators of a good model fit.A value lowerthan .05 is widely considered a good fit, and lower than .08 is an adequate fit (Hu and Bentler 1999). The general guideline for RMSEA values given by Brown and Cudeck (1993) states that a value of .05 and lower confirms that the research data support the theoretical model well. RMSEA values as high as .08 represent a reasonable fit. The RMSEA and the CFI are less sensitive to sample

size; however, the acceptability of the SRMR tends to decrease with large sample sizes (Garson 2009).According to Hair, Black, Babin, Anderson and Tatham (2006), factor loading estimates should be at least .5, and preferably .7,to indicate high convergent validity.

RESULTS

Exploratory factor analysis results

The researchers performed a simple principal component analysis on the employment equity questionnaire to determine the number of factors. An analysis of the eigenvalues showed that two factors could be extracted. These two factors explained 51.1% of the variance of the total variance. The researchers then performed a maximum likelihood factor analysis, with a direct oblimin rotation, on the 25 items of the employment equity questionnaire. Seven items (items Q2.5,

Q2.6, Q3.4, Q3.5, Q3.6, Q3.8 and Q3.12) were removed due to cross-loadings (Field 2005). Tabachnick and Fidell (2007) counsel against retaining factors with fewer than three items since their retention might impact on the reliability of the factor. According to them, it is possible to retain a factor with two items only if the items are highly correlated (i.e., $r > .70$) and relatively uncorrelated with other variables. Based on this recommendation by Tabachnick and Fidell (2007) the researchers removed the one item (item Q3.3) that loaded on factor 2 ($r = .61$), which resulted in a one-factor model for the employment equity questionnaire. An analysis of the eigenvalues showed that the one factor explained 46.46% of the total variance. The results of the principal component analysis displayed in Table 1 indicated that the factor loadings were all higher than .5 which was ofpractical significance (Hair et al. 2006). Most communalities were average to high.

Table 1: Principal Component Analysis on the EEQ

Item	Description	Component 1	h²
Q2.12	Does your job allow you to make use of your abilities and talents?	.793	.630
Q3.7	Are training programmes provided by the organisation to help employees improve their skills?	.754	.569
Q2.13	Are employees of the various race groups assisted by supervisors / managers to develop their full potential?	.751	.564
Q2.10	Does the organisation accommodate the cultures and beliefs of all employees in the workplace?	.747	.559
Q2.1	Are you given the opportunity to use your skills and talents in your job?	.720	.518
Q3.11	Does a relationship of trust exist between employees and managers in the organisation?	.719	.517
Q2.2	Does management take action to train designated groups to become supervisors and managers?	.710	.504
Q2.11	Do the organisation's rules and regulations keep up with changes in labour law?	.685	.469

Item	Description	Component 1	h²
Q2.3	Do you believe that top management will lead the organisation successfully beyond the year 2015?	.681	.464
Q2.9	Do all employees in the organisation have the same opportunities for promotion?	.659	.435
Q2.13	Are employees in your department involved in decisions that affect them?	.652	.425
Q2.77	Do you feel important as an employee in the organisation?	.640	.410
Q3.10	Are you fully informed about employment equity?	.625	.391
Q2.8	Do you think males and females in supervisory and management positions in the organisation perform equally well?	.610	.372
Q3.9	Is the remuneration fair that you receive from the organisation?	.560	.313
Q3-.	Do you and your co-workers communicate openly with one another?	.542	.294

EEQ (employment equity questionnaire) h² denotes communalities of the items

Reliability analysis

Cronbach's alpha was used to determine the internal reliability of items within each factor. The researchers obtained acceptable (high: á > 0.7) internal consistency reliabilities for the POQ ranging between .79 and .94 as well as for the EEQ (.92). Overall, it could be concluded that the reliability of the EEQ and the factors of the POQ were consistent with what they were intended to measure, and were thus acceptable.

Structural equation modeling results

As mentioned previously, this research study included two approaches to SEM models. Firstly, confirmatory factor analyses (CFA) were conducted on Model 1 (perceptions of employment equity model) and Model 2 (psychological ownership model) to validate the measurement models by obtaining estimates of the parameters of the models and by assessing whether the

modelsthemselves fit the data well (Garson 2009). Secondly, the structural model (dealing with the relationship between perceptions of employment equity and psychological ownership), which was also the core focus of this study, was tested.

Model 1: Perceptions of employment equity model

A CFA was performed on the 16 items of the EEQ that remained after conducting the EFA. The model adequacy was evaluated by means of goodness-of-fit measures. However, the model was rejected based on poor fit. To investigate lackoffit, the face validity of each item as a measure of the proposed dimension was first evaluatedin the context of this study. Secondly, all items that lowered the reliability of the employment equity dimension were removed.Subsequently, twoadditional items (items Q3.1 and Q3.9) were removed based on R²values (squared multiple regression) that were lower than .30. The R²values represent the portion of variance accounted for by its related factor (Hair

et al. 2006).After the removal of the two items, the adequacy of the model with the 14 items representing the employment equity dimension was evaluated once more.Mardia's coefficient (68.490) and the normalised estimate of the coefficient (z-statistic) of 23.165 indicated that the measured variables were not normally distributed. Consequently, the robust maximumlikelihood estimate with the Satorra-Bentler scaled chi-square and adjustment of the standard errors were employed (Tabachnick and Fidell 2007).

The result of the Satorra-Bentler chi-square was 171.198 based on 77degrees of freedom (*df*)(p < .0001). This chi-square statistic was significant and revealed a poor overall fit of the EEQ model. If a chi-square value is significant, it indicates that the covariance structure of the model differs significantly from the observed covariance structure. A non-significant chi-square value indicates a good model fit (Garson 2009). However, the chi-square statistic is very sensitive to sample size (Garson 2009), with the result that a model with a large chi-square might still have a good fit if the fit indices are high. Therefore, the chi-square statistic must be used with caution, and other multiple fit indices should be used to assess a model's goodness-of-fit. According to Bentler (2007),standardised root mean square residual (SRMR) should be reported, accompanied by at most two other suitable indices of fit, such as the comparative fit index (CFI).

The model yielded a CFI value of .879. This value is less than the required .90,and less than the desirable level of .95 suggested more recently (Hu andBentler 1999) to indicate a good model fit.The RMSEA value was estimated at .077. This RMSEA value supports the belief of anacceptable model fit because, according to Hair et al. (2006),

RMSEA values between .05 and .08 are indicative of an acceptable fit. In a well-fitting model, the 90% confidence interval of the RMSEA should be between .05 and .08. The 90% confidence interval of the RMSEA (.062, .093),however, indicates a mediocre fit according to Fabrigar, Wegener, MacCallumand Strahan(1999). The model yielded an SRMR value of .056. Considering the guideline of Garson (2009) that SRMR values of less than .05 are widely considered good fits and that values below .08 are adequate fits, this value illustrates a fairly good fit. Based on these indices, the EEQ model achieved a moderate fit.

Model 2: Psychological ownership model

The 16-item POQ was subjected to a CFA. Maximum likelihood estimation techniques were used to determine item loadings of the respective dimensions. To determine confirmatory factor analytic fit for the promotion-oriented psychological ownership scale, each item was loaded on the four respective latent factors (self-efficacy, self-identity, belongingness and accountability) that represent promotion-oriented psychological ownership. This model yielded a non-significant Satorra-Bentler chi-squareof 60.763based on 48*df*(*p* d" .05), CFI of .970, RMSEA of .036 with a 90% confidence interval of (.000, .061) and SRMR of .037; therefore,the fit was good. All items significantly loaded on their respective dimensions greater than .70 (*p* < .01). The CFA for the single-order factor of territorialityrepresenting the prevention-oriented psychological ownership scale indicated by the four items also had an excellent fit. This model yielded a non-significant Satorra-Bentler chi-square statistic of 1.672 based upon 2 *df*(*p* d" .05), CFI of 1.00, RMSEA of .00 with a 90%

confidence interval of (.000, .013) and SRMR of .014. All items loaded .70 or greater. Based on the results, the POQ model achieved a good fit.

Model 3: Relationship between employment equity and psychological ownership

The causal model depicted in Figure 2 shows all possible path coefficients, from the five latent psychological ownership variables measuring

psychological ownership to the single latent variable employment equity (EE) construct presented by 14 observed variables. Results revealed a non-significant Satorra-Bentler chi-square of 746.654 based on 390 df with a probability of .000. The model achieved a CFI of .906, which indicated an acceptable fit. The RMSEA value was .067 with a 90% confidence interval of (.055, .070), which indicated a good fit. The SRMR of .058 illustrated a fairly good fit.

Figure 2: Causal model depicting the relationship between the five psychological ownership variables and the employment equity construct
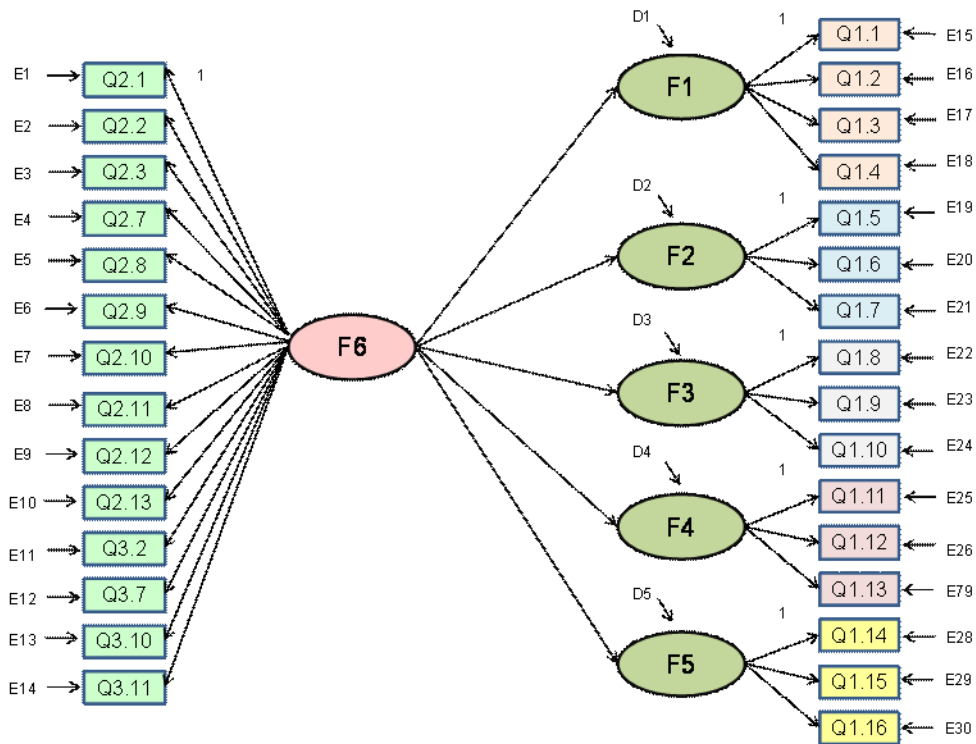
Note: Coefficient estimates were excluded for the sake of simplifying the path diagram.

F1 = Territoriality, F2 = Self-efficacy, F3 = Accountability, F4 = Belongingness, F5 = Self-identity, F6 = Employment Equity.

Apart from the fit measures, the significance of the estimated regression coefficients between

the latent POQ variables and the single latent EEQ variable in the structural part of the model (provided in Table 2) was also considered. All path coefficients were significant. Table 2 shows that employment equity exerted the largest effect on the POS belongingness variable (? = .513). The negative relationship (? = -.320) observed between

the EE construct and the POS territoriality variable suggested that the higher the prevention-oriented POS, the lower or the more negative the perception of employment equity. This negative path coefficient clearly indicated the existence of two distinctive dimensions of POS, namely promotion-oriented and prevention-oriented POS.

The squared multiple correlation (R^2) values indicate the reliability of the measure; the promotion-orientated psychological ownership belongingness variable (.263) and prevention-orientated psychological ownership territoriality variable (.103) have the highest and lowest reliability, respectively. This means that employment equity accounts for 26.3% of the variance in the promotion-orientated psychological ownership belongingness variable and 10.3% of the variance in the prevention-orientated psychological ownership territoriality variable, respectively.

Table 2: Standardisedpath coefficients (psychological ownership five-factor model and single employment equity construct)

	?	SE	R^2
EE ← Territoriality (F1)	-.320*	.073	.103
EE ← Self-efficacy (F2)	.439*	.063	.193
EE ← Accountability (F3)	.377*	.072	.142
EE ← Belongingness (F4)	.513*	.056	.263
EE ← Self-identity (F5)	.454*	.064	.206

A summary of the distribution of the standardised residuals is provided in Table 3. The standardised residuals indicate the discrepancy between the sample polychoric correlations and those estimated from the factor model. Ideally, the distribution of the standardised residuals should be symmetric with residual values clustered around the zero point (Byrne, 2006). According to the results presented in Table 3, the bulk of these residuals fall into this category, with values ranging from -.1 to 1.0 (74.84%). Misfit is indicated with 5.81% of residual values ranging from -.1 to -.2and 9.25% ranging from .1 to .3

Range		Frequency	Percentage
6	0.0 - -0.1	203	43.66
7	0.1 - 0.0	145	31.18
8	0.2 - 0.1	43	9.25
9	0.3 - 0,2	22	4.73
A	0.4 - 0.3	18	3.87
B	0.5 - 0.4	7	1.51
C	++ - 0.5	0	.00
Total		465	100.00

Table 3: Distribution of the standardised residuals

Range		Frequency	Percentage
1	-0.5	0	.00
2	-0.4 - -0.5	0	.00
3	-0.3 - -0.4	0	.00
4	-0.2 - -0.3	0	.00
5	-0.1 - -0.2	27	5.81

DISCUSSION

The main objective of this study was to determine the relationship between participants' perceptions of employment equity and their psychological ownership. To achieve this objective, the analysis of the data was conducted in two phases. During the first phase an exploratory factor analysis of the 25 items of the employment equity questionnaire was conducted, and this resulted in a one-factor model comprising 16 items. A Cronbach alpha coefficient of.92 was obtained.

Confirmatory factor analysis was conducted to confirm the specified structural model of the EEQ (Model 1) and the POQ (Model 2). The EEQ model (Model 1) achieved a moderate fit and the POQ (Model 2) achieved a good fit.

During the second phase the relationship between the constructs of employment equity and psychological ownership was determined. Overall, the structural equation modeling analysis suggested a significant causal relationship between the variables. Therefore,the research hypothesis was accepted.

The significant relationship between the EE construct and the POS belongingness variable suggested that participants' perception of employment equity in the workplace would strongly influence their feelings about whether they belonged in the organisation.Legislation,such as the Employment Equity Act (1998), forces organisations to increase their appointment of people from designated groups. This creates a boundary as regards the natural migration of employees in an organisation and their climbing of the hierarchical ladder. In first world countries an employee and will progress in a hierarchicalstructure based on performance, skills and competence for a period worked. In the South African context this natural progression is not available to specific race groups since organisationsare constantly filling new vacancies with people from designated groups.

A positive relationship was also found between the EE construct and the POS self-efficacy variable.According to Bandura (1995:5), "a host of factors, including personal, social, and situational ones, affect how efficacy-relevant experiences are interpreted". Therefore, people's presumptions about their abilities; the alleged complexity of their tasks; the amount of effort they put in; their physical and emotional state at the time; the amount of outer support they receive; and the situational conditions under which they perform will influence the extent to which performance accomplishments will change perceived efficacy. This confirms the impact that employment equity has on the POS self-efficacy variable.

The significant relationship found between the EE construct and the POS belongingness variable suggested that participants' perception of employment equity in the workplace would have an influence on their accountability. According to Avey et al. (2009), if individuals experience psychological ownership in an organisation they might be more likely to challenge the leadership of the organisation to justify their decisions regarding the management of the organisationbecause they feel they have the 'right to know' what is happening with their object of ownership. In the South African organisational environment, because employees are fast trackedup the hierarchical ladder they do not have sufficient time to get to grips with the complexities of different jobs. Consequently, many employees in supervisory or managerial positions do not understand the underlying functionalities that they have to manage. Subordinates are quick to realise when supervisors do not have the required comprehension, and upward delegation starts to manifest itself. This has a very negative impact on the output of the departments involved, and the unfortunate supervisor ultimately takes the blame. Therefore, it is critical that sufficient training programmes are put in place to equip such fast-tracked candidates with sufficient skills and competence.

Dittmar (1992) is of the opinion that possessions may giveindividuals a sense of security. The preservation ofthese possessions allows individuals to maintain a sense of continuity

through these objects that have become symbolic extensions of their selves. In contrast, if these possessions are taken away or lost, individuals might experience an erosion of the sense of self (James 1963). One's importance in a community is often judged based on one's job, therefore, people sometimes become possessive of their jobs and their jobs become part of their self-identity.As they progress in anorganisationtheir significance in their communities grows and with that their level of self-identity. Employment equity impacts the progression of certain employees because possible promotion positions are constantly being filled by people from designated groups. This has a negative impact on employees' self-identity, and eventually they lose confidence in their ability to progress within their organisation.

A negative relationship was observed between the EE construct and the POS territoriality variable, which suggested that the higher the prevention-oriented POS, the lower or more negative the perception of employment equity. All employees have a vision of their progression through theirorganisation, and they see themselvesclimbing up the hierarchical ladder whether they are competent or not. Employees become possessive of their envisaged progression and show territorial behaviourto protect their planned progression. This behaviourmanifests itself in glaring at others, expressing irritation or writing negative reports about work done by fellow workers who are also in line for the next job in the hierarchy (Brown et al. 2005).Natural progression ensures that the best person for the job is employed; however, employment equity does not heed this natural state of affairs and forces anorganisation to employ people from outside its territorial boundary. This has a negative impact on employees' confidence in their territorial environment and on their sense of belongingness to their organisation.

Conclusions

South African organisationsmust enforce the Employment Equity Act, and because of that they are challengedto integrate and manage a very diverse workforce (Vorster, Olckers, Buys and Schaap 2005).This necessitatesorganisational change. To ensure the productivity and effectiveness of organisations, "it is necessary to get from a heterogeneous workforce the same productivity, commitment, quality and profit which the organisation received from the old homogeneous work force without artificial programmes, standards, or barriers" (Roosevelt 1990:109). Dirks et al. (1996), in their psychological theory of change, argue that psychological ownership could provide insight into the reasons why and the conditions under which individuals either promote or resist change. It is important to take note that the state of psychological ownership, while potentially latent within each individual, is not equally strong in all individuals, or even as regards targets and situations, since it is determined by a complex interaction of many intra-individual, object-related and contextual factors(Pierce et al. 2003). The implementation of the Employment Equity Act is a case in point.

Limitations and Recommendations

This study has little nomothetic value, as it was limited to a single organisation. Further research needs to be conducted across different organisations in similar contexts to establish the external validity of the findings. The findings have some theoretical value as the perceptions of employment equity have been included for the first time as a contextual factor that influences psychological ownership. A cross-sectional design was used and therefore it was not possible to control for confounding variables.Another limitation was the exclusive employment of self-

report measures, a strategy often associated with common method bias.

Future studies should focus on the relationship between perceptions of employment equity and psychological ownership in a longitudinal design. Such studies should investigate the effects of employment equity and psychological ownership on staff turnover, performance and effectiveness. Further studies should test if different biographical variables such as race, age, tenure, job and educational level will have an influence on the employment equity/psychological ownership relationship. In addition, it is suggested that further research be done on the improvement of the employment equity questionnaire. Careful scrutiny of the items used in the questionnaire is essential, as this will ultimately impact the quality of the data generated.

Acknowledgements

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An Investigation of The Important Items of Internet Financial Reporting in Malaysia

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Abstract

This study examines the importance items of internet financial reporting indexes by users of corporate annual report in Malaysia. Using a postal questionnaire survey, the study focus on (i) the importance items use in content dimension, and (ii) the importance items use in presentation dimension. The results indicate that income statement of current year, cash flow statement of current year, balance sheet of current year, annual report of current year (full text), and auditor report of current year as the five most important item in content dimension (in that order). In addition, annual report in PDF, format loading time of the website below 10 seconds, link to homepage, hyperlinks inside the annual report, and link to table of contents is perceived to be the five most important items in presentation dimension. The result of this study also revealed that the only 14 items are significant difference at five percent, and 15 items are significant difference at one percent for content dimension. On the other hand, the result of Kruskal-Wallis test revealed that the only nine items are significant difference at five percent which is importance, and 11 items are significant difference at one percent for presentation dimension. Also, the findings may be useful to the policy makers in preparing regulations on internet financial reporting as well as to provide opportunities for more research on the subject.

Keyword(s):

Content, internet financial reporting, presentation, Malaysia, users.

Introduction

The preparers' perception of Internet Financial Reporting (IFR) has been researched extensively (Al-Htaybat et al., 2011). The Internet has become a powerful tool for corporate communication in recent time and provides a useful communication for corporate organisations (Oyelere & Kuruppu, 2012). Then, the emergence of the Internet, as a new medium of communication, has open up information exchange on a global scale, offering major opportunities for last and cheap information transfer (Al-Htaybat, 2011). Companies' websites have turned out to be an important medium for corporate reporting (Trabelsi, Labelle & Laurin, 2004; Ismail & Sobhy, 2009), companies have utilized websites to disseminate corporate information to investors all over the world (Abdelsalam & Street, 2007) and to promote corporate identity (Poon, Li & Yu, 2003; Topalian, 2003). Company's website is also used for the purpose of disseminating information about the organizations activities (Chan & Wickramasinghe, 2006; Sriram & Laksmana, 2006) and financial information to stockholders, investors and other important parties (Hodge & Pronk, 2006; Abdelsalam & El-Masry, 2008).

World Wide Web technology (WWW) or global networking is used extensively and it comes side by side with the increasing number of companies having their own corporate websites (Celik, Ecer & Karabacak, 2006). WWW is one salient part of an internet and its popularity live up since the last two decades because it is viewed as a cheap, dynamic and expanding medium of communication (Ettredge, Richardson & Scholz, 2001). In the context of accounting, website is an alternative medium which is very important for corporate information dissemination that includes annual report (Khan 2006; Chan & Wickramasinghe, 2006; Sriram & Laksamana, 2006). However, the use of standard technology for IFR practice is found to be different from one country to another (Oyelere, Laswad & Fisher, 2003).

