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Smart Green Banking

Rural Community of Sri Lanka

Highlights

Inclusive Financial Growth

Investment Instrument for DSE

Discovering Thoughts, Inventing Future

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Factors Associated with People's Reliance towards Informal Financing Methods in Rural Community of Sri Lanka

By U.C. Edirisinghe & M. V. T. M. Ariyawansha
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Abstract- This study was focused on investigating factors associated for people's reliance on informal financing methods by Sri Lankans with special reference to rural community in Rathnapura District. To achieve the objectives of the study, data was collected through survey questionnaire from a sample of 250 respondents and data was analysed using Chi – Square test. The results of the research show that there is a significant association between educational level, occupation, income level, financial behavior, personal financial attitudes, financial literacy, trust and reliability on reliance on informal finance. In addition the results showed that people highly depend on informal finance and most preferable financing source is loan from family/friends.

Keywords: *informal finance, cheetu system, personal borrowing, financial behavior, personal financial attitudes, financial literacy.*

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U.C. Edirisinghe α & M. V. T. M. Ariyawansha σ

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I. Introduction

Personal financing is very important issue in today's world. People pay attention to different kind of financial affairs. They do not only focus on short term financial affairs but also long term financial affairs. There is a tendency that people invest and save money for retirement plans, family's future home, and children education in order to upgrade their standard of living. In order to achieve these personal goals they use various types of financial instruments. Financial instruments are legally recognized documents that have monetary value. Bonds, equities shares, debentures and checks are examples for financial instruments. Agreements made to exchange finances without reference to legal restrictions are informal financial instruments. These are mainly used among people who do not have access or cannot afford formal systematic savings and credit facilities.

The cost of transacting informal financial instrument is lowered by the direct interaction between sellers and buyers. There are no official criteria to qualify for applying informal financial service because informal financial instruments are easily accessible to all (Adams, 1991). All informal financial agreements are depending on negotiation and there are no set standards for informal financial instruments to measure up to when the financial services are needed, because they can provide flexible services according to personal needs. Even though formal finance institutions are fairly spread and located across Sri Lanka people still tend to rely on informal finance to manage their finances. Stynwand (2008) has revealed that easy access, ability to obtain funds speedily and the absence of collateral requirements play a key role in motivating households to use informal sources. But there can be other reasons why people of rural community of Sri Lanka relies more on informal finance. Though there are number of papers available in informal financial methods it is rare to find the literature related to informal finance in Sri Lanka. Thus the objectives of the study is, to investigate factors associated with reliance on informal financial services and to examine different informal financial sources which rural community mostly use in in Sri Lanka

II. Literature Review

Informal financial institutions and informal financial methods have been defined by variously researchers. Ayyagari et al. (2010) have categorized the various sources of financing. Those categorizations are bank financing that includes (1) local commercial banks and foreign commercial banks; (2) informal finance that includes financing from informal sources such as a money lender or an informal bank; (3) operations finance that includes trade credit; equity finance; (4) investment funds that includes investment funds or special development financing or other state services and (5) internal finance that includes internal funds or retained earnings, loans from family and friends. Adam (1991) has classified informal finance sector in to three main categories, namely non commercial finance, commercial finance, group arrangements. The first category is where money lending happened among close relatives and friends with little or no interest being charges. Secondly funds are lent and borrowed to finance the buying or selling of goods whether for consumption or investment purposes. Final category group arrangements refer to rotating savings and credit associations.

Many studies argue that the existence and smooth function of an informal finance market is just important as the formal finance market. For example, Besley and Levenson (1996) have argued that despite

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an underdeveloped formal financial sector, countries like Taiwan grew due to informal institutions. Ayyagari et al. (2010) further argue that informal finance plays a complementary service to formal finance sector by serving the lower end of the market, which consist of parties who cannot access the formal financial system due to the lack of growth opportunities or poor credit ratings etc. Also the deformation in the formal banking sector contributes to the dynamism of the informal credit market, where people borrow from family members, friends, enterprises, rotating savings and credit associations , moneylenders (loan sharks), and informal banks (Degryse et al.,2012). Reidel et al. (2007) have discovered that Chinese private firms rely less on bank loans to finance investments, and more on retained earnings and informal finance, especially obtained from family members and friends.

Financing methods are available to Sri Lankans through many formal and informal sources. Government schemes, banking schemes, non government schemes, and corporate schemes can be identified as formal sources. Cheetu system, money lending, local credit groups, personal borrowing, bartering and pawning can be identified as informal sources in Sri Lanka. Among those informal sources, Cheetu system is one of the most popular modes of informal savings without expecting any interest in return. According to Fernando (1986) cheetu system defined as a rotating credit association in which a group of participants make regular contributions to a fund which is given as a lump sum to each member in turn. It is a system of credit group where borrowing and loan repayment responsibility is first and for most on organizer and next of the entire group to ensure conformity on the part of the borrower. There are two kinds of cheetu organizations in Sri Lanka. Those are cheetu by drawing lots and the auction cheetus.(Fernando, 1986)

a) Factors affecting for reliance on informal Finance

Through investigation of previous literature it was realized that Education Level, Income Level, Gender, Occupation, Financial Behaviour, Financial Attitudes, Financial Literacy, Trust and Reliability might have an impact on the peoples reliance on informal financing methods. Review on literature related to each of these factors would provide a fair justification to consider them as factors in Sri Lankan context as well.

According to Wells (2006) the effects of education on income inequality are affected by the level of economic freedom in a country, and specifically, that more economic freedom may limit the leveling effects of secondary enrollments. These findings imply that the level of economic freedom must be considered when creating policies intended to reduce inequality that other complex relationships between education and economics must be considered when studying income inequality. David and Adriana (2006) suggest that increasing levels of education lead to different thinking and decision-making patterns.

Income level has been considered by some researches as a factor that effect in financial decisions in related studies. Melzer (2011) shows that payday loans (typically small, informal loans that carry a high interest rate), increase the difficulties for low-income households to meet payments for their mortgage, rent, and utility bills, while doing little to alleviate any immediate economic hardship. Godwin and Koonce (1992) shows that money managers with higher net incomes have been found to exhibit more implementing behaviors, while level of income had no effect on planning their financial behaviors.

A study done on venture capital investment by Bruni et al. (2005) has found that informal venture capital markets may not be characterized as gender-differentiated market, and there is no support for an essentialist argument that there are fundamental gender-based differences between women and men angel investors. Francis, et al. (2014) study findings reveals that there might be a gender difference in behavior when of financial officers with regard to reporting. Female financial officers found to be more conservative in their financial reporting. Also they find strong support for the notion that female financial officers are more risk averse than male financial officers, which leads female financial officers to adopt more conservative financial reporting policies.

Models of occupational choice have stressed the importance of asymmetric information or exogenous borrowing constraints (Banerjee and Newman, 1993) According to Chiswick and Mincer (1974) human capital economists stress the importance of post school training investments and at least recognize the fact that these investments vary across occupations.

Behavioral finance is the study of the influence of psychology on the behavior of financial practitioners and the subsequent effect on markets. Depending upon nature of financial behavior of individuals will determine their financial health (Hilgert et al, 2003). In other words if someone follows good financial practices they may depend on

Marcolin & and Abraham (2 006) has identified that financial literacy is a ares which needs focus for research with the latest developments in financial markets. According to Ibrahimi and Alqaydi (2013) on the relationship between financial literacy, personal financial attitude and the decision to carry personal debt, that there is no significant relationship between the average of financial literacy, as well as personal financial attitude and the decision to carry debt from bank loans or borrow from a friend/or a family member. However, they also revealed that there is a strong negative statistical relationship between personal financial attitude and borrowing through a credit card.

The need for financial skills has grown rapidly over the last decade because 'financial markets have been deregulated and credit has become easier to obtain as financial institutions compete strongly with each other for market share (Beal & Delpachitra, 2003). Typically, financial literacy and/or financial knowledge indicators are used as inputs to model the need for financial education and explain variation in financial outcomes such as savings, investing and debt behavior. Rooij et al. (2007) found that those with low financial literacy are more likely than others to base their behavior on financial advice from friends and are less likely to invest in stocks.

Morgan and Hunt (1994), Alrubaiee & Al-Nazer (2010) shows that relationships can be viewed as a series of transactions that foster an awareness of a shared relationship through trust and commitment. Higher levels of trust and commitment in turn are related to higher levels of customer retention, and this could result in higher organizational profitability. Thomas (2009) further defines trust as "an expectancy of positive outcomes, outcomes that one can receive based on the expected action of another party".

III. Data and Methodology

a) Sample Frame and Sampling Procedure

Population of the study was people living in Rathnapura district. When deciding the sample convenient sample was dictated due the absence of formal or informal sample frame which select all subjects related to the study. There are 52170 people living in Rathnapura District according to 2011 population data (Wikipedia). In order to determine the most suitable sample size Solvin's Formula was used and it suggested a sample of 276 as the sample at 95% confidence level.

The solving formula is shows as follows. (n = Sample size, N = Population, e = Error term)

$$\mathrm{n} = N/(1 + Ne^2)$$

$$\mathrm{n} = 52170/(1 + (52170 * 0.05^2))$$

n = 276

Even though 280 questionnaires were distributed only 250 responded to the questionnaire while maintaining a 89% respondent rate.

b) Development of the Questionnaire

This study used a comprehensive questionnaire to design and cover the major variables that hypnotized to be affecting on the reliance on informal finance. The survey respondents were ask to answer 53 questions which includes multiple choice questions on demographic data such as gender, educational level, , marital status and income level. Likert scale questions measuring tendency on informal financial methods, personal financial attitudes, financial behavior, financial literacy, trust and reliability. The quality and the consistency of the survey are further assessed using Cronbach's alpha.

c) Research Variables and Their Measurement

Tendency on informal financing methods - In the study we mainly considered reliance on cheetu system and borrowing from local credit groups, Pawning gold jewellery and loans from friends or family to measure this variable.

Income- Option to select different income classes was provided to determine the level of income of each respondent as highest level, middle level and lower level.

Educational Level **-** This variable measures the refers the level of education of each respondent as bachelor's degree, up to advanced level, up to ordinary level or below ordinary level. It also refers the parent's highest level of education of each respondent.

Occupation- This variable indicates which sector of occupation each respondent is employed in, namely public, privet or self employee sector. The measurement question in the questionnaire is question number 5.

Gender– It is the classification of respondents as male and female.

Financial Behavior - This variable represents how people act situations that require spending, savings and financial future planning.

Financial Literacy- This variable measures the knowledge to get an effective and correct decision regarding usage and management of money to fulfill of financial needs. It covers dimensions of knowledge on investment, interest, savings and borrowings.

Personal Financial attitudes - Personal financial attitudes refer personal deposition towards financial matters. It is measured by question number 14 – 20 in the questionnaire.

Trust and Reliability- This variable indicates people's trust on financial institutions and impression of each respondent regarding financial institutions.

d) Research Hypotheses

This paper tested the following hypotheses which are stated in the alternative form:

H_{1a}: There is a significant association between income level and reliance on informal finance.

H_{1b}- There is an association between educational level and reliance on informal finance

H_{1c}- There is an association between occupation and reliance on informal finance

H_{1d}- There is an association between gender and reliance on informal finance

H_{1e}- There is an association between marital status and reliance on informal finance

H_{1f}- There is an association between financial behavior and reliance on informal finance

H_{1g}- There is an association between financial literacy and reliance on informal finance

H_{1h}- There is an association between financial attitudes and reliance on informal finance

H_{1i}- There is an association between trust & reliability and reliance on informal finance

IV. Results

Data was collected though distributing questionnaire to 250 respondents randomly selected from Rathnapura district of Sri Lanka. The Demographic Characteristics of the selected sample is illustrated in

Table 1 : Demographic Characteristics of the Sample (N= 250)

Variables	Characteristics	n	%
Gender	Male	120	48%
	Female	130	52%
Education Level	Below Ordinary Level	63	25%
	Up to Ordinary Level	88	35%
	Up to Advance Level	48	19%
	Degree	53	21%
Occupation	Public Sector	48	19%
	Private Sector	115	46%
	Self- Employed	63	25%
	Unemployed	25	10%
Income Level	< Rs. 15,000	38	15%
	Rs. 15,000- Rs. 24,999	78	31%
	Rs. 25,000 - Rs. 34,999	68	27%
	Rs. 35,000 -Rs. 44,999	58	23%
	<Rs. 45,000	10	4%

Source – Survey Data 2015

From the total sample, 52% represent females and 48% represent male respondents. Majority of the respondents have completed education up to GCE A/L which was 35% from the total sample. 46% of the sample was employed in the private sector and that is the sector which majority of the sample were employed. Rs. 15,000 – Rs. 24,999 was the income level which most of the respondents were earning, representing 31% from the sample.

a) *Level of Reliance on Informal Finance*

Descriptive statistics was used to measure the level of dependency on informal finance sources and to examine different informal financial sources which mostly people rely.

Table 2 : Selection of Financial method

Sources of Personal Finance	Frequency	Percent	Valid Percent	Cumulative %
Loan from Bank	9	3.6	3.6	3.6
Pawning in Bank	40	15.9	16.0	19.6
Pawning in Informal	35	13.9	14.0	33.6
Loan from Family/Friends	133	53.0	53.2	86.8
Personal Borrowing	33	13.1	13.2	100.0
Total	250	99.6	100.	

Table 2 it shows percentage of financial sources that people use. The most preferable financing source is loan from family/friends. People prefer this source of finance more than formal financing sources such as loan from bank and pawning from bank.

Table 3 : Level of dependency on informal financing sources

Level	Frequency	Percent	Valid Percent	Cumulative %
Low	31	12.4	12.4	12.4
Moderate	82	32.7	32.8	45.2
High	137	54.6	54.8	100.0
Total	250	99.6	100.0	

Table 3 illustrates the level of dependency on informal financial sources. The results shows that 54.6% people dependency is in higher level, 32.7% depend on moderate level and 12.4% depend on lower level. It means most of people rely on informal financial sources.

b) *Factors affecting for Tendency towards Informal Finance*

Chi – Square method was the statistical tool employed to test the relationship between independent variables and dependent variables. It also used to test the hypotheses of factors associated with tendency towards reliance on informal financial services in Ratnapura district. Gender, educational level, marital status, occupation, income level, financial behavior, personal financial attitudes, financial literacy, trust and reliability are consider as the independent variables and reliance on informal finance methods, reliance on Cheetu system, reliance on personal borrowing from local credit groups are consider as the dependent variables.

Table 4 illustrates the results of Chi-square test. When using Chi – Square test if Pearson Chi- Square P value is less than 0.05 it signifies that variables are dependent with each other.($P<0.05$).

Table 4 : Factors associated with Relience on Informal Finance

Variable	Pearson Chi – Square (P< 0.05)		
	Relies on Informal Finance	Relies on Cheetu System	Relies on Borrowing from local credit groups
Income Level	0.000	0.000	0.000
Educational Level	0.000	0.000	0.000
Occupation	0.000	0.000	0.000
Gender	0.041	0.541	0.118
Marital Status	0.196	0.334	0.522
Financial Behavior	0.000	0.000	0.000
Financial Literacy	0.000	0.000	0.000
Personal Financial Attitudes	0.000	0.000	0.000
Trust and Reliability	0.000	0.000	0.000

The results of Chi – Square test show P value is less than 0.05 for all three independent variables and income level. Therefore it can be concluded that, there is a significant association between income level and tendency of informal finance, tendency of Cheetu system and personal borrowing from local credit groups while accepting the alternative hypothesis. Results also shows that there is a significant association between educational level and reliance on informal finance, reliance on Cheetu system and reliance on personal borrowing from local credit groups because P value shows less than 0.05. This allows accepting second alternative hypothesis. There is a significant association between occupation and reliance on informal finance, reliance on Cheetu system and personal borrowing from local credit groups because P value shows 0.000. Results proves to accept fourth alternative hypothesis confirming association between gender and reliance on informal finance but no relationship with reliance on Cheetu system and personal borrowing from local credit groups. Those P values are higher than 0.05. Not only that marital status also has no significant association with reliance on informal finance, tendency of Cheetu system and personal borrowing from local credit groups because of P value is higher than 0.05 thus for marital status null hypothesis was accepted.

According to the analysis there is a significant relationship between financial behavior and reliance on informal finance, reliance on Cheetu system and personal borrowing from local credit groups because of P value is less than 0.05. Rest of the three independent variables, namely financial literacy, personal financial attitudes, and trust and reliability also shows significant relationships with tendency of informal finance, tendency of Cheetu system and personal borrowing from local credit groups with a P values of less than 0.05. As a result for last four variables alternative hypothesis was accepted.

According to the Chi –Square test income level, educational level, occupation, gender, financial behavior, financial literacy, personal financial attitudes and trust and reliability are affecting for reliance on informal finance by rural community in Rathnapura district.