Any changes in the communication system will give a great impact not only to the company and regulator but also to the accountant. One of the important challenges in producing quality information in corporate website is the regulator's failure to produce guidelines in the presentation (Seetharaman & Subramaniam, 2006). Seetharaman and Subramaniam (2006) claims that so far there is no specific guidelines and standard set with regards to information dissemination through any professional bodies or government agencies websites. This situation leads to difference in IFR's content and presentation dimensions. To this day, IFR is still characterized as being voluntarily without any legislations or guideline to control and explain the comprehensive information conveyed (Ashbaugh, Johnstone & Warfield, 1999; Bonson & Escobar, 2002; Marston & Polei, 2004; Hanifa & Ab. Rashid, 2005; Momany & Shorman, 2006; Kelton & Yang, 2008; Ismail & Sobhy, 2009).

Most of the studies done on IFR in Malaysia are in descriptive form which covers issues like types on information reported (Ismail & Tayib, 2000), classification of web establishment on financial disclosure (Keliwon & Aziz, 2005), different IFR practices between Malaysia and Singapore (Khadaroo, 2005a), IFR practices and its effect on auditing (Khadaroo, 2005b), information on the relationship with investors (Abdul Hamid, 2005), the importance of Internet usage for Malaysia and Singapore investors (Abdul Hamid, Md Salleh & Mohamad, 2006), previous websites' content and graphic applications (Mohamad, Saad, Ismail & Abdul Rahman, 2006), level of IFR (Ali Khan & Ismail, 2011), indexes of IFR (Ali Khan & Ismail, 2012) and benefits of IFR (Ali Khan, Ismail & Zakuan, 2013). A few explanatory studies also took place, for example determinant factors that influence IFR (Hassan, Jaaffar, Johl & Mat Zain, 1999; Abdul Hamid & Md Salleh, 2005; Hanifa & Ab. Rashid, 2005; Ali Khan, 2010) and determinant factors for Bursa Malaysia listed companies' financial reporting and Internet environment of (Al Arussi, Selamat & Mohd Hanefah, 2009).

Even though various IFR studies had been carried out, there are still IFR issues that need further research. Among the issues that surface is what are applicable items for measuring the level of IFR in Malaysia. So far, issues related to items in IFR index disclosure is very limited. Therefore the initiative of this paper is to study disclosure index in a more comprehensive, holistic and global way to ascertain IFR level. Thus, this study will try to fill in the loopholes existed with regard to IFR. The importance of this study is based on the fact that a wide literature review done by researcher has proven that not even one study had touched on the important IFR items through the view of reporting users. It is important to look through the users' perspectives wanted highly detailed disclosures (Hay & Antonio, 1990). The research providences evidence on users' view of the importance items of IFR.

Although the literature addressing the concept of IFR has been subject to increasing amounts of research over last decade and is considered to be a user-oriented development, little is known about the users' perceptions regarding the role of IFR in practices (Al-Htyatbat et al., 2011). Therefore, the objective of this study is to obtain empirical evidence from Malaysian users about the extent of index disclosure that can be used to describe the level of IFR among Bursa Malaysia listed companies. The impact of this study will show empirical evidence that is able to contribute to the body of knowledge related to IFR research.

The rest of this paper is organized as follow: Section 2 briefly outlines a number of related studies, Section 3 deals with research design. Section 4 presents the important research findings, and the final section provides the conclusion and suggestions for future research.

2. Literature Review

Prior studies on the IFR by academics and professional bodies have provided evidence on the evolution of IFR research. Consistent to the development of Internet technology which started in the early 1990's, the same happened to research on account disclosure which also covers IFR. However, the earlier researchers on IFR are descriptive in its characteristic (Allan & Lymer, 2003). The main focus of the researches evolves on the existence of websites among stock exchange listed companies and whether the companies have provide specific information on the companies' websites (Petravick & Gillett, 1996; Louwers, Pasewark & Typpo, 1996; Lymer, 1997; Flynn & Gowthorpe, 1997; Gray & Debreceny, 1997; Petravick & Gillett, 1998). Besides researches by academicians IFR issues also gain interest from Accounts professional bodies like Institute of Chartered Accountants in England and Wales (ICAEW, 1998, 2004), International Accounting Standards Committee (IASC, 1999), Canadian Institute of Chartered Accountants (CICA, 1999) and Financial Accounting Standards Board (FASB, 2000, 2001). Furthermore, the practices of IFR have been researched extensively focusing on the preparers' perceptions since the late 1990s (Al-Htaybat et al., 2011).

Research on two decades of IFR related studies show that only a few focused that little on the construction of reporting index to explain the IFR phenomena clearly. Moreover, it is found that methodology used differs from one researcher to another. With regard to that, a comprehensive study is needed to find a way in constructing an accurate method for financial reporting. The magnitude of importance is due to the fact that reporting index is used for IFR comparative purposes between companies, industries and countries. Most researches related to IFR are carried out in developed countries like United States (Petravick & Gillett, 1996; Ashbaugh et al., 1999; Ettredge et al., 2001; Kelton & Yang, 2008), United Kingdom (Lymer, 1997; Marston & Leow, 1998; Craven & Marston, 1999; Abdelsalam, Bryant & Street, 2007), Jepun (Marston, 2003), New Zealand (McDonald & Lont, 2001; Oyelere et al., 2003) and Ireland (Brennan & Hourigan, 1998; Abdelsalam & El-Masry, 2008). Nevertheless, a lot of researches on the usage of Internet are focused to European countries or United States compared to Asian countries (Tan & Teo, 1998). Some IFR researches are carried out in developing countries (Davey & Homkajohn, 2004; Khadaroo, 2005a; Celik et al., 2006; Barako, Rusmin & Tower, 2008; Al Arussi et al., 2009; Ali Khan, 2010; Aly, Simon & Hussainey, 2010; Ali Khan & Ismail, 2012). Besides, researches on IFR's disclosure level and determining factors need more detail assessment and analysis (Hanifa & Ab. Rashid, 2005). A little number of researches was

carried out to study factors that influence companies to practice IFR (Chan & Wickramasinghe, 2006). According to Celik et al. (2006), researches that study the relationship between IFR and specific character is limited compared to financial reporting or business using hard disc. In the context of developing countries like Malaysia academic research involving IFR is still at the initial stage (Hassan et al., 1999; Ismail & Tayib, 2000; Khadaroo, 2005a; Al Arussi et al., 2009). Therefore it is a necessity to carry out this study IFR here, in Malaysia.

Issues related to index construction approach used to evaluate IFR standard received two different views which are (1) the weighted approach or (2) non weighted approach or no weightage. Based on the investigation of previous literature, researcher finds that very little effort has been put among researchers in using the weighted approach to investigate IFR standard especially through the view of annual report preparer. Another point that should be taken into consideration is that IFR assessment items or dimensions used among researchers are inconsistent (Ali Khan & Ismail, 2009). This opens a space for debate with regard to the scales used in measuring IFR dimensions. However, Ali Khan and Ismail (2009) proposed utilizing content dimension and presentation dimension to ascertain IFR level for Bursa Malaysia listed companies. According to Ali Khan and Ismail (2009), content dimension will provide information on the types of information reported through the company's website. On the other hand, presentation dimension will provide information on latest display features in disseminating corporate information and a company's web design.

3. Research Design

Two main techniques are used to ascertain the level of IFR namely non weighted scoring system (Ashbaugh et al., 1999; Bonson & Escobar, 2002; Debreceny et al., 2002; Allam & Lymer, 2003; Oyelere et al., 2003; Bonson & Escobar, 2006; Celik et al., 2006; Chan & Wickramasinghe, 2006; Abdelsalam et al., 2007; Kelton & Yang, 2008; Al Arussi et al., 2009; Mohd Hanafi et al., 2009; Ali Khan, 2010; Aly et al., 2010; Ali Khan & Ismail, 2012) and weighted scoring system (Davey & Homkajohn, 2004; Marston & Polei, 2004; Mohd Hanafi et al., 2009). Non-weighted scoring technique is the most popular technique used to ascertain the level of IFR among companies. When the study was taking place, the researcher found that there are very limited studies done by using weighted scoring system to ascertain the level of IFR. Weighted scoring system allows each percentage of index items evaluated (Inchausti, 1997). This study uses questionnaire to survey the importance of IFR's index in view of corporate annual report user.

3.1 Sample of Study

Views from annual report users (share broker, remisier, business owner, graduates, academicians and other public users) are exposed to accounting information and have essential knowledge on how to use information contained in the annual report (Mohd Isa, 2006). Academics, students, bank officers and managers represented the various users. Although other group have been identified, the four groups selected are likely to be the most relevant for the purposes of this study. Academics were chosen as a proxy group for corporate annual report users in this study because they were considered to be responsible for accounting education geared towards meeting the country's need for professional accountants (Mishekary & Saudagaran, 2005). Students are believed to be corporate annual report users because of the nature of their academic specialization (Mohd Isa, 2006). Bank officer as being representative of a market

economy (Mirshekary & Saudagaran, 2005). Manager were also chosen as a proxy group for corporate annual report users in this study because they were considered to be responsible for make daily decisions affecting business process (Barsky & Catanach, 2011).

3.2 Item Building

Previous research related to IFR determinants had constructed disclosure index to study company's specific relationship (Debreceny et al., 2002; Oyelere et al., 2003; Xiao et al., 2004; Bonson & Escobar, 2006; Abdelsalam et al., 2007; Barako et al., 2008; Al Arussi et al., 2009; Ali Khan, 2010; Aly et al., 2010). However, the researchers did not take into account the annual report preparers' views on the importance or functions of index items in constructing disclosure index. Thus, this study has taken the views of annual report users in constructing items for index disclosure.

Financial disclosure is an abstract concept that could not be measured directly. A suitable proxy like reporting index could be used to determine information reported by a company (Cooke & Wallace, 1989). Therefore, one of the important functions of this study involves selecting items reported in Bursa Malaysia Listed Companies to determine their level of IFR. Thus, the broad-based approach (see Haniffa, 1999) is used in selecting items for the checklist. According to Sekaran (2003), broad problem area refers to overall situation that shows a possible need for research to find solutions. There are three procedures for constructing disclosure index (Curuk, 2008). The procedures involve opening spreadsheet for disclosure score, calculation score, disclosure item score and disclosure index score. Based on the ground that there is no general theory that could be used in relation to the number and selections of items that need to be listed in the disclosure

(Wallace, 1988; Wallace et al., 1994; Haniffa, 1999), previous study related to IFR index will be taken as guidelines whereby the number of items will start at the eleventh items (Abdelsalam & Street, 2007; Ezat & El-Masry, 2008) until 205 items (Mohd Hanafi et al., 2009). The step is similar as the IFR checklist items constructed by Haniffa (1999), Ali Khan (2010) and Ali Khan and Ismail (2010).

3.3 Data Collection

Data from questionnaires were collected through post. Every respondent received a code questionnaire (for the purpose of checking and tracking) together with a letter stating that the information is private and confidential. Each questionnaire was enclosed with a stamped envelope addressed to the researcher. As some of the 155 items are likely to be perceived as being more important than others, importance weighting are attach to each. The weightings were obtained by sending a list of the 155 items to respondents and asking them to grade the importance of each item on a 1 to 5 scale, where 5 meant the item was very important, 4 meant the item was important, 3 related to moderately important, 2 meant slightly important, and 1 related to unimportant. The mean score was used as the weighting for each individual item of disclosure.

Each respondent received a marked questionnaire (for tracking purposes) together with a letter outlining the objective of the research, respondent confidentiality, and availability of survey result upon request, as well as a stamped addressed envelope. We sent questionnaire to solicit their opinion on the importance items of IFR dimensions. In order to determine the importance of item in IFR a perception survey of four user-groups in Malaysia was conducted. 268 questionnaires out 390 sent were secured back with the respond rate of 68.72% percent, which is higher

than the ample response rate (i.e. 15 to 20 percent) for a questionnaire survey (Standen, 1998). Frazer and Lawley (2000) claimed that the results of most studies using survey method obtained the response rate of 10% or lesser. The response rate is considered as sufficient based on the fact that the response rate for survey method through post in Malaysia is around 10 to 16 percent (PricewaterhouseCoopers, 2002). This study respond rate is quite sufficient as compare with other previous studies which were 14 percent (Ku Ismail & Chandler, 2005), 13.29 percent (Mohd Isa, 2006), 15.10 percent (Gibbins, McCracken & Salterio, 2007), 10.30 percent (Leng, Lazar & Othman, 2007), and 15.11 percent (Ali Khan, 2010). Various efforts had been taken to improve the response rate including sending first and second reminders. The questionnaire consists of two parts. Part one relates to the general aspects, which are the background of the respondent such as gender, age, education level and majoring. Part two, consists of respondent perceptions toward the importance items toward IFR dimension.

4. Finding and Discussion

Respondents' Background

As shown in Table 1, the respondents were predominantly low participation of male 44.4% and indicating 55.6% of female during this research. Most of the respondents had a diploma and degree or professional also few amount in master and Phd. The respondents' most common major in college were accounting which is the higher ranking 61.9%. half of respondents were equipped with significant in finance, accounting and finance, investment, economic and business administration which is shoe the percentage less than 15 percent. According to position in organization most of respondent are manager 39.6 percent, folowed by students 27.6 percent, bank manager 20.1 percent and academic members 12.7 percent. Approximately from observation most of respondents worked in current organization mostly around less than five years 29.1 percent and quartely in five to ten years is around 21.6 percent and low participation the around 11 to 20 years less than 15 percent. Continuously, the respondents experience in an organization which is less than 12 percent around 21.3 percent, and second highers five to ten around 19 percent and the balance shows less than 20 years in organization.

Table 1. Profile of Respondent (Users, n = 268)

Demographic	Item	Frequency	Percentage (%)
Gender	Male	119	44.4
	Female	149	55.6
Age	< 30 years	147	54.9
	31 – 40 years	75	28.0
	41- 50 years	34	12.7
	51 – 60 years	12	4.5
Academic qualification	Diploma	135	50.4
	Degree / Professional	76	28.4
	Master	48	17.9
	PhD	9	3.4
Majoring	Accounting	166	61.9
	Finance	33	12.3
	Accounting & Finance	20	7.5
	Investment	4	1.5

Demographic	Item	Frequency	Percentage (%)
	Economic	9	3.4
	Business Administration	36	13.4
Position in organization	Academic Members	34	12.7
	University Students	74	27.6
	Manager	106	39.6
	Bank Officer	54	20.1
Number of years working in organization now	<5 years	78	29.1
	5 – 10 years	58	21.6
	11 – 15 years	30	11.2
	16 – 20 years	10	3.7
	>20 years	18	6.7
Number of years working until now	<5 years	57	21.3
	5 – 10 years	51	19.0
	11 – 15 years	38	14.2
	16 – 20 years	19	7.1
	>20 years	29	10.8
Majoring	Accounting	25	46.3
	Finance	15	27.8
	Accounting & Finance	4	7.4
	Economic	3	5.5
	Business Administration	7	13.0
Number of years working in organization	< 5 years	24	44.4
	5 – 10 years	21	38.9
	11 – 15 years	4	7.4
	16 – 20 years	2	3.7
	>20 years	3	5.6

To determine the importance of content dimension, respondents were required to provide feedback on 97 items. Respondents' views were measured by using five likert scales whereby 1 represent the least important and 5 represents the most important. Table 2 shows item importance based on the value of mean in content dimension. The finding showed that 87 items listed under content dimension were categorized as important item (the mean exceeded 3.50) and this showed the importance of IFR content dimension (Ho & Wong, 2001; Ali Khan & Ismail, 2008; Ali Khan, 2010; Ali Khan & Ismail, 2010: Ali Khan & Ismail, 2012). From all 67 items, 38 of them were categorized as very important items (the mean exceeded 4.00). This questionnaire was divided into two dimensions, each dimension are difference with other dimension and respondents were asked to indicate about their perception either they are agree or disagree when IFR in each dimension provided. Each dimension in Table 2 and Table 3 provides and be calculate of the average mean perceived importance of each items in difference dimension of the IFR to the overall users group, the standard deviations and the significance difference in the mean.

Based on the result from Table 2 there are 97 items was asked to respondents about the perception of importance items for content dimension, the important item with the five highest

are income statement of current year, cash flow statement of current year, balance sheet of current year, annual report of current year (full text) and auditor report of current year which is the result shows as great importance when mean exceed 4.00. Thus, this probably implies that those overall user-group needs the statement which is very important to them in order to get the information. Basically, this information is very useful to them to get the information about the performance of the company to look at their financial flow.

Like the result in this dimension it also shows items in moderate importance which is exceed 3.00 are summary of financial data over a period of at least five years, current share prices, CEO signature in the report, sales of key products and recent monthly financial data. This means that user- group may need that information also even though it not necessary like items in great importance but it still relevance for their references to know the level of the company. Thus, the lowest most importance for this content dimension was past year resolutions of shareholders' meeting, glossaries, charter of others committees and text of speeches and presentation but those items are not relevance because the mean show below than 3.50.

Although this section was ranked at the highest to the lowest of the items list, it was rated as being great importance and followed moderate importance. The result of Kruskal-Wallis test revealed that the only 14 items are significant difference at five percent, and 15 items are significant difference at one percent for content dimension. Thus, from the result it can be conclude that user-group has significant differences regarding its degree of importance.

The results of this examination reveal that respondents rated 26 items as being great importance (with a mean of 4.00 – 4.39), and 71 items as being of moderate importance (with mean of 3.31 – 3.97). The result shows that the top five IFR disclosure items for content dimension are income statement of current year, cash flow statement of current year, balance sheet of current year, annual report of current year (full text), and auditor report of current year. On the other hand the lowest five items to determine level of content dimension include past year resolutions of the Supervisory Board, past year resolutions of shareholders' meeting, glossaries, charters of others committees, and text of speeches and presentations.

After getting the feedback from corporate annual report users, 93 items out of 97 items gave the level score for importance of 3.50 (similar to study of Ho & Wong, 2001; Ali Khan & Ismail, 2008; Ali Khan, 2010; Ali Khan & Ismail, 2010; Ali Khan & Ismail, 2012) were used as the base to measure content dimension of IFR index.

Table 2. Overall Perception on the Importance of

Item of Disclosure for Content Dimension

Disclosure Item	Average Mean	Std. Dev.	Rank	Kruskal Wallis test $\div^2$	Sig.
Great Importance					
Income statement of current year	4.39	.697	1	16.272	.001**
Cash flow statement of current year	4.36	.713	2	18.656	.000**
Balance sheet of current year	4.34	.754	3	15.993	.001**
Annual report of current year (full text)	4.32	.736	4	21.306	.000**
Auditor report of current year	4.29	.763	5	6.555	.088

Disclosure Item	Average Mean	Std. Dev.	Rank	Kruskal Wallis test	
				$\div^2$	Sig.
Notes to financial statements of current year	4.24	.706	6	8.660	.034˙
Income statement of past years	4.24	.736	7	10.591	.014˙
Cash flow statement of past years	4.22	.723	8	7.380	.061
Annual report of past years (full text)	4.22	.773	9	14.694	.002˙˙
Balance sheet of past years	4.18	.763	10	12.052	.007˙˙
Auditor signature of current year	4.15	.839	11	1.203	.752
Statement of changes in shareholders' equity	4.13	.778	12	14.811	.002˙˙
Auditor report of past years	4.13	.819	13	6.008	.111
Dividend information	4.12	.732	14	10.687	.014˙
Accounting policy	4.12	.808	15	5.034	.169
Management report/analysis in current year	4.12	.815	16	9.599	.022˙
English version of annual report	4.11	.807	17	20.382	.000˙˙
Analyses of main business risks	4.09	.802	18	8.665	.034˙
Financial Reporting Standard (FRS) basis in the current year	4.08	.770	19	14.076	.003˙˙
Web page in English	4.05	.828	20	8.875	.031˙
Changes in stockholders' equity in the current year	4.04	.702	21	8.080	.044˙
Users quickly find the financial information	4.04	.771	22	18.613	.000˙˙
Supplement/amendment to current year annual report	4.04	.771	23	9.817	.020˙
Notes to financial statements of past years	4.04	.811	24	5.514	.138
Auditor signature in past years report	4.01	.872	25	1.701	.637
Current year information can be distinguished from last year's information	4.00	.832	26	5.590	.133
Moderate importance					
Summary of financial data over a period of at least five years	3.97	.841	27	15.348	.002˙˙
Current share prices	3.96	.811	28	10.535	.015˙
CEO signature in the report	3.95	.989	29	10.075	.018˙
Sales of key products	3.94	.808	30	13.649	.003˙˙
Recent monthly financial data	3.94	.817	31	7.116	.068
Summary of annual report of current year	3.93	.766	32	6.693	.082
Financial ratios	3.91	.825	33	4.266	.234
Summary of key ratios over a period of at least five years	3.91	.830	34	5.124	.163
Link to Bursa Malaysia websites	3.90	.794	35	5.218	.157
Segmental reporting by line of business in	3.90	.794	36	8.506	.037˙
current year Number of share traded	3.90	.814	37	10.079	.018˙
Share price performance in relation to stock market index	3.89	.734	38	7.409	.060

Disclosure Item	Average Mean	Std. Dev.	Rank	Kruskal Wallis test	
				$\div^2$	Sig.
Information regarding a dividend reinvestment plan	3.88	.806	39	3.108	.375
Directors shareholding information	3.88	.840	40	2.495	.476
Indicator for finding current information directly	3.87	.791	41	4.284	.232
Company address	3.87	.816	42	7.264	.064
Half-year report of current year	3.86	.804	43	2.640	.451
Top 10 stockholders in current year	3.86	.874	44	12.939	.005**
Corporate information	3.83	.826	45	.697	.874
Annual report of current year (excerpt)	3.83	.853	46	3.086	.379
Information on corporate strategy	3.82	.792	47	1.250	.741
Share quote	3.82	.809	48	8.376	.039*
Annual general meetings information	3.82	.876	49	7.208	.066
Share price graphs	3.81	.849	50	10.197	.017*
Segmental reporting by region in current year	3.79	.862	51	1.125	.771
Information on the date of latest websites update	3.79	.980	52	14.325	.002**
Classes of shares	3.78	.813	53	6.481	.090
Charters for the audit committee	3.77	.814	54	5.211	.157
Specific update time for the stock/share price data	3.77	.855	55	1.981	.576
Frequently Asked Question (FAQ)	3.76	.791	56	3.678	.298
Members of the Board of Directors	3.76	.846	57	6.920	.074
Current year resolutions of shareholders' meeting	3.76	.912	58	4.711	.194
Current year resolutions of the Board of Directors	3.75	.808	59	3.521	.318
Segmental reporting by line of business in past years	3.75	.841	60	5.308	.151
Chairman's report	3.75	.887	61	.761	.859
Monthly share prices	3.74	.856	62	11.321	.010**
Company's charter in the current year	3.74	.861	63	5.948	.114
Quarterly report of current year	3.74	.899	64	.536	.911
Annual report of past years (excerpt)	3.73	.872	65	5.314	.150
Shareholder information	3.73	.897	66	.538	.911
Other than English web page (such as Malay)	3.72	.923	67	5.537	.136
Postal address to investor relations	3.71	.881	68	.026	.999
Projected information	3.71	.885	69	.490	.921
Calendar of future financial activities	3.70	.836	70	1.332	.722
Disclaimer	3.69	.786	71	1.336	.721
Indication of audited and unaudited information (half yearly and quarterly)	3.69	.823	72	.427	.935
Segmental reporting by region in past years	3.69	.873	73	.720	.868
Half-year report of past years	3.68	.876	74	1.926	.588
Corporate social responsibility report	3.68	.817	75	3.131	.372
Current year resolutions of the Supervisory Board	3.67	.838	76	2.658	.447
Information on intellectual capital	3.67	.855	77	1.259	.739

Disclosure Item	Average Mean	Std. Dev.	Rank	Kruskal Wallis test	
				$\div^2$	Sig.
Information about managers, at least the identity and curriculum vitae of executives	3.67	.931	78	1.508	.681
Phone number to investor relations	3.66	.865	79	.753	.861
Historical share prices	3.65	.842	80	2.733	.435
Information of third party opinion about company	3.65	.905	81	.042	.998
Employee shareholding information	3.65	.910	82	.539	.910
Code of conduct and ethics for directors, officers and employee	3.64	.932	83	6.043	.110
Option provided to register for future email alerts regarding press releases, newsletters, etc.	3.63	.813	84	5.811	.121
E-mail to investor relations	3.63	.862	85	.532	.912
Current press releases or news	3.62	.819	86	.887	.828
Calendar of events of interests to investors	3.61	.869	87	2.815	.421
Monthly or weekly sale or operating data	3.60	.874	88	4.927	.177
Listing of analysts following the firm	3.59	.809	89	3.091	.378
Corporate governance principles/guidelines	3.58	.860	90	2.746	.432
Quarterly report of past years	3.56	.936	91	3.022	.388
Past year resolutions of the Board of Directors	3.53	.841	92	1.410	.703
Past year resolutions of the Supervisory Board	3.50	.868	93	3.993	.262
Past year resolutions of shareholders' meeting	3.48	.809	94	1.739	.628
Glossaries	3.47	.841	95	1.219	.748
Charters of others committees	3.40	.891	96	2.378	.498
Text of speeches and presentations	3.31	.931	97	11.019	.012*

Their views were measured using 5 points likert scale and just like the former, 1 represented the least important while 5 represented the most important. Table 3 shows items importance in presentation dimension based on mean value. Table 3 provides a list of criteria needed based on the overall user perception during loading annual report through Internet.it also reports the significants differences between the overall user groups regarding their views on the list criteria that they needed in presentation dimension. Continuously, some criteria such as moving picture such as JAVA applications (mean 3.24), flashes (mean 3.43), notice book (mean 3.42), video files (mean3.38), chat room (mean 3.34) and sound files (mean 3.28) is the least choices regarding the criteria provided through Internet. Thus, these items are not relevent because the mean is less than 3.50. Beside, annual report in PCF format (mean (4.18), loading time of the website below 10 seconds (mean 4.10), link to homepage (mean 4.08) and hyperlinks inside the annual report (mean 4.06) are most criteria that user needed during analyze annual report. The annual report in PDF format was rated the most highly for the importance items for presentation dimension. This is not surpricing because mostly based on the observation generally by use PDF format to disclose annual report easier

to make sure all the items in annual report cannot be edited its mean user only can read the information without change the item in the page. Continously, users prefer to access annual report through Internet if loading time of the website below ten seconds. Usually most of users avoid to aceess the Internet if they have take long time to access the page, this situation may lose user patience and may lead them to leave the page. Thus, if the time take to access the annual report through the Internet faster it can save user's time and information needed can get easier without to waiting.

The result of the Kruskal-Wallis test reveal that although user groups' views regarding their perception in presentation dimension about annual report in PDF format, loading time of the website below ten seconds, hyperlinks inside the annual report, hyperlink to financial analysts, direct e-mail contacts (feedback) available, ability to download reports, financial information can be viewed in more than one currency (UK£ & US$), help information/site, table of content/sitemap and function to recommend the page were significantly different, they shared similar views on their perception on presentation dimension of format of report suitable for calculations, users can download the full annual report in sections, email alert, annual report in multiple file format, there are investment calculation available, service to change data in the Share register online, external links to related content and menu pull- down. Although this section was ranked at the highest to the lowest of the items list, it was rated as being great importance and followed moderate

importance. The result of Kruskal-Wallis test revealed that the only nine items are significant difference at five percent which is importance, and 11 items are significant difference at one percent for presentation dimension. Thus, from the result it can be conclude that user-group has significant differences regarding its degree of importance.

The findings show that 52 items that exceeded the mean value of 3.50. Out of 52 items, nine items were categorized as very important (mean exceeding 4.00) to illustrate the level of IFR presentation dimension. The balance of 43 items were categorized as unimportant (mean lesser than 3.50). The results of this examination reveal that respondents rated nine items as being great importance (with a mean of 4.00 - 4.18), and 49 items as being of moderate importance (with mean of 3.28 - 3.98). The result shows that the top five IFR disclosure items for presentation dimension are annual report in PDF, format loading time of the website below 10 seconds, link to homepage, hyperlinks inside the annual report, and link to table of contents. The five least important items to determine presentation dimension IFR disclosure level are flashes, notice book, video sound, chat room, and sound files.

After getting feedbacks from corporate annual report users, a number of 52 out of 58 items with the importance score at the minimum of 3.50 (similar to the study of Ho & Wong, 2001; Ali Khan & Ismail, 2008; Ali Khan, 2010; Ali Khan & Ismail, 2010; Ali Khan & Ismail, 2012) were used as the basis for measuring the dimensions of IFR index disclosure for presentation dimension.

Table 3. Overall Perception on the Importance of Items of
Disclosure for Presentation Dimension

Disclosure Item	Average Mean	Std. Dev.	Rank	Kruskal Wallis test $\div^2$	Sig.
Great importance					
Annual report in PDF format	4.18	.768	1	10.706	.013**
Loading time of the website below 10 seconds	4.10	.855	2	23.791	.000**
Link to homepage	4.08	.755	3	6.096	.107
Hyperlinks inside the annual report	4.06	.835	4	14.331	.002**
Link to table of contents	4.04	.785	5	2.814	.421
Hyperlinks to financial analysts	4.04	.795	6	13.367	.004**
Direct e-mail contacts (feedback) available	4.02	.809	7	16.086	.001**
Ability to download reports	4.02	.848	8	18.551	.000**
Link to top homepage	4.00	.767	9	2.426	.489
Moderate importance					
Financial data in processable format (such as Excel)	3.98	.859	10	3.695	.296
Use of multimedia technology (in general)	3.96	.829	11	6.885	.076
Clear boundaries for annual reports	3.90	.789	12	3.002	.391
Change to printing friendly format possible	3.90	.814	13	.304	.959
Financial information can be viewed in more than one currency (UK£ & US$)	3.89	.880	14	12.019	.007**
Format of reports suitable for calculations	3.89	.834	15	8.220	.042*
Users can download the full annual reports in sections	3.89	.858	16	7.867	.049*
Next/previous bottoms to navigate sequentially	3.87	.785	17	5.928	.115
Users can download the financial information in more than one type of format	3.87	.804	18	6.072	.108
Internal search engine	3.85	.839	19	2.195	.533
Direct e-mail hyperlinks to investor relations	3.84	.811	20	6.332	.097
Annual report in HTML format	3.82	.823	21	1.032	.794
Users can compare and analyse comparative stock or other performance on the same screen	3.82	.842	22	3.871	.276
E-mail alerts	3.81	.870	23	10.164	.017*
Online feedback	3.79	.832	24	2.367	.500
Annual report in multiple file format	3.79	.896	25	9.260	.026*
Online investor information order service	3.78	.827	26	4.381	.223

Disclosure Item Mean	Average Dev.	Std.	Rank $\div^2$	Kruskal Wallis test Sig.	
One click to get to investors relations information	3.78	.844	27	1.286	.733
Annual meeting	3.78	.856	28	18.821	.000**
There are investment calculators available	3.77	.869	29	7.907	.048*
One click to get to press releases or news	3.76	.801	30	.836	.841
User can subscribe to public announcement via e-mail	3.76	.864	31	2.253	.522
Hyperlinks texts	3.75	.876	32	2.290	.514
Content can be viewed in different browsers (Internet Explorer and Netscape)	3.75	.883	33	4.652	.199
Hyperlinks to data on a third-party's website	3.75	.904	34	.850	.837
Service to change data in the Share register online	3.74	.816	35	10.791	.013*
Help information/site	3.74	.834	36	15.514	.001**
Users have a choice of download (black and white or full colour)	3.74	.962	37	3.175	.365
Download plug-in on spot	3.73	.842	38	4.013	.260
Online shareholder services available (e.g. change address, dividend paid directly into account)	3.73	.922	39	2.504	.475
External links to related content	3.72	.817	40	10.446	.015*
There is information concerning technical devices (formats, size of downloads)	3.72	.853	41	3.579	.311
Menu click over	3.71	.854	42	3.625	.305
Technical hints for the user (browsers, screen resolution)	3.71	.861	43	4.360	.225
Use of presentation slides	3.71	.868	44	1.536	.674
Function to recommend the page	3.68	.913	45	11.567	.009**
Menu pull-down	3.67	.864	46	7.666	.053*
Mail listings	3.65	.897	47	3.634	.304
Table of content/sitemap	3.64	.816	48	12.064	.007**
Contact to the webmaster	3.60	.896	49	5.254	.154
Graphic images	3.60	.925	50	1.637	.651
Conferences	3.56	.857	51	6.437	.092
Use of frames	3.54	.813	52	1.716	.633
Moving picture such as JAVA applications	3.49	.981	53	4.571	.206
Flashes	3.43	.955	54	3.942	.268
Notice book	3.42	.815	55	4.964	.174
Video files	3.38	.974	56	2.111	.550
Chat room	3.34	.967	57	3.884	.274
Sound files	3.28	.994	58	2.611	.456

*significant at 5% level (9) **significant at 1% level (11) (1 = not important at all; 5 = very importance)

As the conclusion, based on users' views and feedbacks, a number or 93 out of 97 items were identified as the basis for IFR index measurement for content dimension. On the other hand 52 out of 58 items were identified as the basis for IFR index measurement for presentation dimension. On the whole a total of 145 items out of 155 items were identified as the basic measurement to evaluate the level of IFR for Bursa Malaysia listed companies. The study used the importance score minimum of 3.50 (similar to Ho & Wong, 2001; Ali Khan & Ismail, 2008; Ali Khan, 2010; Ali Khan & Ismail, 2010; Ali Khan & Ismail, 2012) using the cut-off point to measure IFR index.

5. Conclusion

The aim of this study has been provide empirical evidence on the importance items of IFR by adapting the views of Malaysian corporate annual report users. Consequently, four user groups were surveyed: academics, students, bank officers and manager. In addition, the selections of items disclosure are seen as a potential yardstick in measuring the level of IFR by listed companies. The findings show that five most important items disclosure for content dimensions are income statement of current year, cash flow statement of current year, balance sheet of current year, annual report of current year (full text), and auditor report of current year. Meanwhile, the five most important index disclosure items for the for presentation dimension are annual report in PDF, format loading time of the website below 10 seconds, link to homepage, hyperlinks inside the annual report, and link to table of contents.

The result of this study provides valuable input in developing the IFR index disclosure checklist. The study also developed an instrument to measure IFR content and presentation dimensions. The instrument was developed by taking into account all relevant items in the content dimension, timeliness, technology and user support constructed by previous researchers. Index disclosure constructed through this instrument is expected to be a more inclusive and integrated measurement tool. Based on the literature review, there are very limited efforts done by previous researchers to obtain the views of annual report users in constructing IFR items disclosure checklist. Thus, the formation of IFR index disclosure based on annual report user is conducted to measure Bursa Malaysia listed companies IFR index disclosure. The IFR index disclosure checklist was tested during the pre and pilot study. Local and international academics reviews were obtained when constructing IFR item index disclosure checklist. Then, the checklist had been reviewed by accounting practitioners. Thus, the results of this study are important because it seeks to contribute empirical evidence in the literature of IFR index disclosure item checklist.

The result of this study also revealed that the only 14 items are significant difference at five percent, and 15 items are significant difference at one percent for content dimension. On the other hand, the result of Kruskal-Wallis test revealed that the only nine items are significant difference at five percent which is importance, and 11 items are significant difference at one percent for presentation dimension.

The results of this study should be considered seriously as there were some limitations. The first one is this study uses weighted scoring system to determine IFR item content for both content and presentation in IFR practice. Future study could be carried out by combining the two techniques in determining the level of IFR. Secondly, the result of this study is based on feedback from corporate annual report users. In future a study could be carried out by taking into consideration a comparison between group users' view of the

corporate annual report . Thirdly, because only the opinion of users group in one country was sought, an inherent limitation of this study is that its findings may not be generalisable beyond that sample. The present study could be classified as a preliminary study, which should serve as a basis for further research regarding the importance items of IFR to select other users of corporate annual reports in other countries. Thus, in order to determine the validity and generalisability future research needs to include other user groups in other countries.

Next, the scores given by each of the respondents and statistical test is conducted to compare the views of both groups. Such study is expected to provide a significant contribution to a company's management about the importance of IFR items disclosure in the company's website for those interested in investing in Bursa Malaysia to make a more comprehensive decision-making.

With the researcher's limited knowledge, this is among the earliest study using annual report users' view on the importance of IFR disclosure items. The findings are expected to lead to another further IFR related research not only in Malaysia but also in other countries, particularly in terms of empirical evidence. The researcher also expect the impact of this study to raise public awareness of knowledge community (such as providers, consumers, practitioners, industry, policy makers, accounting standards developers, regulators, researchers and professional bodies) to IFR practice. Even though the level of disclosure is measured by the number of IFR index, these indicators should also be qualitative in order to be informative. However, our findings would be more robust if a more in-depth study of qualitative features was undertaken.

On the whole, the results show that some 145 out of 155 items identified could be used to determine the level of IFR among Bursa Malaysia listed companies. There is a possibility for comparative study on the level of IFR between two countries in future. The study should also examine the views of other corporate annual report users and that is expected to provide a useful input in constructing IFR index disclosure checklist. Such studies are expected to contribute to various parties and give added value to those interested in investment to obtain fast and accurate information relating to listed companies by referring to the company's websites, doing so will assist them in making rational and more meaningful investment decisions.

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Developing an Innovation Management Framework for Measuring Creativity in Research Design

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Abstract

Innovation in any engineering or commercial system comprises of many components of inputs at various stages of the production process from the point of conception to the arrival of the final product, its degree of market acceptability, customer feedbacks that allow for improvements providing for a degree of sustainability in product development, replication, modification and survival. Such an integrated system that provides for its constituents and interactions is captured by graph theory and matrix algebra elements.

An innovation management system is first modeled with the help of graph theory, then by a variable adjacency matrix and then a multi-nomial known as the permanent function. The permanent function provides an opportunity to carry out an analysis of the market sustainable innovation system model in terms of the various attributes identified correlating them to the system. A physical meaning can be associated with each term of the permanent function depending upon the nature of the business or innovation output recurrently received. Different attributes of the innovation management system are identified to develop a graph theoretic model, a matrix model, and a multinomial permanent model of the system.

Keyword(s):

Graph theoretic design, Innovation management, multi attribute testing, permanent function, variable adjacency matrix.

Introduction

The capacity to innovate, introduce and develop new technologies in the foreground of research and development has become the key to the competitiveness of firms and nations. Therefore technological innovation has become a life-line for firms in the 21st century. While innovation is sought to be measured and captured through analytics of data sets and more thorough econometric testing, a comprehensive, scientific approach to multi attribute identification, analysis and making it ready for program or research implementation has not been done in research design analysis and testing.

The papers accessed and studied reveal that innovation technology and management has been the buzz words in corporate level technology innovation research in their R &Ds and collaborations with universities and research organizations were piecemeal in character and conceptually limited.

This paper thus sought out an approach that can integrate various aspects of business product development, analysis and design for implementation from laboratory to the market.

The literature review undertaken kept in mind nature of business studies and their institutional technologies along with any possible

comprehensive methodological approaches to comprehend various aspects of the product design, development, transfer processes. Graph theoretic approach was found suitable as a technique for thinking along with it a Concurrent design structure for Multi attribute Decision Making (MADM) structure that could take care of decision cum implementation processes.

Literature Review

J JChanaron and T Grange(2007), identify that the implementation of technological innovation in the corporate strategy has become very important. Innovation can be seen as a change produced by technology in an organization towards the satisfaction of its economic goals by providing a definite competitive advantage.

Marcus Wagner (2007),proposes that the rapid nature of innovation makes innovation management difficult. Therefore innovation networks and innovation co-operation are becoming means of developing radical innovations. Also acquisition of innovative start-up firms by means of takeovers foster radical innovation. Wagner from research, proposed that, M&As and innovation networks are both sustainable models for implementing radical innovation. He used multivariate analysis and ordinal Logit models to support his hypothesis.

Marcus Wagner, alsodiscusses in his paper the point that whether acquisitions substitute own R&D or not. Data was collected from the databases and modeling was done using random and fixed effects models. These models were determined using Hausman and Hausman-like tests. The results obtained showed that patenting and R&D intensities of firms are only rarely associated significantly with firms' acquisition activities i.e. acquisitions of innovations is not a substitute for own R&D.

WimVanhaverbeke and Gerent Duysters (1997), contrasts two alternative modes of external sourcing of technologies namely strategic technology alliances (SAs) and M&As. This study has put forth a point that firms will be engaged in M&A activities when both firms have similar innovating capabilities and SAs otherwise. Another important outcome of their research is that size of the firm has no impact on the choice between SAs and M&As.

Silviya Draganinska and Rüdiger Wink (2005), discuss the role of institutions in helping free flow of knowledge. They explain innovation as the part of new knowledge produced by individuals in a firm which can be brought to the market place due to a common understanding of the use of this knowledge by the suppliers and consumers. The lack of required resources is the foremost barrier to technology flows in SMEs. Institutional arrangements serve to reduce the uncertainties on the behavior of others viaformal contracts of cooperation, formal or informal networks and joint associations.

Elena Revilla and Juan Acosta(2004), tries to determine if differences in knowledge management are dependent on the locus of the Research Joint Ventures (RJVs) which refers to the stage of technical development at which the RJV operates. Using databases and questionnaires, the required data was collected and probability and statistical modeling was used to analyze the data to obtain a result - RJVs that develop basic research, whose output tend to be more explicit, generic and autonomous knowledge, will manage their R&D activities according to a techno-structural approach than a behavioral approach.

Jens Frøslev Christensen (1998), discuss the generic forces that drive the evolution of diversified corporations and their implications for the corporate technology base and the changing role

of R&D in the context of these forces. It also focuses on the role of management of technology in promoting dynamic coherence in diversified corporations. Four different tendencies in the growth of multi-divisional corporation have been identified - diversification, increasing division of labor, decentralization and internationalization.

Tahvanainen, Antti-Jussi and Hermans Raine (2008), identify the importance of value creation and technology transfer from the academic world to the commercial world by a structure called Technology Transfer Offices (TTOs). These TTOs convert academic knowledge provided by inventors into a language appropriable by the industry and vice-versa. The relevance of academic linkage to the industry was discussed.

Shujiro Urata and Yuhong Wei (2006),analyse the pattern of intra-firm transfer of management technology from Japanese multinational corporations (MNCs) to their overseas affiliates by using firm-level micro data and discern the determinants of the extent of technology transfer achieved. A study of the determinants of technology transfer revealed that the length of operation of the affiliates, and the quality of labor in the host countries have significantly positive impacts for the affiliates in Asia

G Naga BalajiKiran and V P Agarwal (2008), use a concurrent approach for designing a computer network. The authors used the Multi Attribute Decision Making approach to identify the best possible designing solution. Initially the design flow and design goals were identified after which the technological and infrastructure considerations were taken into consideration. The attributes for the x-abilities were identified and the relevant computer network elements were selected using the Ishikawa diagram. Then the relative importance to the combined specification of the x-abilities and

concurrent engineering approach was given and the alternatives were ranked according to the MADM (TOPSIS) approach using matrix models.

DuraiPrabhakaran, Babu and Agarwal (2006), attempted to develop an integrated systems model for the structure of a composite product system in terms of its constituents and interactions between them using graph theory and matrix algebra. The system is first modeled with the help of graph theory, then by a variable adjacency matrix and then by a multinomial called the permanent function. Different structural attributes of the composite product were identified to develop a graph-theoretic model, matrix model and the permanent function. A thorough understanding of the modeling can be obtained from this paper.

Though there have been several papers in the area of innovation management, all the papers dealt with the different aspects of innovation management separately. This paper tries to fill that void by treating all the aspects of innovation management as a whole using a systems approach. The systems approach uses the graph theory, matrix algebra, MADM and permanent functions to develop the attributes and analyze them using the above mentioned models.

Objectives of the Study:

1- To develop a systems model using Graph theoretic and matrix approach to encapsulate the various stages of product development and incorporate implicitly the flow charts of the organization

2- To provide a computer friendly design structure that can quicken the comprehensive and decision implementation process.

3- A system variable characteristic matrix and a permanent function to provide for a mathematical specification for model testing.

Developing a Systems Model using Graph Theoretic and Matrix approach

Graph Theoretic Representation

Any system in the universe can be considered as a collection of a number of basic structural constituents. These constituents are connected with each other through different kinds of bonding and interactions. The constituents and interactions forming a system can be shown with the help of a schematic diagram. The blocks show the constituents and the lines show the connectivity and arrows show directional bonding. However, schematic diagram is a good representation of a system for a better understanding of its structure but it is not a mathematical entity and therefore no mathematical operation can be carried out.