V. Conclusion

The main objectives of this study were to investigate the factors which are associated with reliance of informal finance by rural community of Sri Lanka. Rathnapura District was the main geographical area selected for the study and 250 respondents were conveniently selected to distribute questionnaires. Data collected through questionnaires were statistically analyzed to derive at the conclusion.

According to the descriptive statistics, it was found that loan from family/friends is the most preferable informal financing method of rural community this findings is also consistent with the findings of Stynwand (2007). And it was also revealed that the majority of the respondents have a high tendency to rely on informal finance sources.

The results of Chi – Square test shows, gender, educational level, occupation, income level, financial behavior, personal financial attitudes, financial literacy, trust and reliability on formal finance are the factors which have associations towards reliance on informal finance. But marital status fails to prove an association with reliance on informal finance. Further when tendency towards informal finance and personal borrowing from local credit groups were analyzed separately shows that reliance on these two informal methods is independent from both gender and marital status.

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The End of Derivatives? What the European Union Model Forebodes, and the Subsequent Stock Market Effect

By Ronald A. Stunda
Valdosta State University, Georgia

Abstract- In 2011 The European Union Tax Commission proposed the establishment of a Financial Transaction Tax (FTT). The FTT was subsequently implemented in France (8/1/12) and Italy (1/1/13). It is also scheduled to be adopted in 9 other European Union states during 2015. Great Britain has thus far failed to accept such a tax. The purpose of the FTT is twofold; minimize and control derivative trading by taxing it, and raise revenues. Opponents of the FTT have suggested that such a tax would increase volatility (i.e., risk) in the securities market and would also lead to a reduction in security trading and a drop in security prices. These are all reasons why Great Britain has thus far refrained from passing the tax.

Keywords: derivatives, security prices, financial transaction tax.

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This study evaluates 368 French and Italian firms that trade derivatives. The study compares a test period after the FTT adoption to a base period prior to adoption of the FTT, for the same 368 firms. For the 368 French and Italian firms analyzed, beta risk increased significantly after FTT adoption. In addition, market trading of the firms decreased significantly while, at the same time, combined European Union states' trading increased. Also, security prices of the firms are shown to significantly decrease after the FTT passage. Results suggest that Great Britain's reluctance to adopt the FTT may indeed be well grounded.

Keywords: derivatives, security prices, financial transaction tax.

I. Introduction

Since the pronounced end of the U.S. recession, the global economy is still beset by problems. In the U.S., deteriorating urban finances, from Detroit to Stockton, California, threaten municipal bondholders, public sector workers, and taxpayers. In addition, a rise in long term interest rates seems inevitable sooner or later, either because of inflation or because the Federal Reserve backs away from its easy-money policies. Higher interest rates would mean big losses for bond investors, and also for government-sponsored entities such as Fannie Mae and Freddie Mac, that hold mortgage-backed assets. The greatest risk of all, however, may be one of the least visible, the derivatives market. These highly sophisticated instruments have contributed to financial disasters from the 2008 bankruptcy of Lehman Brothers to J.P. Morgan's 2012 trading losses in London, which totaled more than $6 billion [Sivy 2013].

Basically, derivatives are financial contracts with values that are derived from the behavior of something else, such as interest rates, mortgages, commodities, or even the weather. Just as homebuyers make only a down payment when they buy a home with a mortgage, derivative traders put down only a small amount of cash. In addition, one derivative can be used to offset or serve as collateral for another. The end result is that a massive edifice of derivatives can be supported by a relatively small amount of real money.

Many derivatives are simply private contracts between banks or other sophisticated investors. As a result, it is difficult to know the total volume of derivatives now outstanding. The worldwide nominal value of derivatives tripled in the five years leading up to the recession, at which time it was around $600 trillion [The Economist 2015]. Since then, even though some specific categories of derivatives have shrunk, the total value of the derivatives has not been reduced at all, but has actually gotten bigger.

While there is no way of knowing for sure, estimates of the current nominal value of derivatives outstanding tops a quadrillion (1,000 trillion) dollars [The Economist 2015]. This is 14 times the entire world's annual Gross Domestic Product. By comparison, the value of all the stocks trading on the New York Stock Exchange is roughly $15 trillion. In fact, the New York Stock Exchange is being courted for acquisition by derivatives exchanges.

A key problem with derivatives is what is referred to as "counterparty risk." If you buy a stock with cash, you can't lose more than you invest. But if you sell $1,000 of derivatives and collateralize it by purchasing $900 of another offsetting derivative, it is difficult to determine how much is really at risk. In theory, you can lose only $100, but if the entity from whom you purchased the $900 derivative defaults, you are liable for the full $1,000. So are you at risk for $100 or $1,000? It is almost impossible to know until the dominos begin to fall. Regulators try to assign weights and probabilities to determine capital requirements, but the bottom line is simple: If the whole market comes apart, everyone is at risk for much more than they expect.

In an initial attempt to minimize the potential downside effects of derivatives, the European Union Tax Commission proposed in 2011 a Financial Transaction

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Tax (FTT) to be introduced to all European Union (EU) states [Adam Smith Institute 2011]. The FTT levies a tax on derivative trading. Advocates of the FTT argue that it would reduce volatility in the derivatives market, and attempt to control this growing giant. Those opposed to the measure say it would lead to a reduction in market transactions, shrink the tax base, lead to a decline in investments and job losses and result in a significant decline in stock prices, while impacting firm risk. As it currently stands, France has adopted the tax (8/1/12), Italy adopted (1/1/13) and Germany, Belgium, Spain, Austria, Greece, Portugal, Slovakia, Estonia, and Slovenia are set to adopt during 2015 [Ernst and Young Tax Center 2015]. Great Britain remains a holdout, primarily because the city of London currently holds interest rate derivatives that comprise nearly 75% of its portfolio. The country feels that the FTT would lead to a collapse of the economy, beginning in London. In the U.S., the Congressional Budget Office proposed in 2013 a Tax on Financial Transactions. It took effect 1/1/15 by raising the tax rates on long term capital gains and dividends and imposing a fee on large financial institutions. This was passed as part of a deficit reduction attempt [Congressional Budget Office 2013]. Many see this as the first step to approaching a FTT similar to the EU.

Although minimal information is available for how the FTT would affect stock prices, there does exist limited data for the two EU countries that have incorporated the tax, namely France and Italy. An analysis of the impact of the tax on these two countries could give insight as to what may be in store for the other EU countries adopting the FTT, and for countries such as the U.S., who may be contemplating such a move.

II. Literature Review

The use of derivatives is a contentious issue. Nevertheless, whether one subscribes to Warren Buffet's warning about the danger of derivatives or Allen Greenspan's assertion that derivatives reduce risk (Berry 2003), the fact is that derivatives are popular and growing in use (Bodner et al 1995, Wolfson and Crawford 2010). Therefore, given the place of derivatives in the financial market place, it seem reasonable to ask what, if any, information content they provide in relation to security prices.

Many studies have examined the risk associated with derivative usage (Cornfield 1996, Guay 1999, Kuprianov 1995, Newman 1994, Hentschel and Kothari 2001). In general, these studies note that firms use derivatives as a hedge against exposure, but find that compared to firms which do not use derivatives, there does not appear to be any measurable difference in risk. This would lead one to suspect that no market impact from the use of derivative instruments would be found.

In addition to risk, other researchers have examined the role of derivatives in an earnings management context. Jan Barton (2001) examined this issue and presented evidence "consistent with managers using derivatives and discretionary accruals as partial substitutes for smoothing earnings." An implication of this finding is that derivatives may indeed have a market impact through their effect on corporate earnings.

The main contentions of the financial school of thought that link derivatives to the recent financial crisis lie in the artificial credit boom. The credit expansion created systematic risk, which led to the use of derivatives as an attempt to reduce the risk. The derivatives were traded in a market that lacked transparency, and proper regulation, i.e., the Over the Counter Market (OTC), (Stulz 2009). In addition, there is a popular belief that derivatives do not contribute any financial or economic substance to the general economy but are mere financial gambling devices (Gilani 2008). As a result, many arrive at the conclusion that derivatives do indeed lay at the root of the financial crisis.

But how exactly can things go wrong for buyers and sellers of derivative instruments and how can this in turn lead to adverse earnings results which may in turn affect stock prices? Skeel and Partnoy 2007, describe the scenario in which this can occur. The ease of credit, in conjunction with loose U.S. monetary policy led to the mispricing of credit. This means that loans which eventually turned out to be sub-prime in nature were bundled together with loans with lesser risk, the risk on the bundle was underestimated. As a result, mispricing on the bundled rate led to highly leveraged bets for the holders of such bundles. The subsequent defaults led to a massive attempt to unwind these bundles but it was too late from a liquidity standpoint, the effects then steamrolled and permeated national and international financial markets. All of this unraveled in a few weeks. Holders of undervalued derivatives were forced to record current period losses as the swaps took place, placing downward pressure on earnings and forcing greater securitization (Pertrova 2009).

From an international perspective, Guay (1999) uses an event-study approach on selected European firms and finds a decrease in firm risk exposure, but concedes that there was poor data availability during this period. Marshall (2000) shows that derivative use does not decrease the value of a European firm's stock. Hentschel and Kothari (2001) find European firms that trade in derivatives display few differences, from a risk perspective, compared to firms that do not use derivatives. Allayannis and Weston (2001) analyze 720 international firms and find a positive relation between firm value (i.e., stock price) and the use of derivatives. Bartram et al (2004) analyze 7,263 firms from 48 countries and find a general positive stock association with firms that use derivatives. Muller and Verschoor (2005)evaluate 471 European firms and find that the more growth opportunities European firms have, the less these firms depend upon derivatives. In addition, the presence of associated taxes on such instruments results in a reduced use of derivatives.

Derivatives remain a shadowy financial devise that some claim can lead to the downfall of economies. Many studies, however, indicate that the presence of derivatives in the financial structure actually increase firm stock value and create minimal added risk. Some countries, such as the European Union States, seek to interject tax as: 1. A control over derivative usage, and 2. A revenue source. This prompts a re-evaluation of how this change might impact derivative usage and security prices of firms which use derivatives. This line of research becomes even more important as the Financial Accounting Standards Board (FASB) continues to struggle to identify what exactly their role should be in the derivatives debate, and the U.S. Congress contemplates expanding the Financial Transaction Tax to include derivatives.

III. Hypothesis Development

As previously noted, extant studies for the prior decade indicate that public firms engaging in derivative trading actually see an increase in stock price, and with minimal change in risk. With the advent of a new scenario, namely, the existence of a Financial Transaction Tax, many believe that this will cause a shift in heretofore findings. The premise of the tax is to minimize derivative trading while increasing revenues for the taxing entity. Some, particularly in Great Britain, believe, that such a tax will among other things change the risk structure of firms while reducing their associated stock price, along with overall trading. The European Union states of France and Italy have early adopted the FTT. Although the historical base is minimal, an analysis of public firms trading in derivatives in these two countries may provide insight into the ongoing discussion regarding the implications of such a tax.

The European Union Tax Commission advocated that the passage of the FTT would reduce the volatility (i.e., risk) of firms trading in derivatives, and thus minimize the overall risk of the derivatives market. This leads to the first hypothesis stated in the null form:

H1: The imposition of a Financial Transaction Tax on derivatives does not result in a significant difference in firm risk for firms trading in derivatives.

Opponents of the FTT advocate that, for firms trading in derivatives, the tax would bring about reduced trading of those firms' stocks. This leads to the second hypothesis stated in the null form:

H2: The imposition of a Financial Transaction Tax on derivatives does not significantly impact the trading volume of firms trading in derivatives.

Opponents of the FTT further state that firms trading in derivatives would see a decrease in stock price as a result of the tax's passage. This leads to the third hypothesis stated in the null form:

H3: The imposition of a Financial Transaction Tax on derivatives does not significantly impact the security price of firms trading in derivatives.

IV. Data and Methodology

a) Data

The study sample consists of firms engaging in derivative trading in France from August 2012 through March 2015, and in Italy from January 2013 through March 2015. *World scope* is used to identify firms in these countries trading in derivatives. Security price data is available from the AMADEUS database. Earnings and other corporate data is available from Compustat Global.

Table 1 : provides details on the sample firms

Table 1- Study sample

	France	Italy	Total
Firms identified as trading in derivatives	240	188	428
Firms eliminated due to lack of AMADEUS data	17	18	35
Firms eliminated due to lack of Compustat Global data	11	14	25
Total firms in study	212	156	368

b) Test of Hypothesis One

Beta is a crucial variable in the Capital Asset Pricing Model (CAPM). CAPM creates an estimate for the expected value of a security based on its beta. This required or expected return is equal to the risk-free rate plus a market risk premium, and the market risk premium is the product of a security's beta and the general market risk premium. The beta represents the sensitivity of a firm's stock returns to the overall market risk. A stock with a beta greater than one is more volatile, thus riskier, than the overall equity market. A stock with a beta less than one is less volatile, thus less risky, than the overall equity market. Lilti and Le Montagner (1998) find that beta is a determinant of returns on the French stock market. Bauer et al (2004) conclude the same for the beta and stock return relationship on the German stock market, while Fletcher (2000) has similar findings for groups of international markets. Given the established use of beta as a measurement for risk, or volatility, of a firm, it is used to assess the riskiness of the sample of firms in this study.

In order to assess beta, Compustat Global is used to derive beta coefficients for all firms in the study during the study period. This consists of 212 French firms trading in derivatives between the periods 8/1/12-3/31/15, and 156 Italian firms trading in derivatives between the periods 1/1/13-3/31/15. Betas for these same firms are selected from a sample period prior to adoption of the FTT. In this case, 1/1/10-12/31/11 is used as a comparative base. Care is taken to exclude recession years that may confound the base sample. An Analysis of Variance (ANOVA) is then conducted to assess any differences between the base period (pre FTT adoption) to the study period (post FTT adoption).

c) Test of Hypothesis Two

Any empirical analysis of trading activity in the market must start with a proper measure of volume. The literature on trading activity in financial markets is extensive and a number of measures of volume have been proposed and studied. Some studies of aggregate trading activity use the total number of shares traded as a measure of volume (Epps and Epps(1976), Gallant, Rossi, and Tauchen (1992), Hiemstra and Jones (1994), and Ying (1966)). Other studies use aggregate turnover the total number of shares traded divided by the total number of shares outstanding as a measure of volume (Campbell, Grossman, Wang(1993), LeBaron (1992), Smidt (1990)). Individual share volume is often used in the analysis of price/volume and volatility/volume relations (Andersen (1996), Epps and Epps (1976), and Lamoureux and Lastrapes (1990, 1994)). Studies focusing on the impact of information events on trading activity use individual turnover as a measure of volume (Bamber (1986, 1987), Lakonishok and Smidt (1986), Morse (1980), Sefcik, Thompson (1986), Stickel and Verrecchia (1994)). Alternatively, Tkac(1996) considers individual dollar volume normalized by aggregate market dollar-volume. And even the total number of trades (Conrad, Hameed, and Niden (1994)) and the number of trading days per year (James and Edmister (1983)) have been used as measures of trading activity. While all of these measures are viable, Lo and Wang (2005) find that the total number of shares traded is historically sound and most relied upon. In addition, it is one of the easiest for most researchers to obtain, since it is available from multiple sources. It is therefore, total number of shares traded that will be utilized for study purposes.

The source for the trades for French stocks between 8/1/12-3/31/15 and Italian stocks between 1/1/13-3/31/15 is *Statista*, which is a statistics portal for worldwide market related data.

As in the assessment of the beta changes, to properly assess whether or not trading volume has significantly changed since inception of the FTT in France and Italy, the "post FTT" period must be compared to a "pre FTT" base period. The trading volume period of 1/1/10-12/31/11 was used as a base period for purposes of consistency with beta comparisons. An ANOVA is then conducted to assess any differences between "pre FTT" and "post FTT" periods.

d) Test of Hypothesis Three

The purpose of this test is to assess the relative information content of the firm's security prices to the earnings for the firm in pre-FTT, and post-FTT periods. A premise set forth by Ball and Brown (1968) and others, was that earnings, more specifically "unexpected earnings" was causing the stock price to move. The logical extension of Ball and Brown's study was to see whether the magnitude of unexpected earnings (as opposed to merely the sign of unexpected earnings) was related to the magnitude of the stock price response. Beaver, Clarke and Wright (1979) addressed the issue and discovered, in fact, that the magnitude of unexpected earnings was related to the magnitude of the stock price response. Again, they focused on market-adjusted stock returns to facilitate across-firm comparisons and to control for market-wide movements in stock prices. Ball and Brown (1968) and Beaver, Clarke and Wright (1979) show that despite the deficiencies of historical cost accounting, accounting earnings are potentially useful to investors. They also ushered in the so-called information perspective on the decision usefulness of accounting. The information perspective implies that investors' response to accounting information can provide a guide as to what type of information is or is not valued by investors.