A system can be considered to be a system (C, I) of its constituent set $\{C\} = \{C_1, C_2 ..... C_n\}$ and interactions or connectivity set $\{I\} = \{I_1, I_2 ..... I_n\}$ where C_i represents ith constituent while I_j represents the jth interaction between two corresponding constituents of the system.
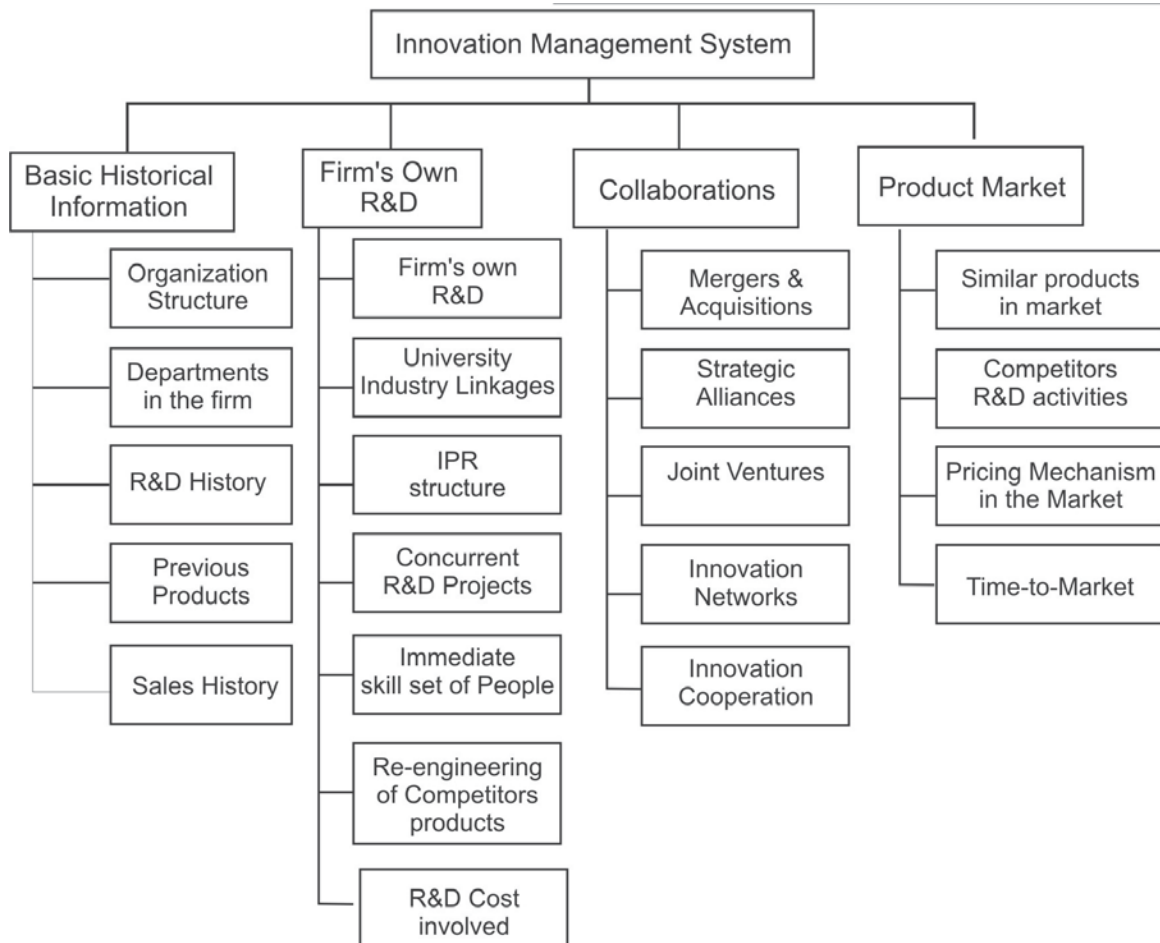
Firm's own R&D (P_3)

Basic Historical Information (P_1)

For the systems representation of the system, graph theoretic approach can be used and for the mathematical representation, matrix algebra can be a good option. A graph *G* is a set if vertex and edge *[V, E]* where vertex set *{V} = {V₁, V₂.....Vₙ}* and edge set *{E} = {E₁,E₂.....Eₙ}* are its subsets. To represent the system mathematically, the constituents of the system are represented as the vertex set *{V}* of the graph and the connectivity or interactions between different constituents is represented as the edge set *{E}*. Any directional property existing in the connectivity is represented by a directed edge instead of an undirected edge.
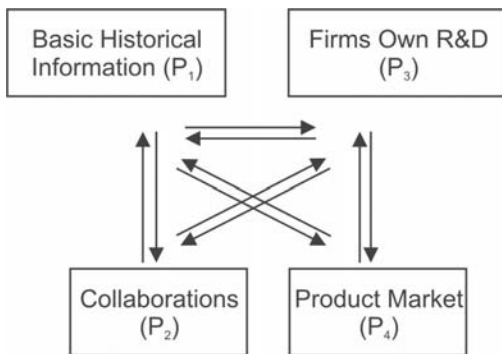

Figure 2 Schematic representation of the structure of the system

To develop an algorithm let us assume that there are four sub-systems or constituents as shown in Figure.2 and these are represented by the four vertices {v1, v2, v3, v4}. The connectivity or the interactions between Ciand Cj is represented by an edge eij. If we assume that all the constituents are interacting with each other and have general directional characteristics, the system has a graph theoretic representation with eij? eji. The eij? eji means that the influence of the ith vertex on jth vertex is not equal to the influence of jth vertex on ith vertex. The schematic diagram of the system shown in Figure.2 which is a non-mathematical

entity is now represented by a mathematical entity called a System Digraph as shown in Figure.3.
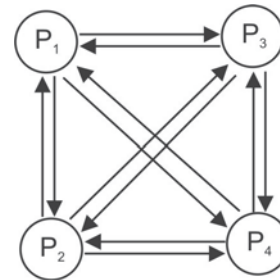

Figure 3 System Digraph

In many systems some of the constituents are not connected or interacting with each other. In such case, no edge will exist between those vertices. In some systems it is just sufficient to consider non-directional interactions i.e. $e_{ij} = e_{ji}$ which is called an undirected graph. Such a graph is represented in Figure.4. The undirected graph gives information only about the interactions between the constituents of the system but does not provide any information about the interactions quantitatively. In other words, two way interactions and the degree of influence are not considered in an undirected graph because $e_{ij} = e_{ji}$.

Matrix Representation

Since a digraph is a visual representation, it helps in the visual analysis to a limited extent. To establish a computer-friendly representation of the system, the digraph is represented in matrix form. This representation permits to carry out storage, retrieval and analysis of the systems.
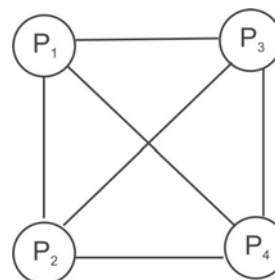

Figure 4: Undirected graph representation of the structure of the system

Let us represent a digraph of '*n*' sub-systems leading to an nth-order symmetric (0, 1) matrix A = $[P_{ij}]$. The rows and columns in the matrix represent the sub-systems' attributes, i.e. P_{ij} represents the interaction of the *ith* sub-system with the *jth*sub-system.

$$P_{ij} = \begin{cases} 1, \text{if sub - system i is interacting with sub - system j} \\ 0, \text{if sub - system iis not connected to sub - system j} \end{cases}$$

Since we had considered that the interactions are directional and the sub-system does not interact with itself, i.e. P_{ij} "' P_{ji} and P_{ii} = 0, the System Matrix is square and non symmetric. The System Matrix(SM) representing the digraph in Figure.3 is written as

$$A = \begin{pmatrix} 0 & 1 & 1 & 1 \\ 1 & 0 & 1 & 1 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 1 & 0 \end{pmatrix} \begin{matrix} 1 \\ 2 \\ 3 \\ 4 \end{matrix} \quad \begin{matrix} 1 & 2 & 3 & 4 & Vertex \end{matrix} \quad ...(1)$$

Off-diagonal elements with value 0 or 1 represent the interdependency and connectivity between sub-systems, P_i, i = 1, 2, 3, 4 of the system. The diagonal elements are zero as there is no interdependency on any system with itself. To characterize the system, a Characteristic Matrix is defined.

System Characteristic Matrix (CM)

The system matrix which was obtained above gives information only regarding the interactions or connectivity between the various sub-systems of the system. To bring all the sub-systems into consideration, the system characteristic matrix is developed. Let us consider an identity matrix, **I**, and *P* as the variable representing the system. The system characteristic matrix **B**, for the digraph in consideration is expressed as [**PI - A**], where **A** is the system matrix in equation (1)

$$B = \begin{pmatrix} P & -1 & -1 & -1 \\ -1 & P & -1 & -1 \\ -1 & -1 & P & -1 \\ -1 & -1 & -1 & P \end{pmatrix} \begin{matrix} 1 \\ 2 \\ 3 \\ 4 \end{matrix} \quad \begin{matrix} 1 & 2 & 3 & 4 & Vertex \end{matrix} \quad ....(2)$$

In the above matrix **B**, the value of all diagonal elements is the same, i.e. all the sub-systems are assumed to be identical which may not be true in practice, since different sub-systems in a system have different characteristics depending on the parameters affecting them. Interdependencies between systems have been assigned values of 0 or 1 depending on whether it is there or not. This does not represent varying degree of influence of one sub-system over the other sub-system. To consider this, another matrix called the System Variable Characteristic Matrix is proposed.

System Variable Characteristic Matrix (VCM)

The system variable characteristic matrix takes into consideration, the effect of different sub-systems and their varying degrees of interactions. The digraph in Figure.3 is considered for defining the VCM. Let P_is and P_{ij}s represent nodes and edges respectively, in the digraph. Consider a matrix **C** with off-diagonal elements P_{ij}, representing varying interactions between the sub-systems (instead of 1 as in system matrix). Another matrix **D** is taken with diagonal elements P_i, i = 1, 2, 3, 4 where P_i represents four different sub-systems which are considered for the system. As the sub-systems are different in their structure due to varying attributes, the value of the P_is differs from each other. From the matrices **C** and **D** the VCM can be obtained.

$$\mathrm{E} = \begin{array}{cccc} 1 & 2 & 3 & 4 \quad Vertex \end{array}$$

$$\mathrm{E} = \begin{pmatrix} P_1 & -P_{12} & -P_{13} & -P_{14} \\ -P_{21} & P_2 & -P_{22} & -P_{23} \\ -P_{31} & -P_{32} & P_3 & -P_{34} \\ -P_{41} & -P_{42} & -P_{43} & P_4 \end{pmatrix} \begin{array}{c} 1 \\ 2 \\ 3 \\ 4 \end{array} \quad ....(3)$$

$$\begin{array}{cccc} 1 & 2 & 3 & 4 \quad Vertex \end{array}$$

$$\mathrm{F} = \begin{pmatrix} P_1 & P_{12} & P_{13} & P_{14} \\ P_{21} & P_2 & P_{22} & P_{23} \\ P_{31} & P_{32} & P_3 & P_{34} \\ P_{41} & P_{42} & P_{43} & P_4 \end{pmatrix} \begin{array}{c} 1 \\ 2 \\ 3 \\ 4 \end{array} \quad ... (4)$$

The above matrix **E** represents complete information about all the four sub-systems and the interactions amongst them. The matrix provides a tool through its determinant, called the Variable Characteristic Multinomial. This is a characteristic of the system and represents the complete system, considering the effect of the sub-systems and their interactions.

The determinant of the matrix **E**, i.e. the variable characteristic multinomial, carries positive and negative signs with some of its terms. The multinomial in the symbolic terms contains complete information about the system, but when replaced with numerical values, information can be lost. Hence, complete information in the system cannot be obtained as some terms will be cancelled due to the addition and subtraction of numerical values of the diagonal and off-diagonal elements. Thus the multinomial of the matrix, **E**, does not provide complete information concerning the system in all possible conditions. To avoid this loss of information another matrix **F**, called the System Variable Permanent Matrix (VPM) is introduced.

System Variable Permanent Matrix (VPM)

To develop a unique and comprehensive model of the system represented by a schematic diagram (figure.2) and a digraph (figure.3), another entity called the permanent and permanent matrix is proposed. The VPM corresponding to the four sub-systems represented in the digraph is given by

The diagonal elements P_1, P_2, P_3, and P4 represent the contribution of the four critical sub-systems of the entire system and the off-diagonal elements represent the interdependencies of the sub-systems in the matrix. This model permits the representation of the contribution of each sub-system and interaction qualitatively and quantitatively without any loss of information in multinomial representation.

Permanent Function Representation

Although the digraph and matrix representations cater to the visual analysis and mathematical representations of the system respectively, they are not unique as these models change by changing the labeling of the nodes. To develop a unique representation of the system, independent of labeling, a permanent function of the matrix Variable Permanent Matrix is proposed. The permanent function is obtained from a matrix similar as its determinant. A negative sign appears in the expansion of the determinant while in the permanent, positive signs replace the positive signs. These computations result in a multinomial equation in which every term has a physical significance related to the system. This multinomial representation includes all the information regarding various constituents as sub-systems, attributes of sub-systems and the interactions amongst them.

The permanent function for the system under consideration (matrix in equation 4) when expanded is given by

per (F) = (P1 P2 P3 P4) + (P1 P2 P34 P43 + P1 P3 P24 P42 + P1 P4 P23 P32 + P2 P3 P14 P41 + P2 P4 P13   P31 + P3P4 P12P21) + (P1 P23 P34 P42 + P1 P24 P43 P32 + P2 P13 P34 P41 + P2 P14 P43 P31 + P3 P14 P42 P23 + P3 P12P24 P41+ P4 P12 P23 P31+ P4 P13 P32 P21) + (P12 P23 P34 P41 + P13 P32 P24 P41 + P14 P43 P32 P21 + P12 P24 P43 P31 + P13 P34 P42 P21 + P14 P42 P23 P31 + P12 P21 P34 P43 + P13 P31 P24 P42 + P14 P41 P32 P23)   (5)

The above equation uniquely represents the system represented in the schematic diagram and the digraph. Every term of this equation represents a subset of the system. It is possible to write these equations by the visual inspection of the system of Fig 3. In order to achieve this objective, the permanent function (per (F)), is written in a standard form as N+1 groups. All these distinct combinations of sub-systems and interactions of the macro system are shown graphically in Figure 5.

The permanent function when written in (N + 1) groups, present an exhaustive way of analysis of a system at different levels. It helps in identifying different constituents, process parameters, design attributes and the interactions among the various sub-systems of the system.

Group 1 contains only one term of four isolated vertices Pis i.e., the four sub-systems are considered as independent entities.

Group 2 has no terms as a particular sub-system does not interact with itself.

Group 3 has six terms; each term is a set of one dyad, Pij2 or a two-subsystem loop; and two independent sub-systems.

Group 4 has eight terms; each term has a set of one three-subsystem loop and one independent sub-system. The sub-system loop is to be considered as one entity.

Group 5 has two sub-groups. Group 5a has three terms; each term is a set of two independent dyads or 2 two-subsystem loops. Group 5b has six four-subsystem loops.

In all, a general 4-subsystem permanent function will have 4!, i.e., 24 terms arranged in (N+1) groups. Figure 5 gives graphical interpretation for visual understanding, analysis, and improvement of a system. It is therefore possible for the decision maker to carry out a SWOT analysis of the complete system and take strategic decisions to their advantage as per the policy.

Group 1 (1 Term)

Group 3 (+6 terms)

Group 4 (+8 terms)

Group 5a (+3 terms)

Group 5b (+6 terms)
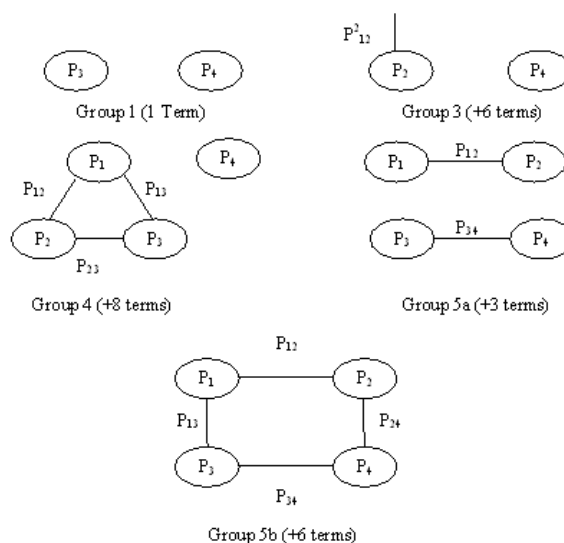
Physical Meaning of Different Terms of the Permanent Function

Evaluation of P_i

The diagonal elements of the matrix in equation (4) correspond to the four sub-systems that constitute the system. The values of these diagonal elements P_1, P_2, P_3, and P4are calculated as

$P_1 = $ per $(\mathbf{FP_1})$; $P_2 = $ per $(\mathbf{FP_2})$;

$P_3 = $ per $(\mathbf{FP_3})$; $P_4 = $ per $(\mathbf{FP_4})$;

where FP_1, FP_2, FP_3 and FP_4 are the variable permanent matrices for the four sub-systems of the system. The procedure for calculating P_1, P_2, P_3, and P_4 is similar to the calculation of per $(\mathbf{F})$. For this purpose, the sub-systems are considered and the procedure is given below.

1. The schematics of these sub-systems are drawn separately by considering their various sub-sub-systems.

2. Identifying the degree of interactions, interconnections, dependencies, connectivity, etc. between different sub-sub-systems.

Digraph representations of the four sub-systems are drawn first separately to obtain their matrix equations, i.e. FP_is and their permanent functions P_1, P_2, P_3, and P_4. The off-diagonal elements $\mathbf{P_{ij}}$ (i, j = 1, 2, 3, 4) of the VPM gives the connections between the various sub-systems. Depending upon the type of analysis $\mathbf{P_{ij}}$ can be represented as multinomial, graph or matrix or by some other analytical model.

System Analysis

The methodology described in the previous sections for the complete analysis of the system is summarized below:

1. Consider the desired system. Study the complete system and its subsystems and also their components/attributes.

2. Develop a block diagram of the system, considering its subsystems and interactions along with the assumptions if there are any.

3. Develop a systems digraph of the system with subsystems as nodes and the interactions as edges or connections between the nodes.

4. Develop the matrix and multinomial representations of the system.

5. Evaluate the functions/values of diagonal elements from the permanent functions of distinct subsystems of the system and repeat steps 2-4 for each subsystem.

6. Identify the functions/values of off-diagonal elements/interactions at different levels of hierarchy of the systems, subsystems, sub-subsystems, etc.

The values of interactions P_{ij} (i, j = 1, 2...... N) between different subsystems P_1, P_2.......P_N can be written as a multinomial or a matrix depending upon the type of interaction/reaction between the two subsystems. The subsystems can again be treated as systems, as every subsystem is a system in itself. Following the above procedure, these subsystems can be broken down into subsystems and different graph, matrix and permanent representations can be obtained. Depending upon the depth of analysis required, the process could be taken to the constraint level and further. In certain cases, it may be possible to evaluate $P_{ij}'s$ experimentally or using available mathematical models. With the help of this data, complete multinomial for the system can be evaluated.

Usefulness of the proposed Methodology

The proposed methodology is a powerful tool for the decision makers of any firm which is into innovation activities. Using this morphological tree/chart, the policy maker can take decisions which are suitable for particular Research and Development problems. Similarly this method can

be exploited to improve the quality and reduce cost and time-to-market. This methodology gives a comprehensive knowledge about innovation management system and helps in selecting the right strategy to follow at the right time depending on the research problem a hand.

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Attrition among Hotel Employees - A Study of Selected Five Star Hotels in Delhi, India

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Abstract

Employee attrition is giving sleepless nights to human resource managers in many countries. A widely-held belief in these countries is that employees have developed bad attitudes due to labour shortage. Unfortunately, despite employee attrition being such a serious problem in India, there is dearth of studies investigating it. The hotel industry is typically a service industry and the service object is "human;" therefore, service quality is based on "human" qualities. Thus, the human element is a key resource for the hotel industry. The employee attrition rate of hotel industry is on the high side which causes higher personnel expenditures and training costs as probability of losing excellent employees increases. The primary objective of the study is to find out main reasons of attrition in hospitality industry in India.In line with this view, this paper investigates the relationship between job satisfaction (JS) and attrition intentions (AI) among hotel employees. The sample comprised 254 employees from seven hotels (five stars) in Delhi, India. Job satisfaction (JS) was measured based on the two-dimensional measures of financial conditions (FC) and non-financial conditions (NFC). Attrition intentions were measured using a fouritem scale. It was hypothesized that satisfaction from financial conditions (FC) and non-financial conditions (NFC) were negatively related to attrition intentions. Results from the regression analyses revealed that financial conditions and non-financial conditions have a significant negative effect on employees' attrition intentions.

Keyword(s):

Employee attrition,financial conditions,hospitality industry, non-financial conditions, retention

1.   Introduction

Hotel Industry in India has witnessed tremendous boom in recent years. It is inextricably linked to tourism industry. Growth in the Indian tourism industry has fuelled the growth of Indian hotel industry. The thriving economy and increased business opportunities in India have acted as a boon for this typically service industry whose service object is "human." In addition, service quality is determined by humans, so human is a very important resource for the hotel industry. Every task and service in the hotel is planned, organised, executed and harmonized by "humans" Maher (1995).

The increasing alertness of employees' attrition in the hotel industry has become a global phenomenon. Empirical studies have consistently shown that an extreme employee attrition rate of about two percent annually is acknowledged to be one of the most challenging issues and

particularly unfavourable to the global hotel industry, which ranged about 60 per cent annually (Birdir, 2002; Carbery et al., 2003; Ghiselli, LaLopa, &Bai, 2001; Hinkin& Tracy, 2000). In a similar trend, despite remarkable development of hotels in Delhi (India), the problems of employee attrition is a prevailing one.

In India,the hotel industry is facing a number of problems such as low occupancy rate, increasing competition, high taxes, increasing cost, fuel shortage, low profitability and so forth. But nowadays, high employee attrition is a serious problem for human resource management (Tanke, 2001). At ISHC Conference (2006), top ten issues for the year 2007 were highlighted. The foremost issue handled in it was "labour and skills shortage". The hotel industry is the very industry that mainly offers service; therefore, it needs to expend a great deal of human resources to offer service (Goldsmith, A., Nickson, D., Sloan, D. &Wood, R. C., 1997). Further, high employee attrition rate influences the service quality which causes the cost of personnel, recruitment and training to increase as well as causes great loss (Huang, 1996).