The next logical question to ask was whether the market responded more strongly to unexpected earnings in some firms, and less strongly in other firms. This question is quite pertinent to accountants because we potentially would be better able to design financial statements if we knew the factors that predict when and why investors respond more strongly (less strongly) to financial statement information. Consistent with the literature, the term "Earnings Response Coeffcient," or "ERC" is used to describe the strength of the market response to unexpected earnings. To understand this line of research, one needs to have an intuitive understanding of how investors might respond to accounting information in light of single person decision theory, portfolio theory, and efficient market theory. Here is the basic idea: Let's say that last period's earnings were $1 and, accordingly, that is the level of earnings an investor expects this year. When this year earnings are announced, the level of earnings are, say, $1.25, implying a $0.25 earnings surprise. If the investor believes this $0.25 level of unexpected earnings is a one-time shot that will not recur into the future, the investor will increase his assessment of stock value by $0.25. However, if the investor believes this $0.25 unexpected increase in earnings is a permanent boost to earnings that will recur in future years, then the investor's increase in stock price is \$0.25 + the present value of receiving \$0.25 into perpetuity. Given this framework for thinking about how investors should respond to unexpected earnings, it can be predicted that investors will respond more strongly to unexpected earnings when those earnings are expected to persist into the future. It can also be predicted that investors' response to unexpected earnings will be smaller the higher the discount rate they use in discounting those unexpected earnings that are expected to be received into perpetuity.

Therefore, the above extant theory and rationale is used to replicate the model first used by Ball and Brown in 1968 in order to establish that there is a correlation between earnings and security prices, that model is shown below. Both *Statista* and *World scope* are used to identify the date that each firm in the study released financial data for the study periods. This date of data release is known as the event date. The following model is established for determining information content:

$$CAR_{it} = a + b_1T_1UE_{it} + b_2T_2UE_{it} + e_{it}$$

(1)Where: CAR_{it} = Cumulative abnormal return firm i, time t

a = Intercept term

$T_1\,UE_{it}$ = Unexpected earnings for Pre-FTT firm i, time t

T_2UE_{it} = Unexpected earnings for Post-FTT firm i, time t

e_{it} = error term for firm i, time t

The coefficient "a" measures the intercept. The coefficients $b_{1,}$ and b_2 are the traditional earnings response coefficient (ERC), found to have correlation with security prices in traditional market based studies, for the two separate study periods. Unexpected earnings (UE_i) is measured as the difference between the management earnings forecast (MF_i) and security market participants' expectations for earnings(EX_i). With the adoption of International Financial Reporting Standards (IFRS) [France (January, 2009), Italy (January, 2002)] firms in these nations became subject to those standards, which includes the disclosure of earnings estimates. *The World Economic Database* provides earnings projections for these firms, thus resulting in the derivation of unexpected earnings. The unexpected earnings are scaled by the firm's stock price (P_i) 180 days prior to the forecast, as reported on the AMADEUS database:

$$UE_i = \frac{(MF_i) - (EX_i)}{P_i} \qquad (2)$$

Unexpected earnings are measured for each of the total 368 firms during each study period; pre-FTT (b_1 variable), and post-FTT (b_2 variable). This is done in order to assess any differences in information content of security prices to earnings releases in each of the study periods.

For each firm sample, an abnormal return (AR_{it}) is generated around the event dates of -1, 0, +1 (day 0 representing the day that the firm's financials were available per *Statista* and *Worldscope)*. The market model is utilized along with the AMADEUS equally-weighted market index and regression parameters are established between -290 and -91. Abnormal returns are then summed to calculate a cross-sectional cumulative abnormal return (CAR_{it}).

V. Results

a) Hypothesis 1 Results

As indicated in Table 2, the two groups analyzed using the one-way ANOVA included the average betas for; pre-FTT (consisting of the 212 French firms in the sample between 1/1/10-12/31/11 and 156 Italian firms in the sample for the same period), and post-FTT (consisting of 212 French firms between 8/1/12-3/31/15 and 156 Italian firms between 1/1/13-3/31/15, for a total of 368 firms). The same 368 firms are assessed in each group for a total sample of 736 $df(1, 734)$. The one-way ANOVA test indicates an F-ratio of 20.514 with an associated p-value of .0000. When the Levene test was performed to assess for homogeneity of variance, a Levene statistic of 6.1928 was obtained with a significance level of .001. These tests indicate significance difference in the variances of the groups. These results lead to the rejection of the null hypothesis that there is no significant difference in the average betas of the sample groups between the two study periods.

In addition, close analysis of Table 2 indicates that the average beta actually increased in post-FTT periods (from 1.98 in pre-FTT periods to 2.48). This appears to be counterintuitive to one of the rationales for instituting the tax, which was to minimize derivative trading thus making firm capital structure less risky.

Table 2
Test of Hypothesis 1

One Way ANOVA
Summary

Groups	Count	Sum	Average	Variance
Pre-FTT	368	728.64	1.98	2.95976
Post-FTT	368	912.62	2.48	3.19821

Source of Variation	SS	*df*	MS	F-ratio	P-value
Between Groups	25,308.97	1	629.810	20.514	.0000
Within Groups	2,596.45	734	2.103		
Total	25,6205.42	735			

Levene Statistic	*df*1	*df*2	Two-tail Significance
6.1928	1	734	.001

b) *Hypothesis 2 Results*

As in the case of Hypothesis 1, the same two study groups are analyzed for purposes of comparing average trading volume between the two periods. The results are presented in Table 3. The same 368 firms are assessed in each group for a total sample of 736 *df* (1, 734). The one-way ANOVA test indicates an F-ratio of 26.212 with an associated p-value of .0000. When the Levene test was performed to assess for homogeneity of variance, a Levene statistic of 7.01293 was obtained with a significance level of .001. These tests indicate significance difference in the variances of the groups. These results lead to the rejection of the null hypothesis that there is no significant difference in the average trading volume of the sample groups between the two study periods.

In addition, close analysis of Table 3 indicates that the average trading volume fell in post-FTT periods (from $576.09 billion in pre-FTT periods to $404.28 billion). This represents an average decrease in trading volume of 30%. This result appears to be confirmed by statistics that indicate that through 2014, trading in Italian stocks fell by 34% and French stock trading fell by 9%, while European stock trading, on average, rose by 4.5% (MarketMedia.com April, 2015). The result of this test appears to align more closely with opponents to the FTT who had indicated that the passage of the tax would result in reduced market trading.

Table 3
Test of Hypothesis 2

One Way ANOVA
Summary

Groups	Count	Sum	Average	Variance
Pre- FTT	368	19,077.12	576.09	3.98288
Post-FTT	368	15,024.04	404.28	4.92714

Source of Variation	SS	*df*	MS	F-ratio	P-value
Between Groups	195,218.01	1	2,451.19	26.212	.0000
Within Groups	97,918.24	734	498.23		
Total	293,136.25735				

Levene Statistic	*df*1	*df*2	Two-tail Significance
7.01293	1	734	.001

c) *Hypothesis 3 Results*

As indicated in Table 4, the coefficient representing the pre-FTT ERC, b_1, is positive, .12 (.01 significance level) indicating a positive security price effect for the 368 firms in the study *prior to* the inception of the FTT. However, the coefficient representing the post-FTT ERC, b_2, is negative, -.03 (.01 significance level) indicating a negative security price effect for the 368 firms in the study *after* the FTT was instituted. Study results indicate that investors view earnings to contain information content in the pre-FTT study period, this information content provides information enhancing signals, while the post-FTT period information content is interpreted to be much more noisy and less informative, and thus results in a negative impact on security prices. As a result of these findings, Hypothesis 3, which states that the FTT does not significantly impact stock price among firms trading in derivatives must therefore be rejected.

In addition, whenever regression variables are employed, there is a probability of the presence of multicollinearity within the set of independent variables which may be problematic from an interpretive perspective. To assess the presence of multicollinearity, the Variance Inflation Factor (VIP) is utilized. Values of VIP exceeding 10 are often regarded as indicating multicollinearity. In the test of hypothesis 3, a VIP of 1.9 was observed, thus indicating a non-presence of significant multicollinearity.

Table 4
Test of Hypothesis 3
Model: $CAR_{it} = a + b_1T_1UE_{it} + b_2T_2UE_{it} + e_{it}$
Sample: 368 Firms

a	b_1	b2	Adj. R^2
.20 (.88)	.12 (1.69)[a]	-.03 (1.75)[a]	.221

[a] Significant at the .01 level

CAR_{it}	=	Cumulative abnormal return firm i, time
a	=	Intercept term
T_1UE_{it}	=	Unexpected earnings for Pre-FTT firm i, time t
T_2UE_{it}	=	Unexpected earnings for Post-FTT firm i, time t
e_{it}	=	error term for firm i, time t

VI. Concluding Comments

In 2011 The European Union Tax Commission proposed the establishment of a Financial Transaction Tax (FTT). The FTT was subsequently implemented in France (8/1/12) and Italy (1/1/13). It is also scheduled to be adopted in 9 other European Union states during 2015. Great Britain has thus far failed to accept such a tax. The purpose of the FTT is twofold; minimize and control derivative trading by taxing it, and raise revenues. Opponents of the FTT have suggested that such a tax would increase volatility (i.e., risk) in the securities market and would also lead to a reduction in security trading and a drop in security prices. These are all reasons why Great Britain has thus far refrained from passing the tax.

This study evaluates 368 French and Italian firms that trade derivatives. The study compares a test period after the FTT adoption to a base period prior to adoption of the FTT, for the same 368 firms. For the 368 French and Italian firms analyzed, beta risk increased significantly after FTT adoption. In addition, market trading of the firms decreased significantly while, at the same time, combined European Union states' trading increased. Also, security prices of the firms are shown to significantly decrease after the FTT passage. Results suggest that Great Britain's reluctance to adopt the FTT may indeed be well grounded.

These results hold dire warning for the U.S. and any contemplated expansion of the newly instituted 2015 tax on financial transactions. This tax was adopted in the U.S. to; raise tax rates on long term capital gains and dividends, and impose a fee on large financial institutions. However, there are discussions within the Congressional Budget Office of extending this tax to incorporate such things as derivative trading. This is coupled with the on-going consideration by FASB of what exactly to do to better govern a market that some say is exploding and helped fuel the past economic crisis.

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Bangladesh is going to Catch the Spider: A New Investment Instrument for DSE

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Khaled Mahmud [α], Md. Farhan Imtiaz [σ] & Md. Shakil Ahmad [ρ]

Abstract- SPIDER is the name of the first Exchange Traded Fund (ETF), introduced in 1993 in USA. After twenty years of its inception, Bangladesh is going to introduce this investment instrument at DSE soon. This article gives the readers a comprehensive idea about the origin, its differences with other related investment funds, its creation and redemption process, its usage to its investors, benefits, related risk factors, its evaluation factors and costs to the investors. ETF is a hybrid attractive investment instrument and possesses qualities of both the mutual fund and common stock. It avoids disadvantages such as lack of transparency, agency conflicts etc. of closed end mutual funds and takes the benefit of the flexibility of common stocks. For Bangladesh, where the structure of Stock Market lacks accountability, this sort of investment instrument which has transparency will bring confidence among the customers. The neighboring countries where it has been introduced has been successful. More can be stated regarding ETF in perspective of Bangladesh after its official introduction at DSE.

I. Introduction

It is almost twenty one years since the SPIDER is roaming at the world's largest stock markets. Only recently it has caught the eyes of the stock market regulators of Bangladesh. At the end of the current year DSE is going to catch that roaming SPIDER. The experienced and well known investors have already understood what this SPIDER means. For those who have not understood what this word SPIDER means, this article is for them. SPIDER is the name of the first Exchange Traded Fund (ETF) which was introduced in 1993 to track S&P 500 (SPDR- S&P 500 Depository Receipts). ETF is relatively new concept in comparison of other stock market instruments e.g. shares, mutual funds etc. As this is new to the investors of Bangladesh, there is little knowledge available to them regarding this lucrative and fast growing securities. This article describes this stock market instrument from the examples of its introduction in the other developed and developing countries. The readers of this will have a comprehensive idea regarding this stock market instruments, its difference from other related instruments (e.g. mutual fund, Closed-end funds, ETNs etc.), normal procedures of creation and redemption of ETF shares, its advantages and disadvantages, its usual buying and selling procedures, its evaluation and so on. This instrument is very fast growing and very popular among the investors in every country in which it has been introduced. Will it be that much attractive to the investors of Bangladesh? The nature of the stock exchanges here is very much different than that of the stock exchanges of other developed and developing countries. This article also tries to find the answer of that question.

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II. Exchange Traded Fund (ETF)

Dhaka Stock Exchange has decided and is taking initiatives to issue Exchange Traded Fund (ETF) soon (Mufazzal, 2014). Now we need to know what this ETF is.

To simply think, ETF is a pooled investment vehicle like a mutual fund with shares that can be traded on a stock exchange throughout the day in a price which will be determined by the market. By a pooled investment vehicle it means that this instrument will pool the assets of multiple investors and invest those assets according to its investment objectives. Each share of this pooled fund will represent an undivided interest in the underlying assets of the fund(ICI, 2012).Most of the time ETFs are introduced to track the performance of any particular underlying index(LYXOR, 2013). They are designed to be traded at a price that approximates the market value of their underlying assets. By investing in ETFs, the investors get the benefit of diversification just like an index fund (A type of mutual fund with a portfolio constructed to match or track the components of a market index (Investopedia, 2014)), along with the facilities related with a general common stock such as the ability to sell short, buy on margin and purchase as little as one share (Investopedia, 2014). Therefore, it can be stated that when the investors buy the shares of an ETF, they are buying the shares of a portfolio that tracks the yields and returns of the native index fund but the difference between the index fund and the ETF is that Index funds try to outperform or beat the market and the ETFs try to be the market (Nasdaq, 2005).

a) *ETF and Other Investment Products*

Now to understand more about ETF we have to identify the differences between ETF and other investment products.

i. *ETF and Mutual Fund*

More often ETF is considered as a mutual fund but it is not. There are some subtle differences between

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these two types of instruments. Mutual Funds are two types. One is open ended and the other is closed end mutual fund. Basically mutual fund means the open ended mutual but in the developed countries unlike Bangladesh. In mutual fund, shares can be bought or sold at the fund's net asset value (NAV) which is calculated at the end of the day. Unlike this, ETFs can be bought or sold at any time of the day on a stock exchanged at a market determined price. Therefore, normally though ETF tracks an index and the ups and downs of that index will have influence over the price of an ETF share but the ups and downs of price of the shares of ETF will not have any effect over the index. In mutual funds the Asset Manager (Who has the mutual fund to invest in the stock market) are not bound to report the daily portfolio of the investment to the shareholders but the Authorized Participants (AP) are required to show the daily portfolio to the shareholders(ICI, 2012). There are other differences of mutual funds and ETF on the types of costs and tax implications of these two instruments.

There are much more similarities between a Closed End Mutual Fund and an ETF. Both ETF and closed end mutual fund are traded on a stock exchange throughout the day. Therefore, in terms liquidity these two instruments provide the same benefit to the customers. Here the main difference between these two instruments is that closed end mutual funds are issued only at the initial stage of its life whereas ETF permits its Authorized Participants to create and redeem its shares on a daily basis. This enables ETF to move closely with the price of the assets underlying whereas the price of closed end mutual funds fluctuates and often remains different from the market value of their underlying assets.

ii. *ETF and Exchange Traded Notes (ETN)*

Though these two instruments sound like the same, there are some significant difference between them. ETNs are exchange-traded securities designed to provide investors with a return that corresponds to an index. Though this is also the main characteristics of an ETF, ETNs are different from ETFs in the sense that ETNs are promises to pay a specific return (normally the return corresponds to the index or benchmark minus a fee) which is unsecured whereas ETFs represent an interest in an underlying pool of assets thus, it is secured. This difference has three significant implications. One is that in ETNs the investors are exposed to credit risk. As it is a promise, if the issuer goes bankrupt, the investor is in the position as all the unsecured creditors of the issuer whereas the underlying assets of any ETF are kept separately from the assets of the APs. Therefore, if the AP goes bankrupt, the fund will continue to be managed by the other managers or will be liquidated and the shareholders will receive cash representing the value of his or her share of the underlying assets. Another implication is that as ETN is simply a promise, the yield will be precisely according to the movement of the tracking index but in case of ETF, it is a share of the pool of the assets it maintains thus it may or may not precisely reflect the performance of the underlying benchmark. The last implication is related with the concerning laws of these two instruments.

iii. *ETFs and Index Funds*

Both of these funds have a benchmark most of the time which is the stock market indices and both of these track the performances of those indices. But there are some delicate differences between these two. Kostovetsky(2003) has identified these differences by using three dimensions such as cost, size and time-horizen output. In comparison of cost index fund is more expensive than the ETFs as index funds incur some additional transaction costs through the brokerage house like Vangaurd or Schwab account(Forbes, 2013). ETFs provide more liquidity than the Index fund. The reason is that index funds are alike mutual funds and valued at the end of a day trading whereas the investors can buy and sell ETFs at anytime of a day. Another aspect is that in index funds the investors do not remain worried about dividends as the dividends get automatically reinvested. For ETFs the investors will get the return on the shares and they can invest the proceed according to the wish they have in their mind. ETFs are much more flexible than the index funds. ETFs are used as a good alternatives of the future contracts and the contractors enjoy the relief of not preparing any special documentation or special accounts. From these perspectives and benefits, passive institutional investors and active individual traders love ETFs and the passive individual investors love index funds.

III. ETF and its Past

It has been only twenty years since ETF has been introduced in the stock markets whereas mutual fund, its close competitor, has a very long history starting from 1774. In that year a Dutch merchant invented world's first close ended mutual fund. One and a half century later first open ended mutual fund has been introduced. ETF's most close cousin Index Fund has also been started a lot earlier. In response to an academic research suggesting the advantages of passive investing, Wells Fargo and American National Bank both launched index mutual funds in 1973 for institutional customers. Mutual fund legend John Bogle would follow a couple of years later, launching the first public index mutual fund on Dec. 31, 1975. This fund called the First Index Investment Trust, tracked the S&P 500 and started with just $11 million in assets(Simpson, 2013).

"When was the first ETF introduced?" there is bit of argument regarding this issue. The website of Vanguard says in 1990 in Canada world's first ETF has been introduced (Vangaurd, 2013). This is also supported by Morning Star (Davidson, 2012).But Simpson (2013) says that first real attempt of ETF was made in 1989 which was the launch of Index Participation Shares for the S&P 500(Simpson, 2013). Whatever the first attempt was, it was not a long wait the first ETF began trading in January of 1993. The S&P 500 Depository Receipt (called the SPDR or "SPIDER" for short) was the first of its kind and is still one of the most actively-traded ETFs today. Although the first ETF launched in 1993, it took 15 more years to see the first actively-managed ETF to reach the market (Simpson, 2013).In 20 short years since their introduction in the United States, ETFs have taken the investment industry by storm. Today, U.S. ETF assets total more than $1.4 trillion, invested in more than 1,440 ETFs (Source: Bloomberg.)(Vangaurd, 2013). The same effect has also been seen in the global economic environment. Figure 1 shows the impact ETF has made globally.

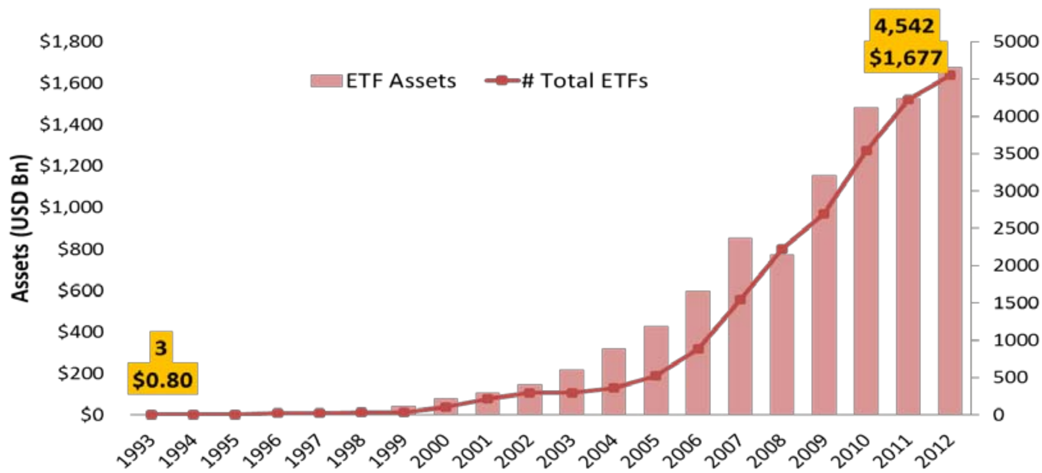

Figure 1 : Etf in the Global Market

Source: http://www.blackrockinternational.com

The SPDR fund (pronounced "spider") – the very first ETF – tracks the Standard & Poor's 500 stock index and is still the largest ETF on the market. With assets of around $58 billion, it is the granddaddy of all ETFs, accounting for about 16% of all assets in the ETF market(WSJ, 2013).There were certain benefits of this new type of fund. There were no broker commission for trading this sort of fund (WSJ, 2013). That time the market was commission based and the brokers were keen to trade single stock instead of something by which the investors got a broad market exposure. "The migration from the commission-based financial adviser to the fee-only financial adviser is a trend that is ongoing," says Jim Ross, senior managing director of SSgA Funds Management at State Street Global Advisors. There were some other which triggered the booming of ETFs. "Initially, the brokerage community wasn't ready for ETFs – they were earning high commission rates then, and preferred to sell single stocks to their clients instead of something that got you broad exposure in one trade."(WSJ, 2013). But now, many investors would rather pay a straight fee or percentage of assets for advice on their investments rather than per-trade commissions. And financial advisers have gotten more comfortable that they can use ETFs – perceived as a passive product – in an active environment(WSJ, 2013).According to Ross clients are paying financial advisers to allocate their assets and tell them when to reallocate, and advisers are looking for the best way to do that, which can be through ETFs. Financial advisers are a driver to growth in ETFs (WSJ, 2013). Yuvraj Patil (2003) has identified 6 factors that have driven the growth rate of ETFs (Patil, 2013). They are:

1. Large variety of indices of Equity, Fixed income, Commodity and other covered by ETFs
2. Facilitation of investor education & trading by large broking houses
3. Special market campaigns by many on-line brokers in an effort to win new accounts and cross-sell other products
4. Major fund platforms embracing ETFs
5. Regulatory changes in the US, Europe and many emerging markets that allow funds to make larger allocations to ETFs
6. Development and growth of investment styles that employ products like ETFs that deliver low cost beta
7. After the inception, innovations related with this financial instrument have never stopped. Started with the index, ETF now track Currency (Rydex Currency Shares), Commodities (The SPDR Oil & Gas Exploration & Production ETF-XOP, United States Oil Fund-USO), Metals Funds(Van Eck Market Vectors-Gold Miners ETF- GDX, iShares Silver Trust-SLV) etc.

IV. How ETF's Shares are Created and Redeemed

ETF has not been in Bangladesh yet. Therefore, nothing specific can be told regarding the process of the creation and redemption of it. But the usual practice in the world market of this process is described here. ETF shares are created and redeemed by a special agent who is called "Authorized Participants of AP". They are usually the large stock broker dealer in a stock exchange. Each business day, ETF publishes a "Creation Basket" – a list of names and quantities of securities held by the ETF. To create ETF shares, an AP provides the creation basket to the ETF and receives in return a "Creation Unit". Creation Unit usually a very large block of shares containing typically 50,000 shares. Under certain circumstances, the AP may provide cash in lieu of some or all of the securities in the creation basket along with a transaction fee to offset the cost to the ETF of acquiring the securities. Upon receiving the ETF shares, the AP may sell some or all of them in the secondary market. This whole process has been stated here from Investment Company Institute(2012).

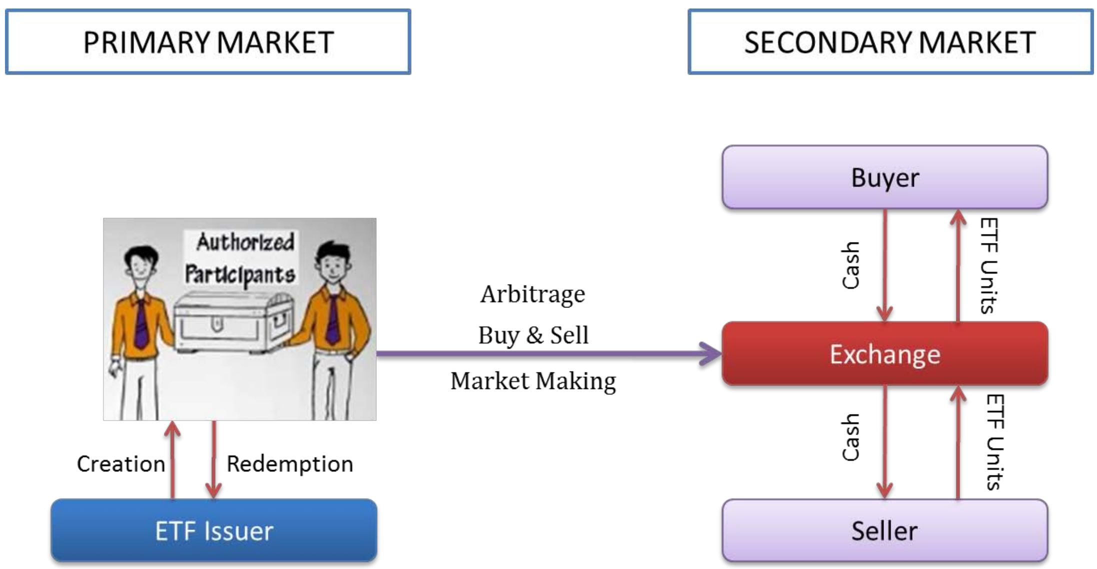

Figure 2 : Primary Structure Of Etf Shares

A creation unit is liquidated when an AP returns the specified number of shares in the creation unit to the ETF, in exchange for the daily "redemption basket" (a set of specific securities and other assets contained within the ETF's portfolio), cash, or both. The composition of the redemption basket typically mirrors that of the creation basket. If the AP receives cash in lieu of securities, it will pay a transaction fee to offset the cost to the ETF of liquidating the securities(ICI, 2012).

The creation and redemption process of ETF leaves an arbitrage opportunity for the APs. The creation and redemption mechanisms help ETF shares to trade at a price close to the market value of their underlying assets. When ETF shares begin to trade at a price that is higher than the market value of their underlying assets (at a "premium"), APs may find it profitable to create ETF shares by buying the underlying securities and exchanging them for ETF shares, and then sell those shares into the market. Similarly, when ETF shares begin to trade at a price lower than the market value of their underlying assets (at a "discount"), APs may find it profitable to buy ETF shares in the secondary market and redeem them to the ETF in exchange for the underlying securities. These actions by APs, commonly described as "arbitrage opportunities," help to keep the market-determined price of an ETF's shares close to the market value of their underlying assets (ICI, 2012). Figure 3 gives a simple structure of ETF.

V. ETFs to the Investors

Now that we have understood what ETF, how it differs from the other investment instruments and how it works, we can understand its usage to the investors. Individual investors can use ETFs to build a portfolio which risks are diversified across the whole market for the long term. ETFs can also be used to gain the market exposure to one particular asset class which underlie any particular index that the ETF tracks. The portfolio can also be built for the short term.

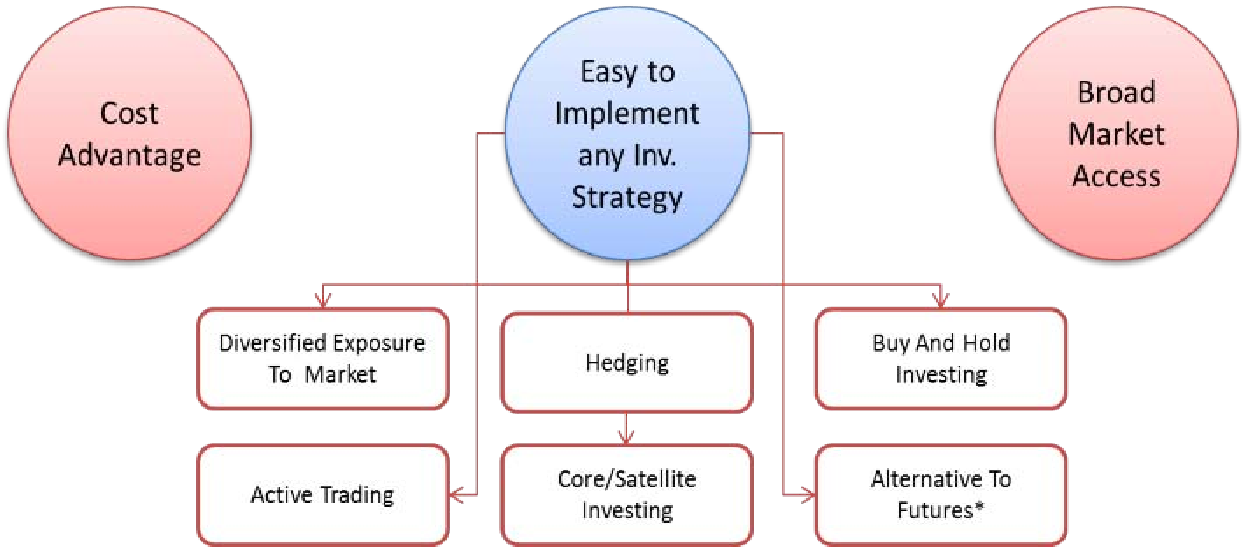

Figure 3 : Key Benefits Of Etf

Source: Patil, 2013

Institutional investors and other traders may use the ETF in the same way. They may also use the ETFs for gaining a short term exposure of the whole market or any particular market or to hedge other investments in a portfolio. For an example, institutional investors like mutual funds or pension fund can invest in ETFs to obtain any interim to a particular market while gradually investing directly in that market. And this is possible as ETFs can be sold directly for cash in the stock market anytime throughout the day.

In a word, ETFs provide both the institutional and individual investors the flexibility of going in or out of the market easily. This flexibility is more in ETFs than other such type of investment instruments because as most of the transactions of ETFs held in stock exchange, they do not affect the fund or the shareholders directly which means those trades do not represent any in and out of money from the fund and for this reason the authorized participants do not need to react by trading other securities. These reactive activities incur costs for the fund and as these activities are avoided the ETFs remain less expensive from other securities. The costs incurred in creation and redemption of ETFs are absorbed as APs do those transactions on an in-kind basis and try to absorb those costs with the transactions costs of the ETF's underlying securities rather than with the fund itself. This is how ETFs gives the investors the cheapest financial services. Here a chart has been given (Figure-3) which illustrates the process of key benefits and the usage of ETFs to the investors.

There are some other significant benefits of investing in ETF shares. The benefits ETFs stated in the above picture are similar to a mutual fund but the extent of those benefits for ETFs is very deep in terms of mutual funds. We all know how the investors get the above benefits from investing in ETFs.

Along with the above benefits some other unique benefits are:

a) *Tax Efficiency*

It is said that ETFs are more tax efficient than the other investment instruments. This is not a hard and fast rule. There are some options which can be applied for getting the tax benefits from the investment of ETFs. Those options are low portfolio turnover strategies and in-kind redemptions. ETFs that do not employ those two options may not be more tax efficient than the mutual funds and in fact may be less efficient from the mutual funds that employ those two options(ICI, 2012).

b) *Transparency*

This is the benefit that ETF investors get and the investors of close ended mutual fund do not. Especially in the developing countries where the stock exchanges are less regulated, the asset managers of close ended mutual fund enjoys the facility of investing the fund in the securities they want. They are not required to express their portfolios on a daily basis to their investors. They are not also required to express any kind of bench mark by which the investors can predict the performance of the portfolio than has been constructed by their own money. Whereas the investors of ETF regularly get their update of their portfolios and as they know the bench mark or the asset underlying the ETF they can track and predict the performance of their investment.

These benefits are the main reasons why this fund has accumulated almost half of the total value of the mutual fund across the world in a very short time.