Therefore, a high attrition rate will induce absolute influence on the hotel's service quality. High employee attrition is costly to both the individual organisation and the national economy. Globally, the attrition rate in the hotel industry is estimated to range from 60 percent to 300 percent annually, which is far higher than the 34.7 percent annual attrition rate reported in the manufacturing industry (Walker & Miller, 2010). Nevertheless, this high attrition rate is not only confined to the operational employees alone. It has been discovered that a high attrition rate also existed among managerial employees within the hotel industry.

The hotel industry is the very industry that offers customer service. It mainly adopts a shift-work system; the service offered to the customer emphasizes the harmony and cooperation between each department to achieve the service target (Lashley, C., 2001).Numerous problems in the hotel industry have caused high employee attrition rate, making it hard for the enterprise to maintain talent. These problems include: (1) the salary of first-line employees are generally low and their work day is long; (2) they typically work on national holidays, Saturdays and Mondays; (3) the hotel system and welfare are not complete; (4) the ability to be promoted is minimal; and (4) hotels attach importance to service experience. Moreover, employee attrition increases the possibility of losing excellent employees (Nagar, N., 2005).

Objectives of the Study

The purpose of this study is to undertake an empirical approach to investigate the high rate of employee attrition in five star hotels at Delhi. The primary objectives were defined as following:

1. To investigate the causes for high employee attrition rate in selected five star hotels at Delhi.

2. To highlight the consequences of high employee attrition rate in selected five star hotels at Delhi.

3. To suggest ways of reducing attrition and increasing employee retention in selected five star hotels at Delhi.

Literature Review

Employee attritionis defined in several ways owing to diverse definitions but shares a common term in the scholarly literature and refers to an individual's perceived probability of staying or leaving an employing organization (Cotton and Tuttle, 1986). Srikant, P., &Ramamertham, L., (2008) defined attrition as a gradual, natural reduction in membership or personnel through retirement, resignation or death. It also refers to untimely exit of an employee from an organization

due to dissatisfaction with the pay, working conditions, lack of substantial benefits,career progression option and other factors.In other words, attrition means reduction in the number of employees through resignation or separation at employees will. Employee leaving due to end of contract will not be considered as attrition. Attrition rate is the rate of shrinkage in size or number in a particular organization or an institution (Kotecha, B. M. and Bhattacharya, n.d.).

A special forum called CiteHR human resources management community and knowledge base courtesy (website:citehr.com/bpo-attrition-causes-suggestion-and-a-model-vt34379.html) has made a study on employee attrition. According to this site, attrition is a consequence of a variety of factors that can be classified broadly into two. The first can be coined as Drive Attrition (internal factors which are caused due to the service provider) and the second one can be termed as Drag Attrition (external factors which are caused due to employee or industry-level/macro-level).The Drive Attrition is caused mainly due to the policy, practice and treatment of the employer in the industry.TheDrag Attrition is the result of a number of uncertainties faced by the employee in his working environment.

Brady, J.M., and Leese, J. (2010) clearly write that attrition leads to dual loss for an organization. Firstly, company loses talent and thus costs incurred on them are a waste. Secondly, it employs a new employee and thus further needs to incur costs on them. Every company takes measures to hold the talented workforce by means of perks, increments, bonus and extra facilities. No one wants to lose good brains to their competitors.High attrition can be a serious obstacle to productivity, quality, and profitability at firms of all sizes. For the smallest of companies, a high attrition rate can mean that simply having enough staff to fulfill daily functions is a challenge, even beyond the issue of how well the work is done when staff is available. (Johnson, C., n.d.).

Attrition in Hotel Industry

The increasing awareness of employees' attrition in the hotel industry has become a global phenomenon across the world. Empirical studies have consistently showed that an excessive employee attrition rate is acknowledged to be one of the most problematic issues and particularly detrimental to the global hotel industry, which ranged about 60 per cent annually (Hinkin& Tracy, 2000). In a similar fashion, despite tremendous development of hotels in India, the problems of employee attrition is a prevailing one and remains high in the industry

This was further exacerbated by many hotel human resource managers that attrition generally occurs among fresh hospitality graduates, managerial as well as the operational employees. The traditional constraints such as long working hours, antisocial working hours, low pay, unstable, seasonal employment, low job status make employment within the hotel industry unattractive. In other words, Indian hotel industry clearly has more volatile labour movement and high labour mobility. These problems have also arisen and become rampant in many other Asian countries (Lashley, C., 2001). However another article by 'Express Hospitality' (2007) states that the attrition rate in the hospitality industry in India is set to double to nearly 50 percent by 2010, up from the earlier 25 percent.

Hom and Griffeth (1995) referred attrition intentions as a conscious and deliberate wilfulness of an individual towards voluntary permanent withdrawal from the organization. Empirical studies on attrition have shown that attrition intentions are the best immediate predictor of actual attrition behaviour.

This relationship is further supported by the attitude-behavior theory, which holds that an individual's intention to perform a specific behavior is the immediate determinant of the actual behavior (Ajzen&Fishbein, 1980). Empirical studies on attrition have shown that attrition intentions are the best immediate predictor of actual attrition behaviour. Indeed, there is a strong and significant positive relationship between attrition intentions and the actual attrition(Griffeth&Hom, 2001).

In the review of antecedents to attrition, Mor Barak et al. (2001) argued that many studies have used attrition intentions rather than actual attrition as the work outcomes because: 1) Employees typically make conscious decision before actually quitting their jobs and 2) It is more practical to inquire from employees their intention to quit in a cross sectional study rather than actually tracking them down via a longitudinal study to see if they have left their organization. For these reasons and consistent with previous researchers (Lambert et al., 2001; Mor Barak et al., 2001; Hemdi, 2006; Samad, 2006), attrition intentions is the criterion variable in this study since it has been recommended as a proxy in measuring actual attrition (Price, 2001). Thus, following Hom&Griffeth's (1995) definition, attrition intentions is clearly a defined as the hotel employees' behavioral intentions to leave or quit their particular organization.

Employee attrition in hotels has received substantial attention from both academicians and managers. Much of this attention has been focused on understanding its causes. The research points out that there are some problems in the hotels in recent years on employeeattrition; generally speaking, employees leave the hotels for some common reasons.

The study aims to identify the dominant causes that influence Delhi five star hotels' staff's job satisfaction that leads to attrition in this industry. Therefore, this study was conducted in order to establish some ways and means that result in reducing attrition among workers in star hotels at Delhi. For this purpose, the following hypotheses were formulated:

H1: There is a negative relationship between job satisfaction and attrition intentions among hotel employees in selected five star hotels at Delhi.

H1a: There is a negative relationship between satisfaction from financial conditions and attrition intentions among hotel employees in selected five star hotels at Delhi.

H1b: There is a negative relationship between satisfaction from non-financial conditions and attrition intentions among hotel employees in selected five star hotels at Delhi.

Method

The present study is based on primary and secondary sources both. Secondary data have been collected from relevant articlesappearing in leading national/business dailies of India. Journals and periodicals have been thoroughly scanned to collect relevant literature in the Indian scenario. Various websites, souvenirs and conference proceedings on the subject of employee welfare, employee behavior and human resources in the Indian backdrop have lent substance to this work. Primary data, collected through personal observation, discussions and interviews with workers in star hotels of Delhi gave new dimensions to the study. The study is further based on the structured questionnaire served to hotel employees in selected five star hotels at Delhi. The employees of the following hotels were contacted:

1) Lalit Hotel, Delhi

2) Imperial Hotel, Delhi

3) ITC Maurya Sheraton, Delhi

4) Metropolitan Hotel, Delhi

5) Ashok Hotel, Delhi

6) Lodhi Hotel, Delhi

7) Crowne Plaza, Okhla, Delhi

The data presented here are obtained from responses to questionnaire received from 254employees in selected fivestar hotels at Delhi especially designed to investigate the dominant reasons that affect their level of satisfaction with financial and non-financial incentives provided to them by the organisation. Though it was extremely challenging to get responses from a large sample from so many hotels but personal contacts with different managers of various hotels and continuous liaison with the hospitality industry personnel by the researchers proved fruitful. The questionnaires were distributed to workers through their departmental heads and they were asked to return the filled questionnaires in the same manner. Out of 300 questionnaires distributed,261 were returned. 7 were rejected on the basis of inadequate information,254 were used for evaluation.

Theoretical Framework

Conceptualization of Study Variables

The criterion variable of interest in this study is "attrition intentions" and the predictor variable is the "job satisfaction dimensions" (FC and NFC).

The theoretical framework is illustrated in Figure

1.
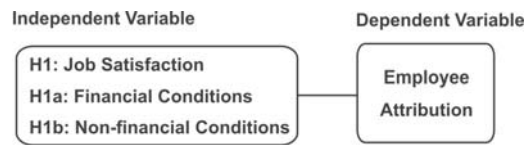
Figure 1: The theoretical framework of workers in selected five star hotels at Delhi.

Measurements

The predictor variable of job satisfaction (JS) was measured using a 25-item instrument. The satisfaction scale consisted of two dimensions measuring satisfaction from financial condition (FC) and satisfaction from non-financial condition (NFC) using 12 and 13-items respectively. The criterion variable, attritionintentions (AI) was measured via 4-items scale adapted from Hom and Griffeth (1995).Responses to all items were made on a 5-point likert scale format ranging from (1) "Strongly agree" to (5) "Strongly disagree".

Data Analysis and Results

The research hypotheses were subsequently tested using hierarchical multiple regression analysis. The five main demographic variables such as age, gender, marital status, skills level, and organizational tenure were found in previous researches to affect attrition intentions (Hemdi, 2006; Lambert et al., 2001; Price, 2001). Given the potential impact of these demographic factors on the dependent variable, these personal variables were controlled in all regression analyses conducted.The sample profile for this study is shown in Table 1.

Table 1: Sample profile

Demographic variable	Categories	Frequencies	Percentage (%)
Age	below 40 years	50	42.7
	above 40 years	67	57.3
Gender	Male	175	68.9
	Female	79	31.1
Marital status	single	108	42.5
	Married	132	52.0
	widower/widow	1	0.4
	divorced	13	5.1
Skills	Skilled	50	42.7
	Semi-skilled	50	42.7
	Unskilled	17	14.6
Organization Tenure	Less than 6 month	04	1.6
	6 month - 1 year	17	6.7
	2-3 years	84	33.1
	4- 5 years	59	23.2
	More than 5 years	90	35.4

From Table 1, total of 175 (68.9%) respondents were males while 79 (31.1%) were females. The majority of the respondents were above 40 years (57.3%) while others were below 40 years (42.7%). The majority of the respondents were married (52.0%) while others were single (42.5%), widower/widow (0.4%), and divorced (5.1%). In terms of skills, most of the respondents were skilled 50 (42.7%) and semi-skilled 50 (42.7%), remaining respondents were unskilled employees 17 (14.6%).As for organizational tenure, 4 (1.6%) respondents had less than 6 months working experience in their current hotel, 17 (6.7%) respondents signified they had worked between 6 months to 1 year, 84 (33.1%) have worked between 2 to 3 years, while 59 (23.2%) respondents have worked between 4 to 5 years, and the remaining 90 (35.4%) respondents signified they had worked in their current hotel for more than 5 years.

Descriptive Statistics

The descriptive statistics and the correlation among the study variables (predictor and criterion variable) are shown in Table 2.

Table 2: Mean Scores, Standard Deviations and

Pearson Correlations Matrix for Study Variables

Variables	Mean (M)	Standard Deviation (SD)	1	2	3	4
1-Financial Conditions	5.23	1.05	-			
2-Non- Financial Conditions			5.39	.89	.68**	-
3-Attrition Intentions			2.85	1.64	- .58**	-.46** -.43**-

Note: N = 254, *p < 0.05; **p < 0.01, All items used a 5-point Likert scale with (1 = strongly agree to 5 = strongly disagree)

As shown in Table 2, the respondents' perceptions of job satisfaction were found to be relatively high; financial conditions (M=5.23, SD=1.05) and non-financial conditions (M=5.39, SD=.89). These mean scores were obtained by averaging the scores for the 12 and 13 items identified under the financial conditions and non-financial conditions dimensions respectively. The level of attrition intentions experienced by the respondents were relatively low (M=2.85, SD=1.64). This mean value was gauged by averaging the scores for the 4 items associated with one's intention to leave.

All study variables were significantly intercorrelated. Correlations among job satisfaction dimensions were significantly large, ranging from r = .68 (p < 0.01). Accordingly, the correlations between financial conditions and non-financial conditions(r = .68, p < 0.01), were considered large. The correlations between job satisfaction dimensions and attrition intentions were negative and significant ranging from r = -.43 (p < 0.01) to r = -.58, (p < 0.01). Financial

conditions had a much stronger correlation with attrition intentions compared to non-financial conditions. From the intercorrelation results, it also can be said that no serious multi-co linearity exists among the study variables as the strength of the correlations was all below .90 (Hair et al., 2006).

Hypotheses Testing

To test the formulated hypotheses, a hierarchical multiple regression analysis was undertaken. Specifically, a two-step hierarchical regression was conducted to test the relationship between job satisfaction and attrition intentions. From the hypothesis, two-sub hypotheses were developed comprising the two dimensional measures of job satisfaction (financial condition (FC) and non-financial condition (NFC)). The criterion variable relates to attrition intentions. The five main demographic variables (age, gender, marital status, skills level, and organizational tenure) were statistically controlled and entered into the first step of the regression equation. For the second step, all two model variables concerning dimensions of job satisfaction were entered. Table 3 summarizes the regression results.

Table 3: Results of Hierarchical Regression of job satisfaction on attrition intentions

Predictors	Model 1 Std. β	Model 2 Std. β
Step 1: Control variables		
Age	-.11	-.12
Gender	.19	.05
Marital	-.02	.03
Skills level	-.10	-.11
organization tenure	.21	.12
Step 2: model variables		
Job satisfaction:		
Financial conditions	-.56**	
Non-financial conditions	-.26**	
R^2	.07	.45
Adj. R^2	.05	.43
R^2 change	.07	.38
F-change	3.49**	55.01**

Note: $*p < 0.05$, $**p < 0.01$; Dummy Coded, male = 1, female = 0; unmarried = 0, married = 1.

As can be observed from Table 7, the control variables managed to explain 7.0 % of the variance in attrition intentions (R^2= .07, F-Change = 3.49, p < 0.01). Of the five control variables, only respondents gender (= .19, p < 0.01) and organizational tenure (β = .21, p < 0.01) were significantly related to attrition intentions. Adding the two model variables relating to job satisfaction, the R^2 increased to .45. This indicated that job satisfaction was able to explain an additional 38% (R2 Change = .38, p < 0.01) of the observed variations on attrition intentions and above the effects of demographic variables. Of the two job satisfaction dimensions, both dimensions namely financial conditions and non-financial conditions were significant and negatively predict attrition intentions. Indeed, financial conditions had the most impact on the prediction of attrition intentions (β = -.56, p < 0.01) followed by non-financial conditions (β = -.26, p < 0.01). In other words, financial conditions were found to be more influential in explaining the variation in attrition intentions. In sum, these findings support H1a and H1b. Thus, the hypothesis is fully supported.

Discussions

The results of this study showed that, of the two job satisfaction dimensions, both financial conditions and non-financial conditions were significant and negatively related to attrition intentions in five star hotels at Delhi.

Satisfaction from financial conditions has a significant negative influence on attrition intentions as hypothesized. It could be said that if the employees feel contented in what they receive compared to those of a referent other, they are more likely to be productive and remain with the organization. Indeed, employees who perceived fair prospects of different work outcomes particularly with regards to pay satisfaction, allowances and perquisites may view their current organization as favorable and might not see outside alternatives as attractive. Thus, the result implied that hotel employees who perceive a higher level of financial facilities are less likely to have the intention to leave their current organization. Similarly, satisfaction from non-financial conditions appeared to be significantly and negatively predicts on attrition intentions as hypothesized. This finding is in incongruence with the recent work of Hubbell and Chory-Assad (2005), who found that if employees' perceived fairness and a good quality of communication received in their organization, they were less likely to leave the organization. One possible explanation for this unexpected finding is that employees in this sample may perceive the interpersonal treatment they receive to be unfair (e.g. they are treated with dishonesty and disrespect) and, in turn, they progressively seek options of better job positions through the external labour market. Specifically, as the external labour market becomes more attractive, employees' tend to engage more in job-search behaviors, reflecting increased intentions to leave the organization. Another explanation is that there may be a lack of an interpersonal relationship between the employees and the top management. Hotel employees in this study may not have a close interaction with the top management since according to their job descriptions they perform more operational tasks which require high customer contact and less supervision from the management (Dittmer, 2002). In addition, the "culture" or the "nature" of high job mobility among employees in the hotel industry as reported by Iverson and Deery (1997) also could be one of the conditions employees in this sample continually seek for better job promotions and job security.

The overall findings support the relationship between job satisfaction (financial conditions and non-financial conditions) and attrition intentions.

Consistent with this notion, the result implies that five star hotels'employees at Delhi, who have higher satisfaction of fairness of the financial conditions and fairness of the interpersonal treatment and other non-financial condition, would be less likely to have the intention to leave their organization. Most five star hotel employees at Delhi only consider better pay or rewards, to be necessary regardless of fairness in their organization's procedures. In simplest terms, even if employees' are guaranteed fair procedural treatment, they are more likely to leave the organization.

Conclusions

Based on the aforementioned discussion, it is logical to predict that when star hotel employees' perceive that they are treated fairly in terms of outcome and procedures; they tend to stay in their current organization and do not have the intention of seeking a fairer alternative. Even though it is not hypothesized, the results highlighted that the satisfaction from financial conditions are found to have a strong impact on attrition intentions compared to satisfaction from non-financial conditions. This is in accordance with Roberts et al. (1999) who reported that satisfaction from financial conditions was a more important predictor of employees' behavioral intentions (attrition intentions) than satisfaction from non-financial conditions. On demographic factors, only employees' gender and organizational tenure had a significant relationship with attrition intentions. It was observed that, most male employees' who have high or low perceptions of job satisfaction may have the intention of leaving their organization. Additionally, the longer the employees' stayed in their particular organization, the higher their attrition intentions.

From the managerial point of view, the findings suggest that the relevant hotel authorities concerned with reducing attrition intentions among their employees should be consistent and focus their attention on providing adequate fairness in terms of reward allocation, formal procedures and interpersonal treatment that fosters a positive employee-organization relationship. It is hoped that the research findings may offer some insights into hotel organization in Delhi, India to better understand how they can retain their valuable employees and reduce attrition intentions. It is worth mentioning that job satisfaction (financial conditions and non-financial conditions) played a vital role in predicting employees' attrition intentions such as, perceptions of organizational fairness, in turn, will reduce employees' likelihood of quitting the organization. Further researches may be based on particular categories of employees like operational, managerial or skill levels may be taken into consideration.

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Understanding Attitudes towards Islamic Pawn Broking Systems

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Abstract

Of late, there have been significant market expansion activities within the Islamic economic systems. Islamic pawn broking activities are no exception. In Malaysia, apart from being an important source of short term micro credit to the small business operators and households who cannot get access to formal lending institutions, there is an increasing trend of utilising the Islamic pawnbroking facilities for gold leverage trading. The significant economic contribution of the pawn broking system should not go unnoticeable. This study aims to identify the motivational aspects of Islamic pawn broking preference so as to understand the perception towards the system itself. Factor analysis on the dataset obtained from an exploratory survey of 200 randomly selected respondents in Kuala Lumpur capital city of Malaysia, reveal among the salient factors are distinctive features of Islamic pawn broking in comparison to its conventional counterpart, specifically the former's more competitive fee and more transparent business dealings. Further analysis through clustering reveals a segment of respondents advocating the knowledge dissemination of Islamic pawn broking to increase public awareness of this relatively new system.

Keyword(s):

Islamic finance,market segmentation,pawn broking

Introduction

Pawn broking is an exchange system where people can get fast money by trading some property. Within a certain period of time, they have to pay back the amount of money i.e. what has been given plus interest to get their property back. If they fail to do so, the pawnbroker has the right to sell their property as the method of payment. In informal financial institutions, pawnshops play important role in providing some funds and fast cash to society who has the difficulties in obtaining money from financial institutions. In Malaysia, the pawn broking system has been established since the era of 15th century. It was the Chinese people who introduced this system that arrived in the country through diplomatic relationship (Shanmugan 1991). In 1972, Malaysia has passed Pawnbroker Act that governed this system operates within the society. With increased awareness and needs for financial products that abide to the Islamic teachings, or termed as Syariah compliance, among the Muslim community, the role of the Islamic financial systems within the Malaysian financial industry has also increased. The rapidly growing economies has increased the demand for liquid cash as suchthe alternative source of cash and short term debt facility made available under the Islamic pawn broking system is very much welcomed by the Muslim society.

The Islamic pawn broking system is less stringent and more transparent in comparison to the conventional pawn system.Due to its own

conception on interest and lower storage fee, the cost of borrowing under Ar-rahnu scheme is proven to be the lowest compared to its counterparts (Bhatt & Sinnakkannu, 2008). The other interesting nature of Ar-rahnu operation is that the operatorswould send reminders on the due date before surrendering the pledged items. Should the customer does not claim back the item, it would be sold by Ar-rahnu and any excess from the amount owed to the pawnbrokers would be returned back to the customer (Rugayah, 1986). Islam is a religion that encourages people to do business by increasing their size of capital through trade but without lending based on interest because there is no opportunity cost of lending money in Islam. As such, the Islamic pawn broking system, or known asAr-Rahnu, eliminates the concepts that are based under the element of interest rate and uncertainty. Instead, Ar-Rahnuadhere to the Islamic principles which followthe four concepts (Al-Zuhayli,1996):

I.   Interest-free *(Qard Al-Hassan)*: the borrower has to pay back the same amount of value of what they borrow.

II.   Special service charge (*Ujrah*)Ar-Rahnu are eligible to collect service charges from the borrower to cover for the operational cost and act as service cost for the keeping and maintenance fees.

III. Trust (*Wadiahyad-amanah*): this concept act as an instrument that allows the borrower to leave their properties to the loaner until the repayment can be made.

IV.   Guarantee storage (W*adiah-yad-dhamanah*): the loaner is eligible replacing any items that are missing or stolen during their period safeguarding the property of the borrower.