VI. Costs Associated with ETFs

Along with the benefits ETFs also include some costs that the investors should be aware of. These are typical costs of investing in any EFT share. These costs may differ with the nature and environment of the stock exchange across the world.

a) Operating Expenses of Fund

Like mutual funds, ETFs charge fees to cover operating expenses, such as advisory services, administration, and recordkeeping, among other things. These fees are detailed in the fund's summary prospectus and long-form prospectus, expressed as a percentage of fund assets paid annually. This percentage is commonly called an expense ratio." ETFs typically have lower total expense ratios than retail share classes of comparable mutual funds. Typical ETF administrative costs are lower than an actively managed fund, coming in less than .20% per annum, as opposed to the over 1% yearly cost of some mutual funds (Nasdaq, 2005).Even ETFs' expense ratio is lower than the cheapest index fund. For example, comparing the Vanguard 500 Index Fund, often cited as one of the lowest of the low-cost index funds, and the SPDR 500 ETF. The Vanguard fund's expense ratio of 21 basis points is significantly lower than the 100+ basis points often charged by actively managed mutual funds. But when compared to the SPDR's 9.5-basis-point expense ratio, the Vanguard fund's expense ratio looks quite high. In fact the SPDR is 45% lower, which is tough to argue with (McWhinney, 2013).

b) Brokerage Commissions

Because ETFs are exchange-traded, investors must buy and sell ETFs through a broker, who is typically compensated for this service. Some brokers charge a flat fee for each transaction, while others may assess a fee based on the total assets in the investor's account(ICI, 2012).

c) Bid/Ask Spread

When buying or selling ETF shares on the secondary market, there is typically a difference between the highest price a buyer is willing to pay for an ETF share (the "bid"), and the lowest price a seller will accept to sell an ETF share (the "ask"). As a result, an investor will typically buy ETF shares for slightly over "market" price and sell for slightly less. Bid/ask spreads are typically lower for larger ETFs and those that are heavily traded and/or highly liquid(ICI, 2012).

d) Loss for Premium/Discount Volatility

ETF shares are designed to trade on the secondary market at a price that approximates the market value of their underlying assets but at times their market price may be higher (a "premium" to) or lower (a "discount" to) than the estimated market value of their underlying assets. Premiums and discounts are not direct costs to an investor, but changes in premiums and discounts (i.e., volatility) may affect the value of the investor's ETF shares— for example, if an investor buys shares at a premium and sells at a discount, he or she incurs a loss.

VII. Buying and Selling of ETFs by an Investor

Investors buy and sell ETFs on the secondary market at a market-determined price. This means that they enter their trades through a brokerage account, and typically pay a brokerage commission. The whole process is just like trading a stock.

When placing a trade order through a brokerage account, there are two basic options: market orders and limit orders. The selection will impact how (and possibly whether) an investor's order is executed. The way any investors place those two types of orders for any common stock or closed end mutual fund, same way will also be used here.

VIII. Evaluating an ETF before Investment

There are certain factors that should be considered by the investors before investing in any kind of ETF. Investment Company Institute (2012) has identified six such factors. These factors differs with the nature of the ETFs in any stock exchange and the economic environment of the stock market.

a) Performance

While past performance is not an indication of how an ETF may perform in the future, an investor may wish to evaluate an ETF's performance against its stated objective or benchmark. For an index-based ETF, this is measured by the ETF's tracking difference. When evaluating an actively managed ETF, an investor might look at how the ETF has performed compared to its stated benchmark. An investor in an actively managed fund might also wish to consider whether the ETF's portfolio managers have changed, i.e., whether the ETF's past performance is attributable to the current managers.

b) Tracking Difference

Tracking difference is the extent to which the ETF's return deviates from the return of its benchmark index. Tracking difference can be influenced by a number of factors, such as how an ETF seeks to track the index (i.e., whether it invests in every security in the index or in a representative sample of securities in the index), the ETF's operating expenses, and how the manager handles index rebalancing and corporate actions. Tracking difference is sometimes called "tracking error," but tracking error more precisely refers to the standard deviation of the differences between the performance of the fund and its benchmark.

c) Cost

There are a number of costs associated with investing in an ETF, including fees charged by the ETF sponsor, brokerage commissions, and/or account fees associated with receiving financial advice (e.g., wrap fees). An investor may also wish to consider indirect costs, including those stemming from the bid/ask spread and any premium/discount volatility.

d) Premiums/Discounts

Although ETF shares are designed to trade on the secondary market at a price that approximates the market value of their underlying assets, at times their market price may be higher (a "premium" to) or lower (a "discount" to) than the estimated market value of their underlying assets.

e) Liquidity

Liquidity refers to how easily shares can be bought or sold without moving the market for those shares. Securities with high trading volumes are generally considered more liquid. ETF liquidity should be considered with respect to both the ETF shares and the underlying securities the ETF holds. Highly liquid ETFs and ETFs that have highly liquid underlying securities (even if the ETF shares do not have high trading volumes) typically have narrower bid/ask spreads than ETFs that trade less or hold less liquid securities.

f) Bid/Ask Spread

When buying or selling ETF shares on the secondary market, there is typically a difference between the highest price a buyer is willing to pay for an ETF share (the "bid"), and the lowest price a seller will accept to sell an ETF share (the "ask"). As a result, an investor will typically buy ETF shares for slightly over "market" price and sell for lightly less. Bid/ask spreads are typically lower for larger ETFs and those that are highly liquid. Investors should consider the bid/ask spread of shares of ETFs in which they consider to invest their hard earned money.

These factors may not be equally applicable to all types of investors in any market. The impact of each of these factors will vary with the investor type. However, these factors cover all the aspects that an investor should consider before building a portfolio of ETFs.

The analysis and background given above cover almost all the basic aspects of ETF. Now the main purpose of this article which is implied by the title "Bangladesh is Going to Catch the SPIDER", should be served. After almost 58 years of the inception of formal transactions on the stock exchanges and 21 years of the inception of the SPIDER, Bangladesh is going to introduce ETF in Dhaka Stock Exchange, one her two stock exchanges(Dhaka Stock Exchange, 2011). On September 21, 2014, the authority of DSE has asked for the permission to issue Bangladesh Stock Exchange Commission (BSEC)(New Age, 2014; Mufazzal, 2014). Dhaka Stock Exchange Managing director has told that Bangladesh Securities and Exchange Commission should allow the bourse to launch two index-based exchange traded funds [ETF](New Age, 2014). Proposal has already been submitted to BSEC for the approval. Finally in Bangladesh SPIDER is going to be traded.

g) ETFs to be Introduced in Bangladesh

Nothing detail has been published for the people regarding this instrument as it has not been formally introduced here. What information has been stated here is collected mostly from Newspapers.

As per the MD of DSE Mr. Swapan Kumar Bala, two ETFs will be introduced on the bourse. That two ETFs will be formed based on DS30, the blue-chip index of the DSE, and DSES, the Shariah index of the bourse. To quote his saying "The DSE has made the proposal of launching ETFs in a bid to diversify its business as part of its business plan which was earlier approved by the commission with its demutualization scheme"(New Age, 2014). Now if the regulator allows, these two ETFs will be introduced soon with the introduction of its new trading system. The launching of this new investment instrument is now the priority issue for the bourse. The authority of DSE has already discussed with several Asset Management Companies to launch the product. As per the opinion of a senior official of DSE, the role of DSE will be to design the model of the ETFs and provide necessary information of a selective index to the asset management company who will operate the fund. The Asset Management Companies (AMC) will invest into the companies under the indices as per the provided guidelines of DSE or the ratios. This will ensure the same return that any investment would get if the investment is diversified among the shares of the companies underlying the indices. DSE will not make any investment in this fund.

h) Rules Concerning ETFs

As per the authority of DSE, the ETFs will be introduced here as an open-end Collective Investment Scheme (CIS) that continuously issues and redeems its shares of stock in creation of unit in exchange for basket and representing an index (Business News, 2014; Mufazzal, 2014). As this will be introduced as Collective Investment Scheme (CIS), the rules and regulation concerning CIS will be applied here. The rules and regulations of CIS covers only the property related investment, therefore, a fine tuning will be needed here. According to the opinion of DSE MD "The regulations of existing CIS covers only the property related investments. We will be able to issue the ETF by bringing amendment to the regulation of CIS" (Mufazzal, 2014). He has also told that an AMC will issue the ETFs and the investors will be allowed to purchase the shares of this fund on the basis of availability. Regarding the formulation of new rules and regulation he told that the regulations will be formulated considering the matter of risk minimization. This fund will be listed in the stock exchange though it has the characteristics of an open-ended mutual fund. Therefore, the regulation will also include the provisions by which ETF will be listed on the bourse.

IX. ETFs in Bangladesh: an Evaluation

Recently just a couple of years earlier, Bangladesh has gone through its one of the worst stock market crises ever. This crisis has been preceded by the world's one of the largest financial crises. Many research and analyses have been made on this crisis and the reasons behind this catastrophe have been identified. If we look at the factors that have triggered the crisis, we will see the following factors which were identified in a working paper of Centre for Policy Dialogue (CPD)(Moazzem& Rahman, 2012):

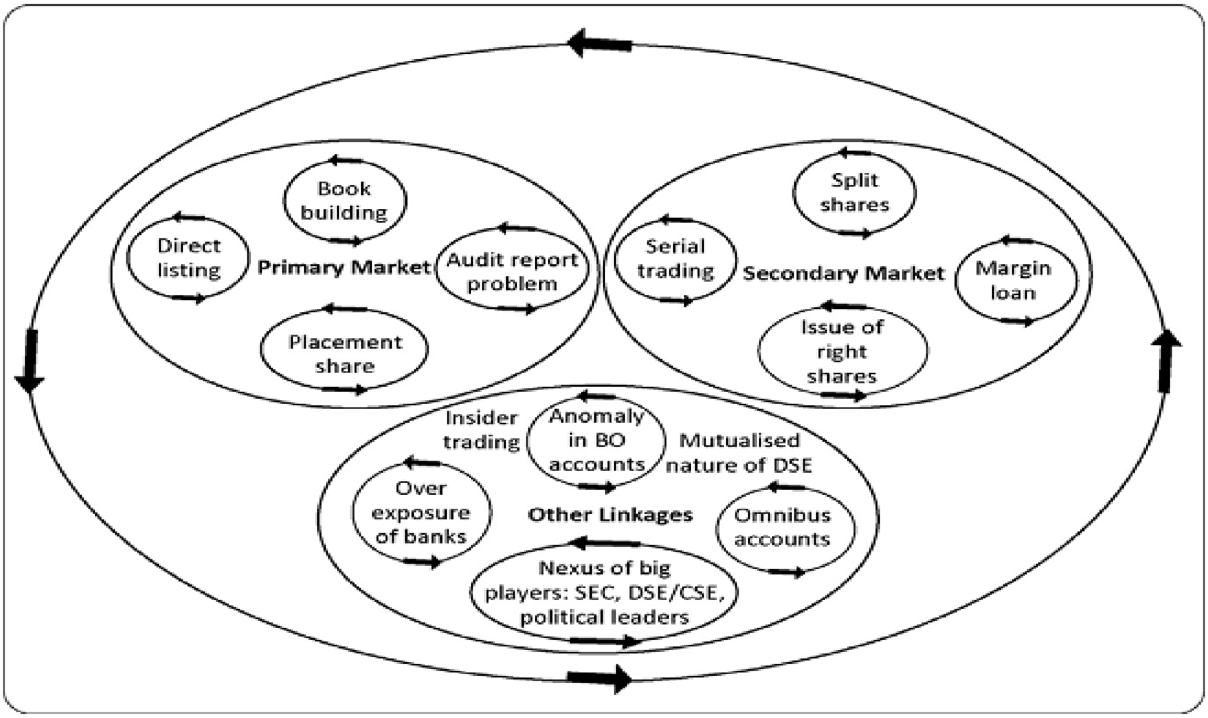

Figure 4 : Factors of the Crash in 2010-2011 in Bangladesh

Source: Moazzem & Rahman(2012)

1. Informational Market Inefficiency
2. Lack of Transparency
3. Presence of Bull Cartels
4. Book Building System not Monitored
5. Rampant Use of Placement Shares
6. Malpractice of Serial Trading
7. Heavy Insider Trading
8. Faulty Audit Reports of the Listed Companies
9. Faulty Operations of Excessive Number of Merchant Banks
10. Retailer-like Behavior of Institutional Investors

And 8 other such factors.

The authors of that working paper has shown those factors as the toxic elements of Stock Market. Still Bangladesh is trying its best to recover herself from this crisis. The DSE and BSEC have gone through many reformations and the monitoring of these regulatory authorities has been increased and the regulators are trying to remove those toxic elements from the market. In the last two years they have been successful in their efforts as we have seen 30% increase in the DSE30 index of DSE. But there still remains some of the toxic elements in our stock market. For example, recently we have seen the second largest Asset Management Company of Bangladesh, LR Global Bangladesh Asset Management Company Limited making forgery with fund of the Mutual Funds it operates (Mohajon, 2014). It broke the fundamental law (Mutual Fund Regulations, 2001, Sec-27) on which it is based which states that AMCs cannot be the entrepreneur or trustee of any mutual fund, even cannot be related with the governing body of any company. In this forgery, they have broken this rule and invested the hard-earned money of the investors in a crappy private company which is alleged to be the company of the MD of that AMC. Even after that this company is running (Mohajon, 2014). In Bangladesh most of the Mutual Funds are Closed-end Mutual Funds even here Mutual Fund means the closed end mutual fund. Therefore the disadvantages of mutual funds will have serious implications in the economic environment of Bangladesh.

1. *Lack of transparency& knowledge:* The AMCs of closed end mutual funds are not required to express the portfolio of the assets in which they are investing the investment of risk averse investors. A stock market researcher, Md. Itrat Hossain says, though in the developed countries the asset managers publish their portfolio quarterly, the biggest and largest companies here in Bangladesh do not publish their portfolios in years. As the share market of Bangladesh is like what the evidence stated above proves, the AMC has little accountability of the usage of the fund they have of the investors.
2. *Management Fees:* In closed end mutual funds, AMC charge the investors for utilizing their specialized knowledge in the market from the investors. Asset Managers like LR Global will invest in the crap companies in one hand and on the other hand they will also charge the investors for investing there. As the structure of our markets are weak asset managers can do that and exploit the hard earnings of the investors.

Here we see the weaknesses of stock exchanges and the operational lacking of the mutual fund in Bangladesh. In this background ETFs are being introduced in this stock market. Let's have a look at this funds advantages from the perspective of Bangladesh.

a) Transparency

This is the most transparent investment instrument as the investors will always know how its performance will be by tracking the benchmarks or the assets underlying it. Therefore, the AMCs will not have any such power to gamble with the money of the investors. For Bangladesh, where the AMCs can do anything with the money they have of the investors (As the evidence suggests- Mohajon, 2014), this transparency will boost the confidence of the investors on the stock market.

b) Low cost

This fund as described in the earlier part of this article is the cheapest of all the funds. Here the AMCs do not possess any specialized knowledge that he can use and charge the innocent investors as the investment will be made as per the instructions or ratios provided by the DSE. The shares of this fund will be traded like the common stock. Therefore, the investors will have to pay the same costs for ETFs as they pay for the common stocks.

c) Diversification

As per Md. Itrat Hossain, most of the investors here in Bangladesh are small investors and possess very little knowledge about the market and have a very low amount of money to invest in all the shares of DSE30 to have the broad diversification in the investment. With the investment in ETFs those small individual investors will be able to have the broadest diversification they can ever have in the stock market. Their investment will be almost unsystematic risk free. The systematic risk will the same as the market indices. They will also be able to invest in those shares which usually remains out of their reach. This will be a great boost in the confidence of the investors.

d) Trading like Common Stock

According to the opinion of that researcher, the normal investors of Bangladesh are simple and they do not want to enter in any kind of complexity. Therefore, for the common investors, this fund will be very easy to understand as this fund is traded like the common stocks. Here the investors will be able to use this share for their short term, medium term and long term investment. Therefore, this fund will be warmly welcome by the common investors of Bangladesh.

e) No Agency Conflict

The asset managers sometimes gamble with the money of the investors thinking that they are doing all the research and the investors are taking only the profit earned by us. Here in case of ETFs it is not possible because here there is a passive management from the investors to the fund. Here the asset managers or the authorized participants will not have to work very hard or continuously to be in track with the benchmarks it follows as the investment is made specifically in the design designed by DSE itself to track the underlying benchmark or asset class. This reduces the possibility of managerial cost of Agency for the investors.

Therefore, from the above evaluation, evidence and opinions presented we can say that the introduction of ETF in DSE will bring a new dimension in the history of Stock Market of Bangladesh.

f) Opinions of International Experts

Regarding the introduction of ETFs here in Bangladesh, DB X-Trackers said that Bangladesh is one of the emerging frontier markets in the world with some exciting propositions where ETF will have an excellent future (Smith, 2012). Eagle Financial Publications, (2014) has also considered Bangladesh one of the 10 most emerging financial markets in the world and predicted a great future of ETF shares here. ETFs are very much successful in the other developing and our neighboring countries such as India, Singapore, Thailand and Philippines (Patil, 2013).

X. Conclusion

SPIDERs are in process to roam the stock market of Bangladesh. In a very short time this investment instrument has been able to be in a competition with the mutual funds, it's very old cousin. Now Bangladesh faces some serious problems regarding the regulatory bodies of stock exchanges and their structures. There is little the government can do in this sector without strengthening the structure of this sector. Here, the introduction of ETFs with its transparency, low costs and flexibility what will bring, this is question now among the researchers and investors. Nothing certain can be expressed before its formal introduction. But as the evidence states and ETFs' past in the other countries, this investment instrument will bring confidence among the general investors. The transparency that ETFs provide is the rarest thing that the investors of Bangladesh normally experience. This may open a new dimension for the investors here and they may become a fan of the transparency and become very aware of their investment. All of these now we can anticipate but we cannot tell for sure what will really happen. Therefore, let's whether the SPIDER be able to form the net of confidence among the investors of Bangladesh.