The first three concepts listed above clearly demarcatethe Islamic pawn broking from conventional pawnshops (Mohammed et al., 2005).

Not insignificant number of studies has been carried out on Islamic pawn broking systems. The studies include both qualitative and quantitative studies from which several psychographic variables have been studied (Rugayah 1996;; Appannan& Doris, 2011). Many have also examined the level acceptance, perception, awareness and satisfaction on Ar-rahnuscheme (Azizah et al.,2012;; Bhatt &Sinnakkannu, 2008; Hanudin et al., 2007).While many of these studies focus on the customers or users of the pawn broking scheme, none has studied the perception and attitude of the non-users towardsAr-rahnu scheme. This particular study delved into the public attitude towards the Islamic pawn broking scheme, Ar-rahnu, which includes both users and the non-users of the scheme.

Significance of Study

Despite contributing to the lacuna of Islamic pawn broking study, this research further underlinesthree main objectives as follow.

1)   Motivational aspects.

The results from the study are expected to provide additional information on the factors that motivate the society to pursue the Islamic pawn broking, Ar-Rahnu. Indirectly, this study explores the extent of public acceptance of Islamic financial products by identifying the number of those who have experience usingAr-rahnuproducts and services.

2)   Market Segmentation

The output of this study also identifies segmentations of the Ar-rahnumarket based items or important attributes used to measure the attitude and perception on the Ar-rahnu systems itself. The segmentation would assist in delivering the marketing 'messages' so that the products and services can be customized for each segment, hence better position the Ar-rahnuscheme in the marketplace.

3)   Target market.

By utilizing the motivational factors and market segmentations some target marketscan be ascertained to further assist the management of existing and future Islamic pawn broking operators, increase the level of confidence on the product and subsequently further penetrate the pawn broking market.

Methodology

A sample survey study is conducted to gather the data on attitude towards Islamic pawn broking systems from the Malaysian populace in the capital city of Kuala Lumpur. A sample of 200 respondents from various groups of races aged above 18 years old have participated in this study where the data is gathered through questionnaires administered by meeting the participants individually in several areas in the Kuala Lumpur city center as well as through questionnaires distributed online. The earlier method of data collection hasincreased the response rate effectively whereas the latter has helped reducing the time and financial constraints in data gathering process.

The questionnaire consists of close-ended questions and is divided into two sections. Section 1 seeks information on demographic background of the respondents.Section 2 seeks respondents' opinion with regards to their knowledge and awareness on the existence of Ar-Rahnu in Malaysia andthe opinion of respondents on the qualities, features and benefits provided by Ar-Rahnu.The second section is crucial in developing marketing strategies for Ar-rahnu products and services that suits target population. In all measures a Likert-type scale is employed. Likert scaling format represents a more systematic and refined means for constructing indices. For example, with five response categories, scores of 1 to 5 is assigned to each category, taking the direction of the items into account (e.g. assign a score of 5 to "strongly agree" for positive attitude towards the measured items and assign 1 to "strongly disagree" for negative attitude towards the measured items). Each respondent would then have an overall score representing the summation of the score to the many items that seem to reflect the variable being studied. The overall mean scores are used for purpose of an item analysis resulting in the selection of the best items. Dummy variables are also used as artificial variables created to represent attributes with two or more distinct categories.

The data collected is analyzed usingIBM Statistical Package for Social Sciences (SPSS) version 20. Both univariate analysis and multivariate analysis are carried out to analyze the data. Univariate analysis like descriptive statistics is used to examine the characteristics of the target population. Meanwhile multivariate analysis is used to examine the relationship between variables. Cross-tabulations are used to examine the relationship between categorical and scale data. Factor Analysis is performed for data reduction and summarization of information from many variables into a reduced set of variables formed as linear combinations of measured variables.

RESULTS AND DATA ANALYSIS
Demographic profile

Of the 200 respondents, the females outnumbered male respondents (56%:44%) and the majority ethnic group is Malay (76%) who have participated in the survey. In Malaysia, the Malays are synonymous to Muslim community as such presumably composing the largest Islamic pawn broking customers. Among the survey respondents, the Chinese comprises 9%,Indian respondents 8.5%; followed by Other races; 6%.The total number of respondents by marital status is 132 singles, 63 married and 5 divorced and by education level are: 20 O-level-equivalent, 31 Diploma, 120 Bachelor and 29 Postgraduate study. Table 1 provides further information on respondents' demographic profile.

Table 1: General background information of respondents

Demographic background	TOTAL	User	Non-user
Age (p = 0.004)			
18 to 23	86	23.3%	76.7%
24 to 29	66	49.2%	50.8%
30 to 40	35	45.7%	54.3%
41 and above	13	50.0%	50.0%
Race (p = 0.004)			
Malay	151	32.5%	67.5%
Chinese	19	52.6%	47.4%
Indian	18	72.2%	27.8%
Others	12	25.0%	75.0%
Individual Monthly Income (p = 0.005)			
Less than and equal to RM1,000	76	25.0%	75.0%
RM1,001 to RM3,000	62	38.7%	61.3%
RM3.001 to RM5,000	29	62.1%	37.9%
More than RM5,000	33	42.4%	57.6%
Marital Status (p = 0.013)			
Single	132	30.3%	69.7%
Married	63	50.8%	49.2%
Divorced	5	60.0%	40.0%
Employment Background (p = 0.016)			
Housewife	3	33.3%	66.7%
Student	103	27.0%	76.0%
Entrepreneur/Self-employed	9	66.7%	33.3%
Public sector employee	31	41.9%	58.1%
Private sector employee	47	51.1%	48.9%
Others	7	57.4%	42.6%

Table 1 exhibits majority of the respondents are in the age group 18 to 23 years old (86/200). The biggest composition in the Employment category is Student, and the respondents earning monthly income of RM1,000 and below constitutes the largest income group i.e. 76/200. An additional profile crucial for this study is Ar-rahnu user/non-user composition. One of the measured items: *You have already used Ar-rahnu before*; is recoded into a dummy variable comprising two groups (*non-user*: score less than 3; *user*: score equals to 3 and above is used to identify the composition of the Islamic pawn broking user among the respondents. Large composition of respondents in the aforementioned demographic profile, however, will not result in biased results for this study. This is because majority of them are not users of the Islamic pawn broking. From Table 1, notably, the percentage users of Ar-rahnu in each profile groups mentioned earlier are smaller than the percentage of non-users: age group 18 to 23 years old:26%; Malay: 32.5%,Singles: 30%; and Students: 27%. Table 1 also depicts that of the total of 200 respondents, only 37.5% who have actually used Ar-rahnu services whereas 62.5% of them are the non-users. The p-values of the respective demographic variables as shown in the table indicate significant associations between the demographic variables and the User/Non user category variable.

Findings and Discussion

Results of the Exploratory Factor Analysis (EFA) employed are analyzed to explain the attitude of survey respondents towards the Islamic pawn

broking systems, hence identify the motivational aspects of the systems. Significant Bartlett's test of sphericity and Kaiser-Meyer-Olkin measure of sampling adequacy value of 0.829 indicate the appropriateness of factor analysis technique for this study. In all cases, principal component approach with variamax rotation is employed to extract the information from 21 measured variables into a reduced set of 17 variables with high loadings (larger than 0.5). Table 2 summarizes5 factor components with eigenvalue greater than 1 which explain 60.43% cumulative percentage of Total Variance. The reduced number of factors would enhance the interpretability of the motivational factors. The five motivational factor components identified are listed in Table 2. The five motivational factor components are Nature of product, Service quality, Advertisement promotion, Knowledge dissemination, and Source of information.

Table 2: Results of Principle Component Analysis for Measured Items

Bartlett's Test of Sphericity
Approximate Chi-square = 1448.99   df = 231   significance = 0.000
Kaiser-Meyer-Olkin measure of sampling adequacy = 0.829

Factor Interpretation (% variance explained)	Measured item (variable)	Loading	Areas of Future Marketing Strategy
Factor 1 Nature of product (28.43%)	Ar-Rahnu system is able to compete others pawn broking system in the market	0.763	Product- based research
	Ar-Rahnu customer services are better than other pawn system.	0.668	
	There is difference between Ar-Rahnu system and the conventional pawn system.	0.595	
	Ar-Rahnu offers the lowest operational fees compared to other pawn broking system.	0.573	
Factor 2 Service quality (8.36%)	You have an enough understanding on Ar-Rahnu service.	0.692	Customer satisfaction/ Customer Study
	If you have used Ar-Rahnu services, you will use the service again in future due to the qualities that has been provided.	0.644	
	Ar-Rahnu services accommodate latest system when dealing with customers	0.569	
	Ar-Rahnu service is available to reach nearby in your area.	0.531	
Factor 3 Advertisement (6.89%)	You had come across any banner or advertisement that promote on Ar-Rahnu	0.827	Promotion channel
	You have heard or see the Ar-Rahnu advertisement in radio and television.	0.816	
	You have trust on Ar-Rahnu through the advertisement.	0.519	
Factor 4 Knowledge Dissemination (6.21%)	Ar-Rahnu should be exposed to us since our secondary school day	0.761	Promotion channel
	Having knowledge on Ar-Rahnu is essential for us.	0.695	
	You will promote Ar-Rahnu to others to use it.	0.547	
Factor 5 Source of Information (5.48)	If you have used Ar-Rahnu, you will to influence and persuade others to use the services due to the quality services that have been provided	0.793	Promotion channel
	Ar-Rahnu services provide enough information through the pamphlet and booklet.	0.711	
	Post office is the best place to open Ar-Rahnu counter.	0.682	

From Table 2, the salient factor can be identified as the Nature of product. This factor is major aspect that motivates one to purse Ar-rahnu scheme. Service quality is the motivational factor that constitutes the secondlargest percentage of variation explained. The finding on the positive attitude towards service quality of Ar-rahnu actually supports the study by Azizah et al. (2012). While Advertisement as promotion channel also has been revealed in a previous study (Appannan& Doris, 2011), the importance of dissemination of information on Ar-rahnu has been emphasized in a study by Bhatt and Sinnakkannu (2008).Each motivational factor can further assist future marketing strategy for Ar-rahnu by identifying the potential marketing aspects. Table 2 outlines the potential aspects of marketing strategy relevant to each factor. To further study the underlying characteristics of each motivational factor, a mean score of all measured items comprising each factor is computed to represent each factor variable and utilized for further analysis.

Cluster analysis is employed next to identify the market segmentations of Ar-rahnu existing and potential customers based on the reduced number of measured item. The underlying characteristics of each homogeneous cluster further be utilized to help planning the future effective marketing strategy for Ar-rahnu. By using Ward's hierarchical approach and Agglomeration schedule, four clusters are identified. The four clusters are Non-users, Product-oriented, Information seeker and Information provider.The type of cluster identified is based on the mean scores for each measured items of the respondents. The first cluster, Non-user segments the respondentsinto those who are and are not involved with the Ar-rahnu operation. The second cluster is the 'Product oriented' respondents whose main concern is the nature of pawn broking product offered by Ar-rahnu which is different from the conventional system. The third cluster identifies the respondents who would normally seek for the information on Ar-rahnu operation. Finally, the fourth cluster comprised of those respondents who are willingly provide the information on Ar-rahnu to other people. Cross tabulation of the cluster variable and the User/Non-user variable shows significant associations ($p = 0.000$) between the two variables where 24of 25 respondents in Cluster 1 (Not involved) falls under the Non-user category.

To study the motivational factor of each cluster, ANOVA on clusters for each motivational factor is performed and the mean score of each cluster is analyzed. The results of ANOVA indicate thatthe mean scores across clusters in all factors are significantly different($p < 0.005$). In short, all factor components have significant effect on the clusters. The mean score of each cluster for each factor shed light onthe attitude of respondents from different clusters towards the factors.Table 3 below summarizes the results.

Table 3: The mean scores of clusters across each motivational factor

Factor Component	Not involved	Product oriented	Information seeker	Information provider
Nature of product	2.568	4.381	3.444	4.444
Service Quality	2.901	3.538	3.243	4.334
Advertisement/ promotion	2.111	3.908	3.428	4.692
Knowledge Dissemination	3.035	3.928	3.402	4.490
Source of Information	2.896	3.914	3.365	3.996

Table 3 obviously shows that respondents belonging to the Information-provider cluster are highly motivated by all factors. Both Product-orientedrespondents and Information seeker are motivated by the nature of Ar-rahnu products. The results also depictthe Product-oriented respondents have positive attitude towards Ar-rahnu service quality, its advertisement and other sources of information on the product. It is also interesting to note that those who are not involved with Ar-rahnu operation equally agree upondisseminating the knowledge on Ar-rahnu operation.

To examine if there is any effect of users and cluster type on each motivating factor, ANOVA using GLM approach is performed on the factors with cluster and user/non-user as the fixed factors. The summary results of ANOVA in Table 4 only include the mean scores of factors which show significant differencebetween users and non-users for

particular clusters. For instance, there is significant difference on the effect of Nature of Ar-rahnu products between user/non-user respondents for the following clusters: Not involved, Information seeker and Information provider. Nonetheless, the perception of both user and non-user from Product oriented cluster on the Nature of Product is indifferent as such the results are not included in Table 4. Apparently, the results indicate that the Nature of Ar-rahnu products does appeal to both user and non-users of Product oriented cluster. While the users normally score higher than the non-users for most factors, notably, the non-users from Information seeker group score higher on Advertisement and Knowledge dissemination. Of the same, the results depict thateven the non-users advocate the promotion through Advertisement and disseminatingthe knowledge and information on Ar-rahnu scheme.

Table 4: Results of ANOVA with GLM on Motivational factors with User/Non-user and Cluster type as fixed factors.

Motivational Factor	Mean score of User/Non-user within each Cluster
Nature of Product	Not Involved: User (2.00); Non-user (3.14) Information Seeker: User (3.76); Non-user (3.30) Information Provider: User (4.65); Non-user (4.42)
Service Quality	Product Oriented: User (3.82); Non-user (3.38) Information Seeker: User (3.57); Non-user (3.00) Information Provider: User (4.61); Non-user (4.14)
Advertisement/ promotion	Information Seeker: User (3.44); Non-user (3.55)
Knowledge Dissemination	Information Seeker: User (3.24); Non-user (3.57)
Source of Information	Product Oriented: User (4.18); Non-user (3.76) Information Seeker: User (3.64); Non-user (3.21)

Conclusions

The motivational aspects and perception on the Islamic pawn broking scheme, Ar-rahnu is examined in this study. The analysis in this study also utilizes an additional variable derived from the data set, i.e. users and non-users of Ar-rahnu. Five motivational factors of Ar-rahnuhave been identified, here, in this study. The factors are

interpreted as Nature of product, Service Quality, Advertisement promotion, Knowledge dissemination and Source of information. Among the factors, Nature of product has been identified as the salient factor.This is the most appealing factor,not only to those who have already usedAr-rahnu scheme, but more importantly, to the non-users.The study also segment the respondents into

four different clusters namely, Product oriented, Information seeker, Information provider and Not-involved respondents. Both user and non-user respondents in the Product oriented cluster show positive attitude on the Nature of Ar-rahnu scheme. As revealed in a previous study, Ar-rahnu offers the cheapest cost of short term loan, and deemed to practice more transparent business dealings. It is the nature of Ar-rahnu scheme that constitute the most important motivational aspect to influence the decision to pursue the scheme. In similar vein, positive attitude towards Ar-rahnu service quality, recommendations on promotion through advertisement and knowledge dissemination of Ar-Rahnu scheme has been shown both by the users and non-users of the scheme. The importance of disseminating knowledge and information has been highlighted in previous study, but in this study, it has been emphasized particularly by the non-users. The Islamic pawn broking scheme, Ar-rahnu already has its own market niche. By offering the best pawn broking practice, Ar-rahnu is the best option for fast cash and short term micro credit. The number of Ar-rahnu operators must be increased. This will help to reduce the number of people to be involved in the unfair recovery practices of the illegal money lenders with exorbitant interest rate charges.

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Grey Market Segmentation: Heterogeneity in Elderly Household Consumption Expenditure Pattern

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Abstract

Low fertility rates, longer life expectancy and improvement in health are some of the main causes of demographic changes in the world. As the proportion of aging population increases, the emerging of grey market creates more demand in understanding the consumption of older consumer especially for segmenting them. As lifestyles of people are different than the previous generation, continuous research is very much needed. The paper identifies the market segmentation for old people by observing the consumption expenditure patterns of household headed by elderly aged 55 and older. Based on a survey administered in Peninsular Malaysia, two-way cluster analysissuggests multiple consumption patterns exist betweenhead of household aged 55 to 64, 65 to 74 and 75 and older. Elderly aged 55 to 64 could be grouped into five segments, three and twosegments for the other age groups, respectively.Each market segments were differentiable by proportion of amount spendwith respect to total consumption expenditure on goods and services grouped by twelve types of consumption.This verifies thatgrey market should not be treated as a homogenous market.

Keyword(s):

Consumption Expenditure Pattern; Grey Market; Market Segmentation.

1. Introduction

Since 1950's, statistics have shown that the world population is slowly shifting from expansive to constrictive population pyramid. United Nations (2010) predicted that in 2015, there will be more people aged 65 and above than children under age five. The number of people aged 65 and older would also grow from 524 million in 2010 to nearly 1.5 billion in 2050. Driven by falling fertility rates and remarkable increases in life expectancy, World Health Organization (2011) predicted that aging population will continue to increase at an accelerating rate. With increasing proportion of aging population, older consumers should not be neglected market segmentation.

As the boost in number of elderly creates more opportunity in grey market, the importance of studying this market group is worthy of attention, understanding and effort (Burt and Gabbott 1995). Consumption studies are one of the common approaches used among marketers and retailers for market segmentation. Since lives of people over 50 are significantly different than their parents or grandparents, Szmigin and Carrigan (2001) stressed the need on continuous research on old people.Nonetheless, despite numerous works had been done in the area, older consumers remain under-research (Kohlbacher and Cheron 2012). Motivated by it, the paper firstly examines the consumption expenditure patterns for the grey market and then uses it to identify its market segmentation.

Literature Review

Investigating consumption pattern requires strict definition on goods and services observed, mode and type of measurement. Food

consumptions pattern are commonly used in health related studies. The same items were also used in previous study as a proxy of total consumption. Previous studies on consumption quantified the amount consumed for specified time interval, frequency or mode of consumption and amount spend on it. Measuring quantity of food taken per day is commonly used in nutritional and health related studies such as in Yang et al. (2011). The quantity consumed could also be converted into monetary units to represent consumption. Due to the difficulties in measuring the exact quantity of consumption, many studies were done by observing the mode of consumption such as in Randall et al. (1992), Hu et al. (2000), CorreâLeite et al. (2003), and Sylvetsky et al. (2012) or amount spendfor household such as in Millican (1962), Davis et al. (1983), Mok et al.(1995),Abdel-Ghany and Sharpe (1997), and Ong and Phillips (2007). Fisher et al (2008) argued that more comprehensive consumption data should be applied instead of food. They also raise the issue of accuracy of consumption measurement. Many recent studies use census data which gathered the amount spend on a list of goods and services classified in Individual Consumption Expenditure of Households, COICOP introduced by United Nation or primary data collected through surveys. The classification of goods and services in those surveys usually adopted from COICOP with some modifications.

The early study on elderly consumption pattern such as by Millican (1962) assumed elderly to be homogenous group. Later studies (Harrison 1986; Dychtwald 1997; Silvers 1997) had found the significant difference in consumption patterns exists not only between older and younger consumer but also among the older population themselves. Defining age is a critical measure for analysing this focus group. Therange variesfrom studies to studies but mostly the starting age is around the statutory retirement age for the country.

As the statutory retirement age for Malaysia was 55 at the point when the data were collected, the paper defines grey market as elderly aged 55 and above. Many studies also split the elderly into several age groups. Abdel-Ghany and Sharpe (1997)classified the elderly between 65-74 and 75 and above. The study concludes elderly aged between 65-74 had higher tendency to spend on food at home, food away from home, alcohol and tobacco, transportation, entertainment, and personal insurance; contradict with housing, apparel and apparel services, healthcare, and personal care. Study by Ong and Philips (2007) shows there were significant differences on amount spent on food; gross rent, fuel and power; transport and communication; medical care and health expenses; recreation, entertainment, education and cultural services; clothing and footwear between elderly aged 55-64, 65-74 and 75 and above. Following the same approach by previous studies, the analysis in this paper also divides the elderly into three age groups, namely 55-64, 65-74 and 75 and above. For each age group, the number of market segments would be identified based on the underlying pattern observed from household consumption expenditure.

Research Methodology

Source of Data and Data Collection

The analysis was done using primary data collected through face to face interview administrated in 2011. It involved 1500 respondents from 12 states in Peninsular of Malaysia from randomly selected urban and rural community weighted by three main ethnic groups in the country. Multiple stratification sampling technique based on elderly population distribution aged 55and above by states, gender and ethnicity was used. To validate the questionnaire, a pilot survey was conducted in December 2010 involving 30 respondents prior to actual survey. Respondents were asked to give estimated amount spent for a list of goods and services listed under COICOP

(UN, 2009) which consist of fourteen categories of expenses measuring consumption expenditure for a household. They also need to declare the frequency of spending as per year.

Based on the response from the pilot survey, twelve categories were listed in the actual survey namely, (1)TC1: Food and non-alcoholic beverages, (2)TC2: Alcoholic beverages, tobacco and narcotics, (3)TC3: Clothing and Footwear, (4)TC4: Housing, Water, Electricity, Gas and Other Fuels, (5)TC5: Furnishings Household Equipment and Routine Household Maintenance, (6)TC6: Health, (7)TC7: Transport, (8) TC8: Communication, (9)TC9: Recreation and Culture, (10)TC10: Education, (11)TC11: Restaurants and Hotels, and (12)TC12: Personal Care. All responses from the interviews were recorded in questionnaire formmanually and then processedwith SPSS 20.0. After data cleaning, only 1335 questionnaires were usable for analysis. Questions on social-demographic background and financial information are also included in the form.

Measures and Statistical Analysis

Two-stage clustering technique was used for identifying consumption expenditure pattern. The technique is shown to be suitable in handling large data sets with both numerical and categorical data simultaneously (Chiu et al, 2001). The procedure combines both hierarchical and non-hierarchical algorithm. The first stage of analysis involves a procedure similar to k-means algorithm. Based on the result of the first algorithm, homogenous cluster feature tree with "leaves" representing distinct objects in the dataset is generated. It is known as modified hierarchical agglomerative clustering procedure. This technique allows the number of clusters to fixed, maximized to a certain value or automatically decided based on several statistical evaluation criteria such as Akaike's Information Criterion (AIC) and Bayes Information Criterion (BIC). Assessment of the validity and stability of the output could be done by comparing the output runs with two other techniques. Silhouette measure of cohesion and separation is the overall-good-of-fit for two-stage clustering solution. The values range between -1 and 1 where 0.20 indicates a poor solution quality, between 0.20 and 0.49 as fair solution and 0.5 and above as good solution. Each variables or referred as predictor in the final output is given a score ranged between 0 and 1. The higher the score, the more important the predictor is to the analysis. A good model should have most of its predictors with score approaching 1. Low score is an indicator that the number of predictors should be reduced. Highly correlated variables, too many variables and variables with low important score should be avoided. Mooi and Starstedt(2011) observes that researchers frequently handle this issue by applying cluster analysis to the observations' factor scores derived from a previously carried out exploratory factor analysis. This paper would use the output of exploratory factor analysis as indicator on reducing the number of variables to increase the overall-good-of-fit for two-stage clustering solution. This is done by creating a new variable which is the sum of initial variables belong to the same factor. Twelve variables were used in both multivariate analyses are proportions of amount spend for each type of consumption with respect to the total amount spends per year.

Characteristics of the Sample

At the point when the survey was conducted, the interviewed head of households were aged between 55 and 98 years old. The sample is represented by 60% who lives in urban area and 40% lives in rural area. Majority of them retired from private sector, followed by non-formal sectors and public sector. Lessthan 20% of the respondent never receives formal education. Comparison of proportion of respondent by age groups shows the sample is a fair representative of the elderly population as of 2010. As shown in Table 1, the

sample contains 71% of age 55-64 which is 3% less than population, 22% of age 65-74 which is 4% more than population and 7% of age 75 and older which is 1% less than population. The sample was dominated by male. Although the elderly population, as of 2010, in the country is represented by equal proportion of male and females, the biased in gender is expected as the target group of the survey is the head of household. Indians are slightly over sampled to ensure sufficiency of sample size for ethic group comparisons in future analysis. The proportion of elderly population in Malaysia based on 2010 Census by ethnicity is 51% for Malay, 40% for Chinese and 8% for Indian. Respondents in the sample come from middle class and lower income group with mean current monthlyincome of RM2,250.40 for age group 55-64, RM1,303.01 for age group 65-74 and RM1,035.98 for age group 74 and above.However, the distribution of income at pre-retirement and current income was not concentrated at its mean. All the distribution is skewed to the right indicating its median is less than mean.

Table 1:Frequency and Percentage of Respondent in the Sample by Social-Demographic Characteristics.

Variable	Age Group		
	55-64	65-74	75+
Sample size	945(71%)	299(22%)	91(7%)
Gender			
Male	605(64%)	203(68%)	58(64%)
Female	340(36%)	96(32%)	33(36%)
Ethnicity			
Malay	595(63%)	148(49%)	39(43%)
Chinese	191(20%)	117(39%)	44(48%)
Indian	159(17%)	34(11%)	8(9%)
Education level			
No formal education	137(15%)	75(25%)	46(51%)
Primary	199(21%)	93(31%)	26(29%)
Secondary	370(40%)	90(30%)	17(19%)
Tertiary	229(24%)	38(13%)	2(2%)
Location			
Rural	590(62%)	170(57%)	45(49%)
Urban	355(38%)	129(43%)	46(51%)
Pre-retirement Employment Status			
Paid worker			
Private Sector	243(26%)	99(33%)	22(24%)
Public Sector	446(47%)	109(36%)	30(33%)
Self-employed	256(27%)	91(30%)	39(43%)

Source: From the survey data.

Consumption Expenditure Patterns

On average, respondents age group 55-64 spent RM18,352.28 per year. For respondents age group 65-74 and age group 75 and above, their average spending was RM12,558.54 and RM8,674.62 per year, respectively. Out of 945 respondents age 55-64 , almost all had spent on TC1 and more than 70% of them purchased goods and/or services under TC4, TC7 and TC8.Less than 30% of the respondent spends on TC2, TC5, TC10 and TC12. The mean amount spend for each types of consumption is shown in Table 2 under column Y. Based on the mean, the highest expenditure were on goods and/or services under TC10, TC7 and TC1. On average less than RM1,000 were spend per year on TC3 and TC12. The distribution of amount spends for each types of consumption are not normally distributed and skewed to the right.

Observation on proportion of amount spend by type of consumption with respect to the total amount spend are also not normally distributed and skewed to the right. As shown in column Z of Table 2, the average of proportion spend on goods and/or services under TC1, TC4 and TC7 is almost 70% of their total expenditure.

The same pattern can be observed as when the comparison on the proportion of respondent spending on each types of consumption was made between the three age groups. TC1 remains the most purchased goods and/or services made across all age group followed by TC4 and TC7.However the percentage is getting smaller as age decreased. In contrast, TC6 showed an increasing trend. Table 2 also shows that the average amount spend for each types of consumption is higher for the younger age group.

Table 2: Descriptive statistics on Household Consumption Expenditure per Year.

Variable		55-64			Age Group 65-74			75+	
	X	Y	Z	X	Y	Z	X	Y	Z
TC1	94%	5,106.27	37.25%	85%	4,853.12	38.62%	80%	3,636.16	35.49%
TC2	27%	2,246.86	3.39%	22%	1,908.36	4.16%	19%	1,281.18	3.31%
TC3	38%	962.13	1.85%	29%	981.94	1.74%	44%	598.00	2.90%
TC4	76%	3,282.65	14.09%	73%	2,352.67	13.94%	75%	2,111.84	16.91%
TC5	26%	2,271.06	2.18%	23%	1,950.18	1.97%	32%	686.90	2.11%
TC6	37%	1,595.68	2.60%	47%	2,061.19	6.43%	55%	1,619.52	10.34%
TC7	71%	6,300.24	17.89%	63%	3,048.16	11.58%	56%	1,592.94	9.10%
TC8	72%	1,480.48	5.69%	58%	939.70	4.82%	57%	776.08	4.68%
TC9	54%	1,536.21	3.60%	49%	1,131.97	3.99%	36%	1,045.82	3.53%
TC10	25%	6,161.63	5.47%	9%	5,499.86	2.11%	7%	2,560.00	0.65%
TC11	41%	1,957.53	5.00%	52%	1,854.66	10.04%	44%	1,593.60	9.96%
TC12	28%	555.00	0.98%	29%	217.70	0.59%	26%	300.50	1.00%

Source: From the survey data.

Note: values in Ringgit Malaysia.

X = Percentage of respondent spending,

Y = Mean of W, W=amount spend by each respondent,

Z = Mean of V, V=proportion of W with respect to total amount spend.

Findings

At the initial stage of the multivariate analysis, two-stage cluster analysis for each age group was conducted with proportion of amount spend with respect to the total amount spend for 12 types of consumption denoted by V in table 2 as predictors. As shown in Table 3, this initial clustering models generated were a good model. Out of 12 predictors, the number of cluster generated by the analyses is 3 clusters for age group 55-64 and 2 clusters for the other age groups. The silhouette measure of cohesion and separation for all three age groups is less than 0.5. Only few of the predictors are important in the models. This indicates that the clustering models generated from 12 types of consumption are not a good model. Then, exploratory factor analyses were done to reduce the number of predictors. The rotated component matrix generated from exploratory factor analysis as shown in Table 4 suggests the data to be reduced from 12 predictors into 6 predictors. However each age group had different set of combinations for each predictor. For age group 55-64, its first predictor is now combination of sum of proportion spends on TC1, TC7 and TC8 with respect to the total amount spends per year. The second predictor represented by sum of proportions spends on TC3, T6 and TC12. In some of the modified predictors such as the fourth and fifth predictor's for age group 55-64, it is represented by single type of consumptions which is TC4 and TC10, respectively. For age group 65-74, its first predictor

is combination of sum of proportion spends on TC1, TC7 and TC9 with respect to the total amount spends per year. The second predictor represented by sum of proportions spends on TC11 and TC12. For age group 75 and older, its first predictor is combination of sum of proportion spends on TC4 and TC8. The second predictor represented by sum of proportions spends on TC1, TC7 and TC11. This is an early indicator that segmentation for elderly is not homogenous across age group. While some types of consumption standing alone as a predictor, exploratory factor analysis suggests other types of consumptions portray similar behavior. Based on output from exploratory factor analyses, another two-way cluster analyses is conducted. These modified models are still not satisfactory. Based on the predictor importance score, factors with score less than 50% are combined. In specific, F6 and F2 are combined for age group 55-64; F3, F1, F5 and F6 are combined for age group 65-74; and F4, F1 and F2 are combined for age group 75 and older in the final models. The cluster analyses resulting from the redefined predictors is found to be a much better models with more than 0.5 Silhouette measure of cohesion and separation. Based on the final model of the two-way cluster analysis, the grey market could be segmented into five segments for age group 55-64, three segments for age group 65-74 and two segments for age group 75 and above.

Table 3: Output from Two-Way Cluster Analysis.

Indicator	Age Group		
	55-64	65-74	75+
Initial model			
Initial number of predictor	12	12	12
Number of cluster generated	3	2	2
Silhouette measure of cohesion and separation	0.2	0.2	0.3
Clusters (size, %)	C1 (347, 36.7%) C2 (122, 12.9%) C3 (476, 50.4%)	C1 (251, 83.9%) C2 (48, 16.1%)	C1 (68, 74.7%) C2 (23, 25.3%)
Predictor importance score	TC1=1, TC7=0.59, TC5=0.48,TC8=0.24, TC10=0.21,TC12=0.19, TC4=0.17, TC3=0.17, TC6=0.16, TC2=0.12	TC6=1, TC10=0.86, TC1=0.45, TC5=0.42, TC3=0.27, TC8=0.19, TC11=0.14, TC12=0.13, TC7=0.09, TC2=0.07	TC1=1, TC11=0.76, TC9=0.57, TC2=0.43, TC12=0.35, TC4=0.28, TC5=0.23, TC10=0.22, TC6=0.15, TC7=0.14
Modified model			
Initial number of predictor	6	6	6
Number of cluster generated	5	2	2
Silhouette measure of cohesion and separation	0.4	0.3	0.3
Clusters (size, %)	C1(124,13.1%) C2(298, 31.5%) C3(132, 14.0%) C4(264, 27.9%) C5(127, 13.4%)	C1(62, 20.7 %) C2(237, 79.3%)	C1(21, 23.1%) C2(70, 76.9%)
Predictor importance score	F1=1, F4=0.99, F3=0.82, F5=0.82, F6=0.38, F2=0.36	F4=1, F2=0.79, F3=0.41, F1=0.33, F5=0.33 F6=0.31	F3=1, F5=0.97, F6=0.53, F4=0.22, F1=0.1, F2=0.02
Final model			
Initial number of predictor	5	3	3
Number of cluster generated	5	3	2
Silhouette measure of cohesion and separation	0.5	0.6	0.8
Clusters (size, %)	C1(288, 30.5%) C2(118, 12.5%) C3(305, 32.3%) C4(127, 13.4%) C5(107, 11.3%)	C1(104, 34.8 %) C2(143, 47.8%) C3(52, 17.4%)	C1(74, 81.3%) C2(17, 18.7%)
Predictor importance score	P1=1(F1), P2=0.95(F4), P3=0.82(F3), P4=0.81(F2+F6), P5=0.77(F5)	P1=1(F4), P2=0.99(F2), P3=0.85(F1+F3+F5+F6)	P1=1(F2+ F4+F6), P2=0.43(F5), P3=0.41(F3)

Source: From the survey data.

Note: Analyses were done with BIC as clustering criterion, Likelihood as distance measure and automated number of cluster.

Table 4: The Rotated Component Matrix from Exploratory Factor Analysis.

Age group	Factors	Types of Consumption											
		TC1	TC2	TC3	TC4	TC5	TC6	TC7	TC8	TC9	TC10	TC11	TC12
55-64	F1	0.82						0.86	0.44				
	F2			0.72			0.69						0.40
	F3		0.73									0.66	
	F4				0.90								
	F5										0.81		
	F6					0.71				0.65			
65-74	F1	0.75						0.67	0.57				
	F2											0.72	0.68
	F3				0.65				0.45		0.64		
	F4		0.83										
	F5			0.59		0.78							
	F6						0.94						
75+	F1				0.77				0.70				
	F2	0.62						0.73				0.71	
	F3			0.43						0.74			0.77
	F4						0.91						
	F5		0.65								0.53		
	F6					0.90							

Source From the survey data.

Note: Values shown are the absolute value.

Rotation converged in the analysis for age group 55-64 in 14 iterations, age group 64-74 in 13 iterations, age group 75+ in 9 iterations.

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

The Market Segmentation

Out of five market segments generated for age group 55-64, majority of the respondents were classified under market segment C3 and C1. For age group 65-74, more than 47% of the respondents were classified under market segment C2. Over 80% of respondents from age group 75 and above were classified under market segment C1. To understand each of the market segments better, the distribution of proportion spend with respect to total spending were observed for each segment. The mean of the distributions is shown in Table 5. Among respondents age 55-64 who falls under market segment C1, about three-fourths of their annual spending were allocated for goods and services listed under TC1 and TC4. Similar observation could be seen for segment C5. However respondents in segment C1 spend more on TC1 while respondents in segment C5 spend more on TC4. Segment C2 is formed by households who dedicated 80% of its total spending on TC1, TC2, TC7 and TC11 and segment C3 spend 79% on goods and services listed under TC1, TC4, TC7 and TC10. Respondents in segment C4 shows more variation of goods and services. They allocated one-fifth of their expenditure on TC1 and 45% of it on TC4, TC5, TC6 and TC7. For age group 65-74, its first market segment portrays similar pattern as first market segment for age group 55-64. The second market segment, C2, consists of respondents who spend 67% of total expenditure on TC1, TC4, TC6 and TC7. For segment C3, majority spend on TC1, TC7 and TC11. The two market segments for age group 75 and above can be easily differentiate by their consumption pattern. For segment C2, 70% of total expenditure was allocated for TC1, TC4 and TC6 whereas segment C1 spend 71% on TC1, TC2, TC4, TC9 and TC11.

Table 5 also shows small amount were spend for TC2, TC3, TC5, TC11 and TC12 in most market segments. Only Market segment C2 (age group 55-64) and segment C1 (age group 75 and above) allocate higher proportion on TC2 and segment C1 (age group 75 and above) for TC9. For T10,

market segments C3 spend more on it as compared with other market segment within same age group and across other age groups. For T11, two market segments spend more on it are segment C2 (age group 55-64) and segment C3 (age group 65-74).

Table 5: Mean proportions of amount spend by types of consumption over total expenditure per year.

Variable					Age Group					
			55-64				65-74			75+
	C1	C2	C3	C4	C5	C1	C2	C3	C1	C2
TC1	70.7%	22.7%	19.8%	25.0%	27.6%	70.8%	21.3%	21.2%	16.6%	40.3%
TC2	1.4%	14.2%	2.4%	1.2%	2.3%	1.0%	5.5%	6.7%	15.3%	0.6%
TC3	1.1%	1.5%	1.6%	5.7%	0.3%	1.0%	2.8%	0.3%	1.7%	3.2%
TC4	9.6%	7.7%	10.6%	11.5%	46.0%	11.3%	18.6%	6.1%	12.3%	18.2%
TC5	0.5%	0.3%	1.4%	10.9%	0.8%	0.7%	3.4%	0.7%	0.8%	2.5%
TC6	1.0%	1.5%	2.0%	10.2%	0.8%	3.5%	10.4%	1.2%	8.6%	10.9%
TC7	5.5%	17.0%	35.7%	12.6%	7.7%	3.6%	16.7%	13.4%	8.0%	9.5%
TC8	3.8%	5.3%	7.1%	7.6%	4.8%	2.2%	7.3%	3.0%	4.2%	4.9%
TC9	2.4%	3.8%	3.8%	4.2%	5.5%	2.4%	5.3%	3.4%	12.6%	1.5%
TC10	1.5%	1.2%	13.0%	4.0%	1.3%	0.5%	4.0%	0.0%	3.3%	0.0%
TC11	2.2%	24.0%	1.9%	2.9%	2.8%	2.4%	4.3%	42.8%	13.7%	7.9%
TC12	0.4%	0.8%	0.6%	4.3%	0.2%	0.5%	0.4%	1.3%	2.7%	0.6%

Source From the survey data.

Summary and Conclusion

Used to be a niche and neglected market, the emerging grey market attracts researchers to study this focus group. Assumed to be represented by a single market segment, evidence from previous empirical studies had shown that the elderly from different age groups behaves differently. Extending from that, this paper explorethe possibilities of multiple market segments within the grey market by three age groups.

Based on a sample of head of households aged between 55 to 98 who lives in Peninsular Malaysia, the amount spend was higher among the younger age groups. Each age group allocated most of their total expenditure on different set of goods and services. For the three age groups, approximately two-third was spent on (a)Food and non-alcoholic beverages, (b) Housing, Water, Electricity, Gas and Other Fuels and (c)Transport. Eventhough Food and non-alcoholic beverages is the most purchased

goods and services for all three age groups, their expenditure allocation decreases as age increases. Allocation on goods and services under Health showed an increasing trend. Retired as middle or lower income group earners, all age group allocated less than 10% for (a)Clothing and Footwear, (b)Furnishings Household Equipment and Routine Household Maintenance, (c)Education and (d)Personal Care.

The multivariate analyses suggest the grey market to be segmented into five market segments for age group 55-64, three segments for age group 65-74 and two for age group 75 and above. Each market segments portray different consumption expenditure patterns. Market segment C1 for age group 55-64 and segment C5 allocate most of their total expenditure on (a) Food and non-alcoholic beverages and (b)Housing, Water, Electricity, Gas and Other Fuels. The difference between the two market segment is segment C1 spend less on Food and non-alcoholic beverages. Segment C2 had spent on more variation of goods and services under (a)

Food and non-alcoholic beverages, (b) Alcoholic beverages, tobacco and narcotics, (c) Transport and (d) Restaurants and Hotels and segment C3 spend most on (a) Food and non-alcoholic beverages, b) Housing, Water, Electricity, Gas and Other Fuels, (c) Transport and (d) Education. Segment C4 shows more money was spend on various types of consumption.Market segment C1 for age group 65-74 shows similar consumption pattern as in segment C1 of age group 55-64. Two-third of amount spend was allocated for (a) Food and non-alcoholic beverages, (b) Housing, Water, Electricity, Gas and Other Fuels , (c) Housing, Water, Electricity, Gas and Other Fuels and (d) Transport for segment C2. The third segment, C3 spend most on (a) Food and non-alcoholic beverages, (b) Transport and (c) Restaurants and Hotels. For age group 75 and above, the two market segments are differentiable on their spending allocation on (a) Health, (b) Alcoholic beverages, tobacco and narcotics, (c) Restaurants and Hotels and (d) Recreation and Culture.

As discovered by previous studies, the analysis reconfirms the facts that grey market is not a homogenous group. Each age group can be divided into several segments. Comparison among each of the segments displayed different consumption patterns. Hence the next question should be asked iswhat variables would best discriminate each market segments for more practical application of the discovery.

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Foreign Direct Investment-Economic Growth Link in Malaysia and Singapore: Complimentary or Competing?

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Abstract

This study examines the causal link between FDI and economic growth for Malaysia and Singapore. It uses a standard vector error correction model (VECM) framework to determine the evidence of a long-run cointegrating relationship between FDI and economic growth of the host country, Malaysia and its neighbour, Singapore. FDI remains an imperative feature of the Malaysian economy, both as a driver of economic growth and a source of capital for domestic industries. However, current trends in FDI flows suggest that Malaysia has fallen behind her neighbours in attracting foreign investment. While the Southeast Asian region has continued to receive a sizeable chunk of the global FDI (a total of 7.64 percent in 2011), Malaysia's share in the world FDI pie has shrunk significantly from a peak of 3.1 percent in 1992 to approximately 0.78 percent in 2011. Given increasing integration across the region, both through bilateral trade and development partnerships, it is imperative to find out whether growth and progress in Singapore cease to benefit or detriment Malaysia's own growth prospects.

Keyword(s):

Economic growth, foreign direct investment, vector error correction model

Introduction

Since the early 1970s, foreign direct investment (FDI) has played a vital role in the rapid growth and structural transformation of the Malaysian economy.The surge in FDI inflows in the late 1980s has transformed Malaysia from an agricultural economy into an industrialisedeconomy. During these `boom' years, giant electrical and electronics multinational enterprises (MNEs) dominated inwards FDI, most of which relocated their manufacturing plants or factories to Malaysia to benefit from the cheap labour, various government incentives andstable political environment. This uptrend in FDI inflow was sustained until the late 1990s when the Asian Financial Crisis of 1997 stripped Malaysia off its supply of foreign investors. At present time, multinational enterprises (MNEs) and its affiliated companies continue to produce a large percentage of manufacturing output as well as exports in the country, accounting for almost 60 percent of output and 65 percent of total exports in 2010 (Athukorala and Waglé, 2011). It is clear then that FDI remains an imperative feature of the Malaysian economy, both as a driver of economic growth and a source of capital for domestic industries.

More importantly however, current trends in FDI flows suggest that Malaysia has fallen behind her neighbours in attracting foreign investment. While

developing economies have consistently accounted for a growing portion of total FDI inflows, Malaysia's FDI growth has remained stagnant since the 2000s. Among its Southeast Asian peers, Malaysia has fallen behind in the competition for foreign direct investment. Taking a look at the recent UNCTAD data in its World Investment Report 2012, Malaysia ceased to be the global FDI destination it once in the 1980-90s. While the Southeast Asian region has continued to receive a sizeable chunk of the global FDI (a total of 7.64 percent in 2011), Malaysia's share in the world FDI pie has shrunk significantly from a peak of 3.1 percent in 1992 to approximately 0.78 percent in 2011.

When compared to the regional leader, Singapore, it is clear that Malaysia has failed to capture the growing trends in foreign investment that has benefited other nations in the region. Further to this, Malaysia has also lagged behind Singapore in terms of translating gains in foreign investment into robust economic growth. Malaysia grew at an average 6.45% annually from 1965 to 2010, a remarkable feat by any means. GNI per capita in Malaysia also grew tremendously, from USD300 in 1961 to USD7760 in 2010. In the same vein, Singapore also experienced tremendous growth over the period 1965-2010. Real GDP grew at an average of 8.16% annually and negative growth was only registered on four occasions, in 1985, 1998, 2001 and 2009. Within the same timeframe, Singapore has successfully transformed itself to become a high income economy, going from a GNI per capita of USD450 in 1961 to USD40,070 in 2010, a level which is comparable to those in advanced western nations.