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Causal Relation between Stock Return and Exchange Rate: Evidence from India

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Abstract- The dynamic linkage between exchange rate and stock returns has been subjected to considerable attention from researchers worldwide. However the relationship of exchange rate with returns of different industrial sectors has not been much examined. In this reference the present paper investigates the causal relationship of Indian sector based daily returns with Indian rupee-US Dollar Exchange Rates for a period from January, 2007 to March, 2015. The study observed absence of normal distribution, unit root as well as co-integration in the data. Correlation between returns and Exchange Rates was found to be negative. Granger Causality test highlighted bidirectional causal relationship between the exchange rate and stock return for each sector except for Pharmaceutical and Media. Pharmaceutical index reported unidirectional relation running from exchange rate to the industry. In case of Media sector return and exchange rates a unidirectional relation running from the former towards the latter has been observed.

Keywords: *causal relationship, co-integration, economic sectors, exchange rate and stock return.*

GJMBR - C Classification : *JELCode : G10*

CAUSALRELATIONBETWEENSTOCKRETURNANDEXCHANGERATEEVIDENCEFROMINDIA

Strictly as per the compliance and regulations of:

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Abstract- The dynamic linkage between exchange rate and stock returns has been subjected to considerable attention from researchers worldwide. However the relationship of exchange rate with returns of different industrial sectors has not been much examined. In this reference the present paper investigates the causal relationship of Indian sector based daily returns with Indian rupee-US Dollar Exchange Rates for a period from January, 2007 to March, 2015. The study observed absence of normal distribution, unit root as well as co-integration in the data. Correlation between returns and Exchange Rates was found to be negative. Granger Causality test highlighted bidirectional causal relationship between the exchange rate and stock return for each sector except for Pharmaceutical and Media. Pharmaceutical index reported unidirectional relation running from exchange rate to the industry. In case of Media sector return and exchange rates a unidirectional relation running from the former towards the latter has been observed. The study concludes that there is a possibility to use information of the one variable to predict about the other. Further the findings have policy implications for policy makers as well as portfolio managers.

Keywords: causal relationship, co-integration, economic sectors, exchange rate and stock return.

I. Introduction

The study of causal linkage between stock prices and macro economic variables has always been a matter of great concern to researchers. The relationship between stock returns and exchange rate has also been investigated in different economies. Initially the linkage of exchange rates with stock prices was found to be more significant in context to the developed nations having great exposure to foreign currency. But since last few decades the relationship is observed to be significant for developing and emerging economies also. Sabri (2004) also reported a strong positive correlation amid volatility in the stock market and exchange rate movements in the emerging stock markets. Pan, Fok & Lui (1999) also pointed out that the causal relationship has been stronger after the Asian crisis. The linkage has become more apparent and stronger primarily owing to the increased liberal and deregulatory reforms in these countries. In India also issuance of American Depository Receipts and General Depository Receipts facilitated the trading of foreign securities at different platforms. The liberalization reforms have also bought the exposure of exchange rate fluctuations over different sectors of emerging economies.

Initially the primary focus of researchers for causality examination was limited to leading stock return. But recently some studies analysed the linkage of exchange rate at micro level like industry specific indices. These studies highlighted a vivid spectrum of influence. Like study by Chamberlain, Howe, and Popper (1997) found that the U.S. banking stock returns are very sensitive to exchange rate movements, but Japanese banking firms are not. Griffin and Stulz's (2001) also analysed the relationship of exchange rate shocks with the industry indexes across the world. Aydemir and Demirhan (2009) investigate the causal relationship of exchange rates with different stock price indices like national 100, services, financial, industrial, and technology. In this context the present study examines the causal linkage of India's leading index Nifty as well as 11 sector specific indices with the exchange rate in terms of US dollars.

II. Literature Review

Considerable amount of research have been conducted to examine the causal relationship between stock returns and exchange rate. Some studies rejected the possibility of any kind of significant causal relationship between the two variables. Whereas some others have established either unidirectional or bidirectional relationship between exchange rate and stock prices (returns). These studies may be summarised as follows:

a) Absence of Linkage

Jorion (1990, 1991), Bodnar and Gentry (1993), and Bartov and Bodnar (1994) rejected the possibility of any kind of significant relation between simultaneous dollar movements and stock returns for U.S. firms. Similarly studying 171 Japanese multinationals, He and Ng (1998) also found that only about 25 percent of their sample has significant exchange rate exposure on stock returns. The investigation of weekly return by Griffin and Stulz's (2001) found that exchange rate shocks have a negligible impact on the value of industry indexes across the world. Muhammad and Rasheed (2002) investigated the causal relationship between exchange rate and stock market index in South Asian Countries. The results suggested absence of causal relationship between Exchange Rates and Stock Prices. Desislava

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(2005) also found no existence of causality between exchange rates and stock prices for UK and US for the period 1990-2004. An investigation of US data by Ozair (2006) established no causal linkage and no Co-integration between these two financial variables.

b) Unidirectional Causality

Examining the relationship between the two variables for developing countries Abdalla and Murinde (1997) found that exchange rates Granger cause stock prices in Korea, Pakistan, and India. However in case of Philippines stock prices observed to Granger cause exchange rates. Ajayi et al. (1998) investigated the causal relations for a period from 1985 to 1991. The study covered seven advanced markets and eight Asian emerging markets. The study reported unidirectional causality in all the advanced economies but no consistent causal relations in the emerging economies. The results were supported by the unique structure and characteristics of their financial markets.

Maysami and Koh (2000) also observed exchange rate as one of the determinants in the stock prices. Smyth and Nandha proved no long run relationship between the two variables for Pakistan, India, Bangladesh and Sri Lanka over the period 1995-2001. However, the study supported the unidirectional causality running from exchange rates to stock prices for India and Sri Lanka. Agus and Carl (2004) examined the statistical relationship between stock prices and exchange rates in four SEAN countries (Indonesia, Philippines, Singapore and Thailand). The study noted that all stock prices and exchange rates are cointegrated and the causality runs from exchange rate to stock prices. The impact of exchange rate over Japanese stock prices was observed by Kurihara (2006) for the period March 2001-September 2005.

c) Bidirectional Causality

Bahmani-Oskooee and Sohrabian (1992) also pointed out that bidirectional Granger causality between the U.S. stock market and the exchange rates. However they rejected the possibility of any long-term relationship between the two. Mok (1993) asserted that the relationship between stock returns and exchange rates are bidirectional in nature for Hong Kong. Pan, Fok & Lui (1999) found that the exchange rates Granger-cause stock prices with less significant causal relations from stock prices to exchange rate. The study reported that the causal relationship have been stronger after the Asian crisis. Ibrahim (2000) witnessed the bidirectional causality for Malaysia for a period from January 1979 and June 1996.

Sevuktekin and Nargelecekenler (2007) proved bidirectional causality between the two financial variables in Turkey, using monthly data from 1986 to 2006. Pekkaya and Bayramoglu (2008) analysed the causality between exchange rate and stock prices of Istanbul Stock Index and S&P 500 in Turkey. The study covering a period from 1990 to 2007 established bidirectional causality between returns and exchange rate. Aydemir and Demirhan (2009) also proved bidirectional causal relationship between exchange rates and all stock market indices for a period from February 2001 to January 2008.

In a study by Rjoub (2012) Granger causality reflected the bidirectional relationships between exchange rate and Turkish stock prices and Impulse response results indicated the temporary nature of shocks. The results of study by Umoru and Asekome (2013) portrayed positive co-integrating relationship between the Naira-US$ exchange rate movement and the Nigerian stock market prices with bi-directional Granger causality. Doong et al. (2005) failed to find a cointegration relationship between the exchange rates and stock prices in six emerging Asian countries for a period from 1989 to 2003. But the study detected a bidirectional causality relationship in Indonesia, Korea, Malaysia, and Thailand.

In all countries except for Thailand, stock returns were significantly negatively correlated with the simultaneous changes in exchange rates, which meant for the authors that currency depreciations are usually accompanied by the falls in stock prices.

III. Research Methodology

Most of the above researchers have used co-integration and Granger test to examine the causal linkage. However, the notion of using Granger causality to investigate the causal linkage has been criticised by some researchers like Kennedy (2003) asserts that Granger causality just provides information about "precedence" rather than about causality. Similarly Kleinbaum, et al. (1998) asserted that statistical analytical tools cannot be used to identify the causality as regression or multivariate methods are not deterministic models. But still Co-integration and Granger causality test form integral part of methodology adopted by researchers across the globe (Kumar 2009). In the present paper the co-integration and Granger test has been applied to check the causal linkage between the two variables. The study covers a period from January 2007 to March 2015. The daily indices have been used to calculate logarithm return of eleven sector specific indices namely Automobiles, Banking, Energy, Finance, FMCG, IT, Media, Metal, Pharmaceutical, Public Sector Undertakings and Realty. The relationship has also been examined for Nifty: the leading index of India.

At the outset, the normality of the distribution has been examined through Jarque Berra test. The correlation of different returns has been observed with respect to exchange rate. As the selection of any statistical test to examine co-integration or causality linkage depends upon the possibility of presence/

absence of unit root in data, therefore Unit root has been tested for the sample data. The data has been found to be stationary at the original level. The absence of any co-integrated equation recommended the use of vector auto-regressive (VAR) model to determine the optimum lag length. Finally the Granger Causality Test has been applied to examine the causal linkage between the stock returns and exchange rate.

IV. Finding and Analysis

At the outset the distribution pattern has been tested through Jarque berra (JB) test. The test examines the null hypothesis of normal distribution of data. Descriptive statistics of all variables i.e. return from twelve indices and exchange rate has been revealed through table 1.

Table 4.1 : Descriptive Statistics

Variable	Average (%)	Maximum (%)	Minimum (%)	Std. Dev.	Skewness	Kurtosis	JB Stats.	Prob.
Nifty	0.036	16.334	-13.014	0.016	0.09	12.68	7949.29	0
Automobile	0.064	14.005	-10.315	0.015	-0.05	9.30	3366.98	0
Bank	0.053	17.239	-13.488	0.021	0.15	7.54	1753.55	0
Energy	0.017	15.443	-14.531	0.017	-0.17	11.59	6263.54	0
Finance	0.056	17.807	-12.605	0.021	0.14	8.33	2411.91	0
FMCG	0.066	8.304	-8.513	0.013	-0.27	6.98	1364.88	0
IT	0.038	11.720	-12.490	0.018	-0.13	7.93	2067.82	0
Media	0.011	12.562	-11.236	0.018	-0.18	8.09	2210.18	0
Metal	-0.001	16.187	-13.441	0.023	-0.13	7.10	1433.47	0
Pharmaceutical	0.075	11.159	-8.634	0.012	-0.33	10.94	5383.13	0
PSU	0.028	16.352	-12.681	0.022	0.11	6.10	817.48	0
Realty	-0.076	21.255	-27.060	0.031	-0.41	9.22	3334.36	0
Exchange Rate (XR)	0.017	14.077	-14.006	0.008	0.84	129.83	1364193.00	0

Source: Author's Calculation

JB statistics rejects any possibility to accept null hypothesis. Thus we may conclude that the dataset does not follow normal distribution. As this is an expected result for financial series, we may proceed to examine the correlation of return with exchange rate. All the returns found to be negatively correlated with exchange rate (table 2). The result indicates negative relation between return and exchange rate. But it doesn't indicate that whether decline in domestic currency stimulates economic activities or increase (decrease) in stock prices causes negative impact upon currency value. Any conclusion in this context may be taken only after examining the causality results.

The study applies Granger causality test to investigate the causal relationship between returns and exchange rate. However, Granger causality test may report positive results even without any presence of true relationship between the variables (driven by a common third process) with a different lag. In such a case the results have spurious influence due to unit root or co-integration between different variables. To rule out any such possibility unit root test and Johansen co-integration test have been conducted. Unit root test examines the null hypothesis of presence of unit root in the variable. Table 2 depicts the correlation and the results of unit root test.

Table 4.2 : Correlation and Unit Root

Sector	Correlation with Exchange Rate	Unit Root	
		t-Statistic	Probability
Nifty	-0.2769	-42.5823	0.0000
Automobile	-0.2531	-38.8211	0.0000
Bank	-0.2733	-39.8867	0.0000
Energy	-0.2535	-42.6971	0.0000
Finance	-0.2826	-39.9795	0.0000
FMCG	-0.1928	-44.7806	0.0001
IT	-0.1304	-33.6098	0.0000
Media	-0.1890	-40.816	0.0000
Metal	-0.2444	-40.4157	0.0000
Pharmaceutical	-0.1645	-43.7213	0.0001
PSU	-0.2388	-39.8845	0.0000
Realty	-0.2296	-40.1203	0.0000
Exchange Rate	1.0000	-41.128	0.0000

Source: Author's Calculation

The t-statistics rejects all the possibility to accept null hypothesis. Therefore we may infer that data doesn't have unit root and is stationary at the original level. Johansen co-integration test rejects all the possibility of presence of any co-integration between return and exchange rate. The results of Johansen test recommend the use of VAR model to determine the optimum lag length for the inference of Granger-causality between stock return and exchange rate. The lag length for the test has been decided to be three on the basis of Akaike Information Criterion. Granger causality test has been conducted to examine the direction of causal relationship between stock return and exchange rate. Table 3 shows the results of Granger Causality Test.

Table 4.3 : Granger Causality Test Results

S. No.	Null Hypotheses	F-Statistic	Prob.	Result
1.	AUTO does not Granger Cause XR	6.9536	0.0001	Rejected
2.	BANK does not Granger Cause XR	13.2286	1.00E-08	Rejected
3.	ENERGY does not Granger Cause XR	11.7269	1.00E-07	Rejected
4.	FINANCE does not Granger Cause XR	13.4908	1.00E-08	Rejected
5.	FMCG does not Granger Cause XR	3.7225	0.011	Rejected
6.	IT does not Granger Cause XR	4.0079	0.0074	Rejected
7.	MEDIA does not Granger Cause XR	5.9282	0.0005	Rejected
8.	METAL does not Granger Cause XR	9.3963	4.00E-06	Rejected
9.	NIFTY does not Granger Cause XR	13.9040	6.00E-09	Rejected
10.	PHARMA does not Granger Cause XR	1.5054	0.2112	Accepted
11.	PSU does not Granger Cause XR	6.9722	0.0001	Rejected
12.	REALTY does not Granger Cause XR	7.3739	7.00E-05	Rejected
13.	XR does not Granger Cause AUTO	8.9889	6.00E-06	Rejected
14.	XR does not Granger Cause BANK	8.7587	9.00E-06	Rejected
15.	XR does not Granger Cause ENERGY	11.6760	1.00E-07	Rejected
16.	XR does not Granger Cause FINANCE	9.9466	2.00E-06	Rejected
17.	XR does not Granger Cause FMCG	10.4590	8.00E-07	Rejected

18.	XR does not Granger Cause IT	16.9404	7.00E-11	Rejected
19.	XR does not Granger Cause MEDIA	2.0281	0.1079	Accepted
20.	XR does not Granger Cause METAL	5.9392	0.0005	Rejected
21.	XR does not Granger Cause NIFTY	15.0773	1.00E-09	Rejected
22.	XR does not Granger Cause PHARMA	16.7910	9.00E-11	Rejected
23.	XR does not Granger Cause PSU	5.42059	0.001	Rejected
24.	XR does not Granger Cause REALTY	6.81514	0.0001	Rejected

Source: Author's Calculation

Table 3 reports bidirectional causal relationship between exchange rate and return from all indices (except for pharmaceutical and media). Pharmaceutical industry revealed unidirectional relation with exchange rate running from exchange rate to Pharmaceutical sector. In case of media a unidirectional relationship has been found to run from media to exchange rate. But the reverse was found not to be true.

V. Conclusion

The present paper sheds lights on the causal linkage between Exchange Rate and the Returns in Indian stock market. Daily data has been examined for a period from January 2007 to March 2015 for Nifty, eleven industry specific sector indices and exchange rate. All the series found to be not normally distributed and returns have shown negative correlation with exchange rate. To avoid any possibility of spurious results due to unit root or co-integration between different variables at the outset unit root test and Johansen co-integration test have been conducted. The results reported absence of unit root as well as co-integration between the variables and therefore we determine the optimum lag length of the bivariate VAR proceeding to test for inference of Granger-causality.