While both Malaysia and Singapore recorded excellent gains in terms of development, it is clear that Malaysia has continuously lagged Singapore. In view of this, it is of academic interest to examine empirically the nature of this relationship and provide some evidence to the claim. Given increasing integration across the region, both through bilateral trade and development partnerships, it is imperative to find out whether growth and progress in neighbouring nations cease to benefit or detriment Malaysia's own growth prospects. This study examines the causal link between FDI and economic growth for Malaysia and Singapore. It uses a standard vector error correction model (VECM) framework to analyze the relationship. A causality analysis is carried out to identify the FDI-growth nexus in both countries.

The rest of the paper is organized as follows. Section 2 discusses literature review related to the issue. Section 3 presents the methodology of the study. Section4 reports the results and analysis of the tested system. Lastly, section 5presents the concluding remarks.

2. Literature Review

The influx of foreign investment into a less developed host economy is believed to exert both positive and negative externalities to economic growth. Proponents of foreign direct investment claims that the creation of multinational firm i.e through FDI is ultimately welfare enhancing. While Basu et al. (2007)argues that for countries with open trade regimes, FDI affects economic growth positively via knowledge transfers and capital accumulation. Akinlo(2004) concludes that FDI would affect the growth prospects positively when the host country keeps a high savings rate, practices an open trade regime and acquires high technology.More generally, however, it is believed that the advent of FDI would create access to advanced inputs as well as promote technology spillovers for the local market which would enhance total factor productivity for the host country (Srinivasan et al., 2010). This, as argued, would accelerate the host country's prospects for

growth as compared to merely depending on local sources of capital and skills.

Critics of foreign direct investment argue that FDI creates adverse long-term effects to economic growth in the host nation. Hanson (2001)highlights the impact of FDI on domestic firms in that, multinationals, which are usually larger, pay workers higher and are more intensive in capital, skilled labour and intellectual property may have the upper hand on their domestic counterparts. This would ultimately cause some domestic rivals to lose out, crowding out domestic investors and thus, lower overall domestic investment. Limited local participation in the real economy of the host nation will lead to the underdevelopment of local stakes and an overdependence on foreign capital for investment. This condition of overdependence is cited by Srinivasan et al. (2010)who presents arguments by the dependency hypothesis which confers that when foreign investments from developed countries exploit local resources in a less developed host country, the host county is generally inadequately compensated and thus would result in intervening mechanism which creates distortions and negative externalities in the long run. In particular, when foreign investment in the host economy leads to a lack of linkages within the domestic sphere as well as decapitalization of domestic firms, the long term prospect for growth diminishes.

On the other hand, economic theory generally ascertains that economic growth has a positive effect on foreign investment inflows. A high rate of growth signals a larger potential market for firms to enter and sell their products. This is especially important for market seekers as well as firms which can only profitably operate on large economies of scale. Secondly, robust and sustained economic growth generally signals political stability, good governance and above all, a viable domestic environment for productive capacity be

it through efficiency in the labour markets or an openness to trade activities, making these countries an attractive and conducive destination for foreign investment. Many studies have identified the effects of the size of the host market and its growth rate on FDI inflows (Wang and Swain, 1995, Chakrabarti, 2001; Pradhan, 2008). For Malaysia especially, Ismail and Yussof (2003) found evidence that market size is a significant determinant of FDI inflows to the country. These claims have so far been further substantiated by more recent works by Ang (2008), Choong and Lam (2010),Aamir (2011)and Lean and Tan (2011).

Chantasasawat et al. (2004)uses the term "investment diversion effect" to describe the condition whereby multinationals choose to invest in a different country given more desirable factors of production compared to an initial investment destination. For example, when comparing FDI destinations between Southeast Asian countries, a foreign investor may opt to direct his investments into Singapore versus Malaysia after comparing a myriad of factors, including but not limited to wage rates, political stability, liberal investment environment and tax concessions offered. This decision will then cause FDI into Malaysia to be reduced, hence investment to Malaysia has been diverted.On the other side, referring to the "investment-creation effect", they argue that given the increased integration and linkages in global supply chains, some investment into similar FDI destinations could prove to be complementary. That is, an increase in FDI in one nation could promote or create additional foreign investment in a counterpart. In manufacturing especially, foreign firms might build production networks in multiple locations to optimize the productive capacity of country. Where stages of production are staggered across neighbouring economies, economic growth, FDI and trade activities could ultimately benefit

from this agglomeration of production. Also, they highlight the importance of the growth in market size of a nearby country. Given that a larger economy ultimately has a larger appetite for goods, foreign investors might decide to invest in a cheaper locality close to a growing economy to serve its interests in the targeted market. Hence, increased FDI in one country could provide positive spillovers for neighbouring nations.

3. Methodology

This study uses the cointegration analysis and the vector error correction model to analyze the relationship between foreign direct investment and economic growth in Malaysia and Singapore over the period 1970 to 2011. The techniquesallowthe relationship to be tested formally. Specifically, the short-run and the long-run causality the variable of interest will be evaluated. It is important to note that most of the time series variables are nonstationary and regression involving non-stationary time series is meaningless although the good-of-fit of the model is very high. However, if the non-stationary series are cointegrated the estimates are not spurious. Cointegration implies that there always exists a linear combination of these variables that is stationary. Therefore, it is important to examine first the time series properties of the data and only when each of the series is

integrated the same order, cointegration is possible. The Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) tests are used to test for the series stationarity and the order of integration of the series. Given that all series are integrated of the same order, a cointegration test will be performed to check for long run dynamics within the system. The cointegrationanalysis follows Johansen and Juselius (JJ) (1992) method. It is a multivariate cointegration analysis using a maximum likelihood estimation procedure. VAR models are estimated with unrestricted intercepts and no trends. A test for causality using the Granger causality test is also undertaken to explore the causal links between the selected variables. An error correction model can be written as

$$\Delta y_t = A_o + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-i} + \alpha\beta \, ' \, y_{t-p} + u_t$$

Where $\Gamma = \alpha\beta'$, matrices and are (n x r) dimension, is the rank of matrix as before. The matrix is the long-run coefficients (cointegrating parameters) and the matrix represents speed of adjustments to disequilibrium. The Granger-causality is explained through i) the short-run causality relationship in the differenced variables, and ii) the long-run dynamic causal link in the long-run co-movements (error correction term) of the variables, (Masih and Masih, 1996).

The Estimating Model

$$\Delta LGDP_t^M = \alpha_1 ect_{t-1} + \sum_{i=1}^{k} \omega_{1,i} \Delta LGDP_{t-i}^M + \sum_{i=1}^{k} \gamma_{1,i} \Delta LFDI_{t-i}^M + \sum_{i=1}^{k} \delta_{1,i} \Delta LGDP_{t-i}^S + \sum_{i=1}^{k} \rho_{1,i} \Delta LGDP_{t-i}^S + \theta_1 CRISIS_{1t} + u_{1t}$$

$$\Delta LFDI_t^M = \alpha_2 ect_{t-1} + \sum_{i=1}^{k} \omega_{2,i} \Delta LGDP_{t-i}^M + \sum_{i=1}^{k} \gamma_{2,i} \Delta LFDI_{t-i}^M + \sum_{i=1}^{k} \delta_{2,i} \Delta LGDP_{t-i}^S + \sum_{i=1}^{k} \rho_{2,i} \Delta LGDP_{t-i}^S + \theta_2 CRISIS_{2t} + u_{2t}$$

$$\Delta LGDP_t^S = \alpha_3 ect_{t-1} + \sum_{i=1}^{k} \omega_{3,i} \Delta LGDP_{t-i}^M + \sum_{i=1}^{k} \gamma_{3,i} \Delta LFDI_{t-i}^M + \sum_{i=1}^{k} \delta_{3,i} \Delta LGDP_{t-i}^S + \sum_{i=1}^{k} \rho_{3,i} \Delta LGDP_{t-i}^S + \theta_3 CRISIS_{3t} + u_{3t}$$

$$\Delta LFDI_t^S = \alpha_4 ect_{t-1} + \sum_{i=1}^{k} \omega_{4,i} \Delta LGDP_{t-i}^M + \sum_{i=1}^{k} \gamma_{4,i} \Delta LFDI_{t-i}^M + \sum_{i=1}^{k} \delta_{4,i} \Delta LGDP_{t-i}^S + \sum_{i=1}^{k} \rho_{4,i} \Delta LGDP_{t-i}^S + \theta_4 CRISIS_{4t} + u_{4t}$$

Where $LGDP_t^M$ is gross domestic product (Malaysia), $LFDI_t^M$ is inward foreign direct investment (Singapore), $LGDP_t^S$ is gross domestic product (Singapore), $LFDI_t^S$ is inward foreign direct investment (Singapore), CRISIS is a dummy variable to account for the Asian financial crisis in 1997/98 and ect is the error correction term ($ect_{t-1} = \beta_{11} LGDP_t^M + \beta_{12} LFDI_t^M + B_{13} LGDP_t^S + \beta_{14} LFDI_t^S$). The VEC model for the full system of four variables is then estimated with two lags (k=2) to simplify the model while capturing longer term dynamics.

Data on real GDP and foreign direct investment from both countries were extracted from the *World Development Indicators* database by the World Bank group to ensure uniformity in accounting methodology and to account for changes in different exchange rates used by the respective national statistical offices. Data collected by the World Bank group is received from official sources in the respective economies and is deemed reliable for the purposes of this study.

1. Findings and Analysis

Table 1 reports the test statistics and results for both the Augmented Dickey-Fuller and Phillips Peron test at level and first difference. Both the ADF and PP unit root tests indicate that all four series are not stationary at level and only stationary at first difference, I(1). Optimal lag lengths have been noted in parentheses and were determined using the Akaike Information Criterion (AIC) for the ADF test and the Newey-West bandwith for the PP test.

Given that all four series are integrated of the same order, a cointegration analysis is performed to explore the dynamic relationships between the four selected series. The results of the Johansen cointegration test using both the maximum eigenvalue and trace test to establish the number of cointegrating vectors are reported in Table 2. Using the trace test, the null hypothesis of r=0 was able to be rejected at the 5% significance level given that the test statistic is larger than the specified critical value. Likewise, the maximum eigenvalue test reported similar findings. Both tests indicate that the number of significant cointegrating vectors found in the full system is one at the 5% significance level. This implies that all the variables are cointegrated and they are correlated to each other.

Table 1: Unit Root Tests (with trend and intercept)

Variables	ADF		PP	
	Level	1ˢᵗ Difference	Level	1ˢᵗ Difference
$LFDI_t^M$	-1.069676 (0)	-6.260918** (0)	-3.332346 (2)	-8.144459** (0)
$LGDP_t^M$	-0.287532 (10)	-3.766897* (9)	-1.239357 (2)	-6.265512** (1)
$LFDI_t^S$	-3.856221 (1)	-4.631162** (7)	-3.769063 (3)	-18.51021** (37)
$LGDP_t^S$	-0.798728 (20)	-4.555454** (1)	-0.935853 (1)	-6.406647** (1)

Notes:i-* and **represent statistical significance at the 5% and 1% level respectively ii- Figures in parentheses are optimal lag length.

Table 2: Johansen Cointegration Test

Null Hypothesis	Trace		Maximum Eigenvalue	
	Test Statistic	95%	Test Statistic	95%
(1) Ho:r=0	55.75291*	40.17493	42.084088	24.15921
(2) Ho:r=1	13.66883	24.27596	9.862373	17.79730
(3) Ho:r=2	3.806460	12.32090	3.217979	11.22480
(4) Ho:r=3	0.588481	4.129906	0.588481	4.129906

Notes:i-* represents rejection of the null hypothesis at the 5% levelii- r is the number of cointegrating equations

Using the VECM framework allows a check for Granger causality between the selected variables. The test undertaken for causality accounted for both short run and long run dynamics of the system. An F-test was performed on the respective regressions, taking the error correction term into account. Table 3 presents the results of the Granger causality tests accounting for both short and long-run dynamics. From the short-run causality, causality is only found running from LGDP_t^Mto LFDI_t^M, LFDI_t^S to LFDI_t^M and LFDI_t^S to LGDP_t^S. However, more evidence is found from the long-run relationship. Except LFDI_t^S, all the dependent variables are affected by the other variables in the system through its long-run ect term. LFDI_t^Sis exogenous to the system given that it is not Granger caused by any variables within the system both through short and long-run dynamics.

Table 3: Results of Granger Causality test based on VECM

Dependent Variable	Independent variable				
	$\Delta LFDI_t^M$	$\Delta LGDP_t^M$	$\Delta LFDI_t^S$	$\Delta LGDP_t^S$	ECT
	(Chi-squared statistics)				(t-statistics)
$\Delta LFDI_t^M$	-	5.1732*	17.9581***	4.0283	-2.8329***
$\Delta LGDP_t^M$	2.0431	-	3.4372	4.0311	1.8622*
$\Delta LFDI_t^S$	0.7484	3.1107	-	2.4929	0.9109
$\Delta LGDP_t^S$	2.2194	1.4981	7.7136**	-	2.2929**

Notes: *,** and *** represent statistical significance at the 10%, 5% and 1% level respectively

The estimates of the VEC model is presented as below:

$$\Delta LFDI_t^M = -0.3549 \, ect_{t-1} - 0.0281 \, \Delta LFDI_{t-1}^M - 0.4466 \, \Delta LFDI_{t-2}^M - 5.2173 \, \Delta LGDP_{t-1}^M + 8.0977 \Delta LGDP_{t-2}^M +$$

(-2.8329)   (-0.1545)   (-2.7936) (-1.3324)   (1.8934)

$$0.2986 \, \Delta LFDI_{t-1}^S - 0.6261 \, \Delta LFDI_{t-2}^S + 5.7111 \, \Delta LGDP_{t-1}^S + 5.4231 \, \Delta LGDP_{t-2}^S - 0.6057 CRISIS_{1t}$$

(1.3638)(-2.9116)   (1.2739)   (1.2867)(-2.6182)

R-squared	:	0.603778
Adjusted R-squared	:	0.480813
Jarque-Bera test statistics	:	2.674456
Breusch-Godfrey LM test	:	0.6774

Figures in parentheses are t-statistics.

In this estimation, the coefficients for ect_{t-1}, $\Delta LFDI_{t-2}^{M}$, $\Delta LFDI_{t-2}^{S}$ and $CRISIS_{1t}$ are found to be negative and statistically significant at the 1 percent level. The coefficient for $\Delta LGDP_{t-2}^{M}$ is positive and statistically significant at the 10 percent level. Other coefficients could not conclusively be said to affect the dependent variable with more than 90 percent confidence level. The ecthas correct sign and statistically significant. A negative relationship between $\Delta LFDI_{t}^{M}$ and implies that both nations are competitors in attracting inward FDI. An increase by 1 per cent in inward FDI into Singapore would reduce total FDI into Malaysia by an average 0.45 per cent. An investment diversion effect is taking place between the two economies. There is a positive relationship between and where 1 per cent increase in increases inward FDI into Malaysia by 8 per cent. This suggests that FDI into Malaysia might be market seeking in that a bigger potential market serves as an incentive for increased investment. All The diagnostic tests suggest the residual is well behave.

$$\Delta LGDP_{t}^{M} = 0.0145 \, ect_{t-1} - 0.0147\Delta LFDI_{t-1}^{M} - 0.0036\Delta LFDI_{t-2}^{M} - 0.1717 \, \Delta LGDP_{t-1}^{M} + 0.0784\Delta LGDP_{t-2}^{M} +$$
$$\qquad (1.8622) \qquad\qquad (-1.3001) \qquad\qquad (-0.7321) \qquad\qquad (-0.7033) \quad (0.2938)$$

$$0.0129 \, \Delta LFDI_{t-1}^{S} - 0.0129\Delta LFDI_{t-2}^{S} + 0.5433\Delta LGDP_{t-1}^{S} + 0.0351\Delta LGDP_{t-2}^{S} - 0.0666 \, CRISIS_{2t}$$
$$(0.9529)(-0.9616) \quad (1.9435) \qquad\qquad (0.1334)(-4.6200)$$

R-squared	: 0.470756
Adjusted R-squared	: 0.306508
Jarque-Bera test statistics	: 20.90477
Breusch-Godfrey LM test	: 0.2524

Figures in parentheses are t-statistics.

In this estimation, the coefficients for ect_{t-1} and $\Delta LGDP_{t-1}^{S}$ are statistically significant at the 10 percent level. The coefficient for $CRISIS_{1t}$ is found to be statistically significant at the 1 percent level. Other coefficients could not conclusively be said to affect the dependent variable with more than 90 percent confidence level. The ect is positive and significant in this estimation. It is observed that affects positively, indicating that economic growth in Malaysia is dependent on economic development in Singapore. This observation points to the existence of positive linkages between the two economies that allow advances in Singapore to be carried over to the Malaysian economy and adds to the argument that better integration between the two economies is needed to optimize economic growth.

The VECM estimates point to a statistically significant and negative relationship between FDI inflows in Singapore and Malaysia, signalling that an increase in FDI inflows into Singapore is overall detrimental to Malaysian FDI. This may add to the argument that Malaysia is competing for similar kinds of foreign investment with its neighbour. Given that the FDI into both Malaysia and Singapore are mainly concentrated in manufacturing, this finding is not unexpected. Ultimately however, given that Singapore has successfully attracted a higher level of FDI into its industries on a consistent basis, this finding may point to a lack of competitiveness among the Malaysian industry players against their Singaporean counterparts as well as an inability to form complementary local linkages to capitalize on foreign inflows into Singapore.

The findings also assert that a positive relationship exists between FDI and GDP growth in Malaysia, an observation that is in line with previous literature on the subject. Ang (2008), Pradhan (2008) and Choongand Lam (2010) concluded similar findings in their work on FDI determinants in Malaysia. They found that the magnitude of the coefficient of Malaysia GDP was positive and

statistically significant. This result contribute to the argument that FDI into Malaysia may be market seeking, in that a bigger potential market will increase Malaysia's viability as an FDI destination.

Lastly, the ECT term was found to be statistically significant in all tested systems except where Singaporean FDI was the dependent variable, indicating that long-run dynamics play a crucial role in determining movements in the estimated variables. More importantly, long run interdependencies between the two nations point to a need for policy makers in both countries to find ways to ensure the bilateral relationship can be beneficial for both nations.

5. Concluding Remarks

This study explores the relationship between FDI and economic growth and more specifically, to analyze the effects of a neighbouring economy on FDI and growth trends in the domestic economy. The results of this study point to a need by Malaysian policy makers to focus their attention to ongoing regional dynamics to fully capitalize on the nation's growth potential. While the focus of this study has been narrow in that other ASEAN players were not included in the analyses, it is likely that similar dynamics are at play between most nations in Southeast Asia. It is then imperative that more cooperative measures be considered and implemented to establish ASEAN, more specifically Malaysia and Singapore, as better integrated and more competitive market for both investment and production. Better regional integration could benefit overall development in the long run and should be pursued by both industry leaders and policy makers. Some steps have been taken in this regard in these nations' pursuit of establishing an ASEAN Economic Community, targeted for 2015.

However, care must be taken to ensure that externalities from regional level developments and increased cooperation translate into gains for the domestic economy by establishing good industry linkages locally. In the case of Singapore and also more generally, complementary linkages between Malaysia and its neighbours need to be created to enable positive spill overs and to avoid detrimental competition for local players. More specifically, Malaysia must position itself to benefit from increased interest in Southeast Asia by building a robust framework in which knowledge and productivity transfers can be achieved. It also needs to be selective in its regional diplomacy efforts to ensure that regional advancements do not come at a hefty price for local players.

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The Business Competencies of Small Business Owners/Managers in the Kingdom of Bahrain: A Research Note

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Abstract

The study aimed to determine the relationship between the demographics and business competencies of the small business owners/managers in the Kingdom of Bahrain.The demographics include the age, gender, educational qualifications, length of stay in business, and training related to business activities. Business competencies such as leadership, interpersonal skills, professional skills and managerial skills were considered.

Hypotheses

H01: There is no significant relationship between the demographics and competencies of the business owners and managers as perceived by the two groups of respondents.

H02: There is no significant difference in the perceptions of the two groups of respondents as to the competencies of the business owners and managers.

Methodology

The study attempted to relate the demographic profile of the business owners and managers in terms of age, gender, educational attainment, field of specialization and trainings undertaken related to business with their managerial competencies such as leadership skills, educational skills, interpersonal skills, professional skills and the managerial skills. The differences in the perceptions of the two groups of respondents i.e., business owners, and managers were also considered. The study collected random samples of business owners and managers of small enterprises as suggested by the Bahrain Chamber of Commerce and Industry. In order to gather more

reliable data on the managerial competencies of business owners and managers the BCCI assisted the researchers in identifying the sample respondents and subjects of the study. The study made use of a questionnaire for gathering data. The questionnaire consisted of two parts. The first part elicited the characteristics of the business owners in terms of age, gender, educational attainment, field of specialization and trainings acquired related to business.

The second part of the questionnaire determined the competencies of the respondents and subjects specifically on their leadership skill, educational skills, interpersonal skills, professional skills and managerial skills.

In the determination of the characteristics of the respondents of the study, the frequency count and simple percentage were used. The weighted mean was utilised to determine the administrative competencies of the respondents. The significance of relationship between the characteristics and the competencies of the business owners were determined through the use of the Pearson Product Moment of Correlation. ANOVA was used to determine the significance of differences in the

perceptions of the two groups of respondents on the managerial competencies of the respondents.

Preliminary Findings

The preliminary findings indicate that the owner/ managers in the Kingdom of Bahrain are relatively young and possess the leadership skills, educational skills, the interpersonal skills, professional skills and the managerial skills.

Some key managerial skills include: the organisation of the business, collection and analysis of data for the business operations. Good working relationships with staff and community, keeping abreast with current issues and demonstrating knowledge on finance and budgeting skills. Similarly, the findings reveal that men are better managers of business. Likewise, the age and educational skills are positively related with the competencies meaning that the more mature and educationally qualified the owner/managers are to run a business, the more productive the business undertakings are. Male owner/managers exhibit better managerial and leadership competencies compared to their female counterparts.