The results established bidirectional causal relationship between exchange rate and return from all indices (except for pharmaceutical and media). The results are in consensus with the previous studies (like Ibrahim 2000, Sevuktekin and Nargelecekenler 2007, Pekkaya and Bayramoglu 2008, Aydemir and Demirhan 2009, Rjoub 2012 and Umoru and Asekome 2013) conducted for other economies. Unidirectional relationship was found for Media sector running to exchange rate from the sector and also for Pharmaceutical running from exchange rate to the sector but the reverse was not found to be true. Investing return, volatility and risk spillover Kumar and Maheshwaran (2013) also observed significant volatility spillover and downside risk spillover from exchange rate to the pharmaceutical sector.

Though the results are subject to the limitation of limited data yet the findings have policy implications. The results are expected to be of great use for policy makers as well as portfolio managers for taking asset allocation decisions. The bi-directional causality between stock return and exchange rate suggests that government should be cautious while making any changes in exchange rate policy as well as industrial policy. Further there is also a possibility to use information of the one variable to predict about the other.

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Effects of Life and Non-Life Insurance on Economic Growth in Nigeria: An Autoregressive Distributed Lag (ARDL) Approach

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Abstract- This paper investigates separately the effects of life and non-life insurance on economic growth in Nigeria from 1976 to 2013. The Autoregressive Distributed lags (ARDL) was adopted given the different order of integration of the variables of interest. After estimating a growth model, the bound test shows a long run relationship to exist among economic life, non-life insurance and economic growth in Nigeria over the period of study. The long run and the short run dynamics further confirms the positive and significant contribution of life and non-life insurance on economic growth in Nigeria. The paper concludes that life and non-life insurance acts as complements to economic growth in Nigeria rather substitutes.

Keywords: *life premium, non-life premium, economic growth, co-integration, ARDL, nigeria.*

GJMBR - C Classification : JELCode : C11, G22, O11

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Strictly as per the compliance and regulations of:

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I. Introduction

Life insurance is a contractual agreement between an insurer (insurance company) and the insured (insurance holder), that a specified amount will be paid to a beneficiary after the death of the insured consequent upon the payment of premium. Non-life or general insurance, on the other hand, deals with insurance of properties other than life where the benefit goes to the insurance holder. As a result of the different risks and benefits involved in the two insurance policies, their impacts on economic growth might be different. In the literature, many complementary effects of life and non-life insurance on economic growth have been identified such as (Webb, Grace, and Skipper, 2002; Arena, 2008; Azman-Saini and Smith, 2011).

The life and non-life insurance market have been different in Nigeria given the volume of premium they attract. For instance, in 1980, non-life premium was US$661 million while life premium was US$175 million. By 1990, non-life premium fell to US$199 million that of life premium was US$37 million. In the year 2000, they have both slightly increased. Non-life premium was US$199 million while life premium was US$43 million. By 2013, non-life has tremendously increased to US$1.4 billion while life premium has increased to US$457 million. Nigeria is chosen as a sample country in this paper for two reasons. The first reason is that Nigeria has now been ranked ahead country like South Africa as the largest economy in Africa given the recent rebasing of the economy with a GDP of US$522.638 billion (World Development Indicator, 2014). This also ranks Nigeria to be the 23rd largest economy in the world and to be ahead of countries like Poland, Norway, Belgium Austria and Denmark. Secondly, the insurance market, which is currently still very small, has significant room for expansion in the medium to long term. The recapitalization directive of a minimum of ₦5 billion (US$25 million) from ₦150 million (US$750 thousand) in 2005 has greatly improved the premium capacity of the insurance market in Nigeria (see Figure 1).

In the same vein, the real gross domestic product (GDP) growth rate has been increasing on the average of 5.9% from 2005. It reached 8.6% by 2010 and fell slightly to 6.2% in 2013 (International Monetary Fund, 2015). The Nigerian economy has been growing and the recent rebasing of her GDP suggests that significant contributions to growth are coming from other service sectors that were initially neglected in the previous calculation of the GDP. This development motives the investigation of the contributions of insurance sector to the Nigerian economy. This paper intends to verify whether life and non-life act as complements or substitutes in terms of their contributions to growth. Previous studies on the relationship between insurance and economic growth in Nigeria are Eze and Okoye (2013), Mojekwu, Agwuegbo and Olowokudejo (2011), Akinlo (2013), Amoke (2012), Yinusa and Akinlo (2013), Akinlo and Apanisile (2014) and Olayungbo (2015). All these studies have used total insurance premium in their analysis of the relationship between insurance and economic growth in Nigeria. This study contributes to the existing literature by examining separately the effects of non-life and life insurance premium on economic growth in Nigeria. This paper is as follows, section 2 gives the stylized facts about insurance development in Nigeria. Section 3 deals with the literature review while section 4 deals with the empirical analysis. Finally, section 5 and 6 gives the discussion of result and conclusion respectively.

II. Stylized facts about Insurance Development in Nigeria

There is quite a large difference between life and non-life insurance in Nigeria. From Table 1 majority

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of the insurance companies in Nigeria involve in non-life insurance activities. This implies that Nigerians have more preference for non-life (General or property) insurance than life insurance. Figure 1 shows that the premium on non-life insurance is higher than life insurance.

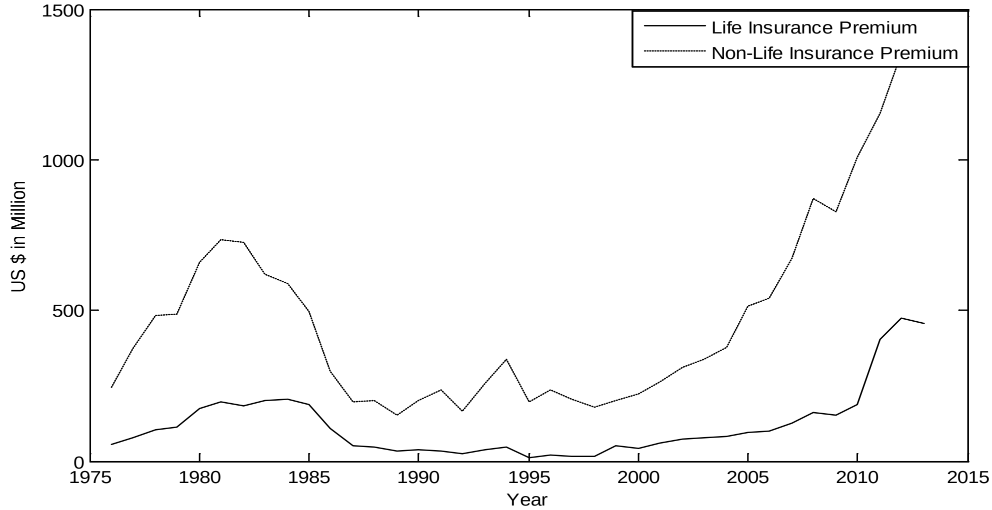

Figure 1 : The trend of Life and Non-life Insurance Premium in Nigeria

Table 1 : Gross written premium in US Dollars (Million) of Insurance companies in Nigeria

Insurance Companies	Life	Non-Life
Leadway	29	126.7
Custodian and Allied		65
AIICO	64.7	54.5
NEM		53.1
Mansard	15.3	49.4
Industrial and General	25.4	43.1
STACO		41.9
Sovereign Trust		41.4
Royal Exchange		38.1
Zenith General		36.5
Niger Insurance		30.8
Mutual Benefit		29.7
Capital Express		21.7
Standard Alliance Life Assurance		13.9
African Alliance		11.8

Source: AXCO Information Insurance Service (2012)

III. Literature Review

Most literature on the relationship between insurance and economic growth are panel analysis due to unavailability of long time series data for single country. Earlier study like Beenstock, Dickinson, and Khajuria (1986) find that nonlife insurance demand is associated with GDP per capita in a sample of 12 industrialized countries between 1970 and 1981. Outreville (1990) finds that nonlife insurance demand is associated positively with GDP per capita and a measure of financial development (M2/GDP) for a sample of 55 developing counties between 1983 and 1984. Browne and Kim (1993) find that life insurance consumption per capita is positively associated with GDP per capita for a sample of 45 countries for the years 1980 and 1987. Outreville (1996) finds that life insurance demand is associated positively with GDP per capita but not with financial development in a sample of 48 developing countries for the year 1986. Browne, Chung, and Frees (2000) find that nonlife insurance consumption is associated positively with the income level for a sample of OECD countries over the period of 1986-1993.

Ward and Zurbruegg (2000) examine the relationship between economic growth over the period of 1961 to 1996 for nine OECD countries. The long-term and short-term dynamics between insurance and economic growth were examined. Long-term

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relationships are found for Australia, Canada, France, Italy and Japan. On the other hand, Webb, Grace and Skipper (2002) examine the impact of financial intermediaries (banks, life and non-life insurers) on economic growth in the context of a neo-classical Solow-Swan model. The result shows that insurance and banking promote capital stock productivity and drive the level of output and investment.

Arena (2008) tests whether there is a causal relationship between insurance market activity (life and nonlife insurance) and economic growth. Using the generalized method of moments (GMM) for dynamic models of panel data for 55 countries between 1976 and 2004 both life and nonlife insurance have a positive and significant causal effect on economic growth. For life insurance, high-income countries drive the results, and for nonlife insurance, both high-income and developing countries drive the results.

In Nigeria, Mojekwu *et al.* (2011) examine the impact of insurance contributions on economic growth in Nigeria over a twenty seven year period, between 1981 and 2008 using a dynamic factor model. The proposed technique describes a number of methods designed to analyze a functional but unobservable random quantities called factors. The factor loadings indicate which common trend is related to which set of time series. The result obtained shows a positive relationship between insurance contribution, measured the volume of premium and economic growth in Nigeria. Akinlo (2012) examines the effects of insurance on economic growth in Nigeria during the period of 1986 to 2010. The structure, growth of insurance sub-sectors and the direction of causality between insurance and economic growth in Nigeria were addressed in the study. An error-correction model analysis and co integration technique was adopted in the analysis. The co integration technique shows that all the variables apart from premium are highly significant. The coefficient of premium was significant at 10%. The findings of the study indicate insurance measured as premium, has a positive significant influence on economic growth and that there is a long run relationship between insurance and economic growth in Nigeria.

Omoke (2012) makes use of insurance density (premium per capita) as a measure for insurance market activity and real GDP for economic growth in Nigeria between 1970 and 2008. The study also employs control variables such as inflation and savings rates as other determinants of growth. The Johansen cointegration and vector error correction approach were used to estimate the relationship among the variables. The finding of the study is that insurance does not reveal any positive and significant effect on economic growth in Nigeria within the period of study. The result shows low insurance market activity and development in Nigeria.

Eze and Okoye (2013) in their paper use cointegration test and error correction model to examine the impact of insurance practice on the growth of Nigerian economy. Insurance premium capital, total insurance investment and insurance sector development are used as measures of insurance development. The paper concludes that there is a significant positive effect of insurance practice on the growth of Nigerian economy. In addition, Yinusa and Akinlo (2013) analyzed both the long and short run relationship between insurance development and economic growth in Nigeria over the period 1986 to 2010. Using error correction model (ECM), the study finds that insurance development is co integrated with economic growth in Nigeria. There is a long run relationship between insurance development and economic growth in Nigeria. The results also show that physical capital and interest rate both at contemporary and one lagged value have significant positive effect on economic growth in Nigeria while physical capital and inflation have negative long run relationships with economic growth. The results generally indicate statistically significance contribution of insurance to economic growth in Nigeria. In contrast, Olayungbo (2015) investigated the asymmetric non-linear relationship between insurance and economic growth in Nigeria from 1976 to 2010. The conclusion is that asymmetric effect is present in Nigeria's insurance market. Also, unidirectional causality runs from positive GDP growth to negative insurance premium growth. In addition, the robustness results, using variance decomposition and impulse response with control variables, show that low insurance promotes high growth in Nigeria. The impulse responses also show the presence of an asymmetric relationship between low insurance and high growth in Nigeria.

a) Theoretical Model

Starting from the neo-classical growth model of Solow (1956), the Cobb Douglas production function can be written in Hick's neutral form as:

$$Y = AK^{\alpha}L^{1-\alpha} \qquad 0<\alpha<1 \tag{1}$$

Where Y is the output representing economic growth, A is the technology, K is the capital stock, while L is labour.

Taking log and linearizing give:

$$\log y = \log a + \alpha \log k + (1-\alpha)\log l \tag{2}$$

Writing in econometric term and introducing non-life and life premium, eq.(2) becomes:

$$\log y_t = \log a + \beta_1 \log k_t + \beta_2 \log l_t + \beta_3 \log life_t + \beta_4 \log nonlife_t + \varepsilon_t \qquad (3)$$

From eq.(3), $\log A$ is assumed to be given and exogenous since technologies are imported from developed countries to African countries and Nigeria is not an exception. $\log A$ is treated as the constant term and ε_t is the error term. The a priori expectation is that $\beta_1 > 0, \beta_2 > 0, \beta_3 > 0$ and $\beta_4 > 0$.

b) Sources of Data and variable definitions

This paper uses time series annual data which ranges from 1976 to 2013. This length of the time series is informed by data availability. One of the major reasons for dearth of papers in this area for Nigeria is due to lack of data availability on insurance premium for African countries. The lack of data has limited the examination of long time series analysis in this area for African countries. Both the life and non-life premium are sourced from Swiss Reinsurance Company, Sigma Publication (2015) in US dollars after adjusting for inflation. The real gross domestic product (GDP) is sourced from World Development Indicator (WDI, 2014). The real GDP is the monetary values of all final goods and services produced in Nigeria and computed using 2005 base year in US dollars. Capital and labour are the two control variables that are also sourced from WDI (2014). Investments on gross fixed capital formation such as plants, machinery, equipment and infrastructure in US dollars are used to measure capital stock while the working population of residents in Nigeria from 15 years to the retirement age of 65 years is used as measure for labour.

c) Methodology

i. *Autoregressive Distributed Lag (ARDL) Model*

The ARDL model proposed by Pesaran, Shin and Smith (2001) is adopted in this paper. This model is advantageous as it can be applied on a time series data irrespective of whether the variables are integrated of order zero or one. In addition, a dynamic error correction model (ECM) can be derived from the model, which makes the estimation of both the short run dynamics and long run equilibrium possible simultaneously after a multivariate cointegration test. Lastly, the test is relatively more efficient in small sample data as is the case in this paper. The unrestricted error correction model (UECM) of ARDL model used to examine the long run and the short run relationship takes the following form:

$$\begin{aligned}\Delta \log y_t &= \beta_0 + \beta_1 \log k_{t-1} + \beta_2 \log l_{t-1} + \beta_3 \log life_{t-1} + \beta_4 \log nonlife_{t-1} + \sum_{i=1}^{k} \alpha_i \Delta \log y_{t-i} + \\ &\sum_{i=1}^{k} \omega_i \Delta \log k_{t-i} + \sum_{i=1}^{k} \tau_i \log l_{t-i} + \sum_{i=1} \phi_i \Delta \log life_{t-i} + \sum_{i=1}^{k} \varphi_i \Delta \log nonlife_{t-i} + \varepsilon_t\end{aligned} \qquad (4)$$

The variables are as earlier defined. In eq.(4), $\beta_1, \beta_2, \beta_3, \beta_4$ refer to the long run coefficients while $\alpha_i, \omega_i, \tau_i, \phi_i, \varphi_i$ are the short run coefficients. The null hypothesis of no co-integration $H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ and the alternative hypothesis $H_1 : \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$ implies co-integration among the variables in eq.(4). The model in eq.(4) is estimated using Ordinary Least Square (OLS) to test for the existence of a long run relationship among the variables by conducting an F-test for the joint for the joint significance of the coefficients of the lagged levels of variables i.e. H_0 as against H_1. If the computed F-statistics is less than the critical values, then the null hypothesis of cointegration is rejected. However, if the computed F-statistics is greater than the upper boundary critical values, then the null hypothesis of cointegration is accepted In the next step once the co-integration is established, the ARDL long run model for $\log y_t$ is estimated. In the final step, we estimate the short run dynamic parameters by estimating an error correction model (ECM) model with the long run estimates as specified as follows:

$$\begin{aligned}\Delta \log y_t &= \mu + \sum_{i=1}^{k} \alpha_i \Delta \log y_{t-i} + \sum_{i=1}^{k} \omega_i \Delta \log k_{t-i} + \sum_{i=1}^{k} \tau_i \log l_{t-i} + \sum_{i=1}^{k} \phi_i \Delta \log life + \\ &\sum_{i=1}^{k} \varphi_i \Delta \log nonlife_{t-i} + \lambda ECM_{t-1} + \varepsilon_t\end{aligned} \qquad (5)$$

Where $\alpha_i, \omega_i, \tau_i, \phi_i, \varphi_i$ are short run dynamic coefficients to equilibrium and λ is the speed of adjustment coefficient to equilibrium.

IV. Empirical Analysis

The results of the empirical analysis such as the descriptive statistics, unit root test, the autoregressive distributed lag (ARDL) and the discussions of the results are presented.

Table 2 : Descriptive Statistics

	rgdp	capital (K)	labour(L)	life	nonlife
Mean	8.45E+10	1.29E+10	36481922	120.9394	487.303
Median	6.24E+10	3.78E+09	36175721	77	336
Maximum	1.91E+11	6.66E+10	53142173	474	1406
Minimum	4.37E+10	2.02E+09	21856253	12	152
Std. Dev.	4.39E+10	1.86E+10	9358897	121.7256	353.0534
Skewness	1.126702	2.006411	0.144395	1.69618	1.196592
Kurtosis	2.844606	5.561853	1.942159	5.266198	3.49614
Jarque-Bera	7.01522	31.16552	1.653338	22.88516	8.213543
Probability	0.029968	0	0.437504	0.000011	0.016461
Sum	2.79E+12	4.26E+11	1.20E+09	3991	16081
Sum Sq. Dev.	6.15E+22	1.11E+22	2.80E+15	474147.9	3988695
Observations	38	38	38	38	38

Table 2 shows the descriptive statistics of the variables of interest. The mean and median of each variable are relatively close. The closeness suggests that the distribution is nearly symmetrical. The presence of symmetry indicates the existence of low variability and normal distribution. The values of the skewness, kurtosis and the standard deviation being equal to and close to zero also provide useful information about the symmetrical nature of the distributions.

a) *Unit root test*

After the descriptive statistics of the data, it is necessary to determine the stationarity properties of the variables of interest in order to avoid spurious result. The Augmented Dickey fuller (1979) test is employed. The unit root is done after the series have been transformed into natural logs.

Table 3 : The results of the Unit root test

Intercept			Trend and Intercept		
Variables	Levels	First diff	Variables	Level	First diff.
life	-1.1554	-4.3646	life	-2.2854	-4.2232
non-life	-1.9093	-4.6708	non-life	-2.9892	-4.5083
labour	-4.2045	-	labour	-4.8012	-
capital	0.0919	-4.5160	capital	-2.2609	-5.0705
real GDP	-0.8028	-46638	real GDP	-3.0148	-4.4731

ADF critical values at levels for both the intercept at levels and first difference are -3.7241(1%), -2.9862(5%),-2.6326(10%) and -3.7379(1%),-2.9919(5%),-2.6355(10%) while that of the trend and intercept at level and first difference are -4.3743(1%), -3.6032(5%) -3.2380(10%). and -4.3943(1%), -3.6122(5%) and -3.2431(10%).

Table 3 shows that all the variables are I(1) i.e. they are stationary at first difference except labour which is stationary at levels i.e. I(0). The different order of stationarity of our variables leads to the use of autoregressive distributed lag (ARDL) model to estimate the effects of life and non-life premium on economic growth in Nigeria. The bound test in Table 4 shows the evidence of long run relationship among the variables. This is because the F-Statistic of 5.97 is greater than the upper bound at 1 percent, 2.5 percent, 5 percent and 10 percent. For the ARDL results in Table 5 and 6, the ARDL (4,4,4,3,4)[1] model selection criteria is found to be optimal through the Akaike Information Criteria (AIC) (see Appendix 1).

[1]The ARDL (4, 4, 4, 3, 4) model is automatically determined at the estimation level and found to be optimal.

Table 4 : ARDL bounds Test Result

Test Statistic	Value	K
F-Statistic	5.97	4
Critical Value Bounds		
Significance	lower bound	upper bound
10%	2.45	3.52
5%	2.86	4.01
2.50%	3.25	4.49
1%	3.74	5.06

Table 5 : Estimated Long Run Coefficients with ARDL (4,4,4,3,4) (Dependent variable: rgdp)

Regressors	coefficient	std. Error	t-Statistics	Prob.
capital	0.5451	0.1182	4.611	0.01
labour	-0.8032	0.2278	-3.5266	0.02
life	0.2764	0.1002	2.7583	0.05
non-life	0.2203	0.0831	2.6523	0.06
constant	14.0169	3.9526	3.5462	0.02

Co-integration=rgdp-0.5451(capital)-0.8032(labour)+0.2764(life)+0.2203(nonlife)+14.0169

The estimated long run relationship in Table 5 shows that all the variables of interest significantly affect economic growth. In the long run, 1 per cent increase in capital significantly increases economic growth by 0.54 percent at 5 percent significant level. However, labour is found to negatively affect growth. This can be as a result of increase in unskilled workers relative to skilled workers which then reduce the total labour contribution to the economy. Considering life insurance, we found 0.27 percent of life premium to significant increase economic growth at 5 percent significant level. In addition, non-life insurance contributes significantly 0.22 percent to economic growth during the period of study at 10 percent level of significance. This result implies that life and non-life insurance are complements in the long run to the Nigerian economy. This positive and complementary effects support the previous work of Outreville (1990), Outreville (1996), Webb *et a.l* (2002) and Arena (2008).

Table 6 : Estimated Short Run Coefficients with ARDL (4,4,4,3,4) (Dependent variable: rgdp)

Regressors	coefficient	std. Error	t-statistics	prob.
D(LRGDP(-2))	-0.58576	0.272582	-2.14893	0.0981
D(LRGDP(-3))	-2.09916	0.533624	-3.93378	0.017
D(LCAPITAL(-1))	0.429556	0.100881	4.258044	0.0131
D(LCAPITAL(-2))	0.334018	0.094618	3.530157	0.0242
D(LCAPITAL(-3))	0.479233	0.116706	4.106327	0.0148
D(LCAPITAL(-4))	0.154995	0.06643	2.33322	0.0800
LLABOUR(-1)	45.23678	18.70111	2.418936	0.0728
LLABOUR(-3)	-56.3961	14.04749	-4.01468	0.0159
LLABOUR(-4)	45.58605	11.56361	3.942198	0.0169
D(LLIFE(-1))	0.21263	0.083813	2.536966	0.0642
D(LLIFE(-3))	0.258856	0.088011	2.941159	0.0423
D(LNLIFE(-1))	-0.34748	0.115792	-3.00091	0.0399
D(LNLIFE(-2))	0.528445	0.196376	2.690988	0.0546
D(LNLIFE(-4))	0.380196	0.145552	2.612094	0.0593
Constant	38.1028	11.28866	3.375318	0.0279
ECM(-1)	-2.7184	0.5655	-4.8067	0.0086

Significant p-value < 0.05 R^2*=0.95 Durbin Watson= 2.64*

Considering the short run dynamics in Table 6, the R^2 shows a reasonable good fit of the model with a value of 95 percent. The Durbin Watson, with a value of 2.64 which is greater than 2, shows that the model is free of autocorrelation. From the analysis, both the lag 2 and 3 of real GDP are found to negatively and significantly affect the current real GDP over the period of study. For capital, all the lags have positively and significantly affect economic growth over the period of study. This confirms the long run positive and significant effect of capital on economic growth in Table 5. For labour variable, lag 3 has negative and significant effect on growth while lag 1 and 4 of labour have positive and significant effects on growth. For life insurance, we found both the first lag and third lag of life insurance to have positive and significant effects on growth at 10 percent and 5 percent significant level respectively. The non-life on the other hand has its first lag to be negative and significant on growth at 5 percent, while its second lag and fourth lag have positive and significant effects on growth over the period of study. Table 6 also shows that the coefficient of ECM (-1) is significant at 1 percent level of significant. This indicates that the speed of adjustment for a short run to reach long run is significant. Furthermore, the error correction term is -2.72 with the expected sign, suggesting that when the GDP is above or below its equilibrium level, it adjusts by almost 272 per cent to converge to equilibrium.

V. Conclusion

In this paper, the different effects of life and non-life insurance on economic growth have been examined unlike in previous studies done for Nigeria where the effects of both life and non-life have been examined together on growth. However, we depart from the previous studies to examine the separate effects of life and non-life insurance on growth and it is found that both life and non-life insurance have positive effects on growth both in the long run and short run. The results show that they complement each other rather than substitutes for each other.

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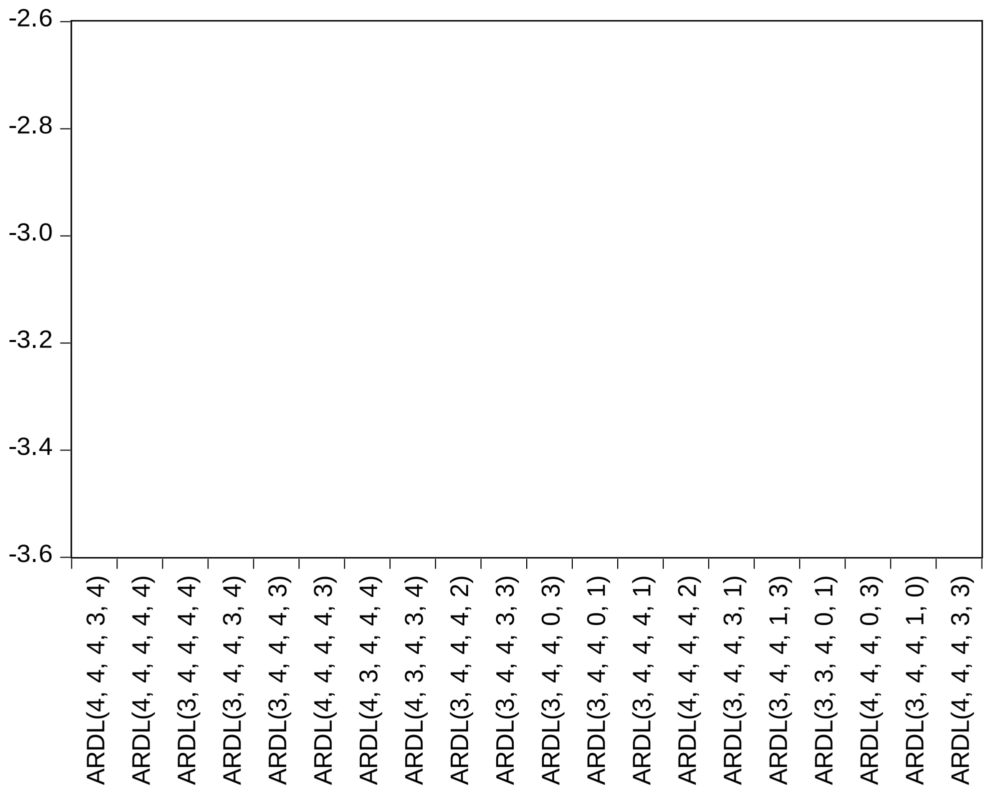
Appendix

Automatic optimal ARDL model selection

Akaike Information Criteria (top 20 models)



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IC in SMEs in Pakistan

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Data were collected through a structured questionnaire from a sample of 150 respondents from Pakistani SMEs in Islamabad and Rawalpindi. Several tests were used to examine the reliability and validity of the research instrument. Finally multiple regression analysis was used to test the proposed research hypothesis.

Keywords: intellectual capital, IC in smes in pakistan, smes performance in pakistan, SMEs in twin cities of pakistan, organizational performance and IC.

GJMBR - C Classification : JELCode : F65

ICINSMESINPAKISTAN

IC in SMEs in Pakistan

Barkat Ullah [α], Asad Aziz [σ] & M.Hassan Yousaf [ρ]

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Data were collected through a structured questionnaire from a sample of 150 respondents from Pakistani SMEs in Islamabad and Rawalpindi. Several tests were used to examine the reliability and validity of the research instrument. Finally multiple regression analysis was used to test the proposed research hypothesis.

Practical Implications

This research will lay valuable guiding path for entrepreneurs, executives, managers and policy makers in managing intellectual capital within unstable economy of Pakistan.

Originality/value

This empirical study is first of its kind over SMEs from multiple sectors operating in twin cities of Pakistan i.e. Rawalpindi and Islamabad.

Keywords: intellectual capital, IC in smes in pakistan, smes performance in pakistan, SMEs in twin cities of pakistan, organizational performance and IC.

I. Introduction

Finance had remained a major source for businesses growth and survival for a long period. But in present scenario organizations are putting more emphasis upon intellectual skills for achieving their goals. Financial institutions are playing supporting role in acquiring and retaining intellectual skills. Aim of conducting this research is to systematically prove the influence of Intellectual capital upon organizational performance. Finding of published academic researches verify that intellectual capital has very positive influence on organizational performance (Muhammad Khalique et all, 2015; Youndt and Snell, 2004;Ordonez de Pablos, 2004; Montequínet al., 2006; Kujansivu and Lönnqvist, 2007; Tovstiga and Tulugurova, 2007; De Castro and Sáez, 2008; St-Pierre and Audet, 2011). Opportunities such as growth of nations, individual's values and wealth of nations can be improved through knowledge (Bounfour and Edvinsson, 2005). Higher productivity of the firms is due to the enhanced and competitive knowledge (Imran Ali and Jaweria Fatima, 2013).

Intellectual capital's has significant role toward development of firms in developing economies. Its importance and practical role has attracted many academic researchers to understand this concept more deeply. Till now many authors have contributed to this field of study but still it is on its evolving stage.

Concept clarification and practical implication of IC in developing nations has remained in embryonic stage. This research is of very first kind which is conducted on food restaurants in twin cities of Pakistan. Nick Bontis, Muhammad Khaliqueet all. 2014 conducted similar research on Electronic SMEs of Gujranwala, Pakistan. Similar other kinds of studies are now growing in numbers to contribute more toward of concept of Intellectual Capital and eliminate ambiguities in its explanation.

This research would be very helpful for entrepreneurs while making plans and strategies for growth in food industry. SMEs dealing in this sector would be able to identify the significances of IC over Organizational performance. First section of paper would comprise of introduction to various food restaurants and their operations. It will follow proposed hypothesis, research methodology and empirical findings. Final section will include recommendations, conclusion and suggestion for future studies.

II. Literature Review

Intellectual Capital (IC) is the primary force behind effective and efficient knowledge management. Both IC and Knowledge Management (KM) are achieved at successful management and implementation of each other (Alka Bramhandkar, Scott Erickson and Ian Applebee). Many multinationals recognize IC as key tactic for getting competitive advantage. It is one of the most crucial intangible assets which require careful handling and expertise. In many corporate companies top management is now considering IC management very seriously. Multiple researches have revealed that humane capital; Customer Capital, Structural Capital, Organizational Culture and Relational Capital are in fact the subcomponents of Intellectual Capital (Imran Ali and Jaweria Fatima, 2013). Hence, organizations indirectly manage IC by managing all its elements.

Businesses can use frameworks like Balanced Score Card, Performance prism and IC Index as guider for practices of IC. IC is closely associated with epistemological viewpoint of individual and groups as well (Thomas A. Stewart). Optimum level of Value Creation and competitive advantage can be attained if human resources, stakeholders relationship and organizational resources are mixed correctly (Imran Ali and Jaweria Fatima, 2013). Experts will now visualize

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impact of IC upon strategic objectives of the organization. On the basis of this vision, corporates level managers will move to path designing for achieving targeted level of IC (Janine Nahapiet; Sumantra Ghosha; 1998).

In present scenario of fierce competition, strategic activities are shifting toward identification and implementation of internal superior assets (tangible or intangible) for leading in the market (Mei-Fen Wuet all; 2012). Until 1980s, firms used to consider internal intangible assets as inferior and attention was diverted to acquiring external resources, capabilities, and innovations for becoming the market leader. New economy changes and policies also played a vital role in evolution of IC. E-Business platform in today's corporate world is prevailing only on the basis efficient modern communication structure (Nick Bontis et all, 2015).

a) Sub-Components of Human Capital

Human capital is a major component of intellectual capital which consist of educational competitiveness, attitudes and cognitive abilities of individuals (Bontis, 1998; Tovstiga and Tulugurova, 2007). Customer capital is sum total of delivery network, brand value, satisfaction, loyalty and all have quite significant impact over organizational performance. (Ismail, 2005; Kim and Kumar, 2009).Structural capital is also one of the critical components of intellectual capital. It mainly discussed as systems, procedures, communication network and channels, internal settings of offices and staff positioning (Khaliqueet al., 2011a). Ethics, CSR, honesty and fairness in decision making, transparency of data and decisions, relationships among employees and employee-employer relations are discussed under social capital. (Buenoet al., 2004; De Castro and Sáez, 2008; Lesser and Prusak, 1999). Technological capital emphasizes efficiency of systems, research and development. Spiritual capital is defined on the basis of religious teachings and preaching. It mainly includes all basic guidance given in all big religions of the world.

Intellectual capital is the modern philosophy which combines many intangible assets of the organization (Bontiset al., 1999). In this study organizational culture is one of the major contributors towards concept of IC and its particle implications. Human capital, technological capital, relational capital, structural capital, social capital, organizational capital and organizational culture are key elements identified in measurement of Intellectual Capital (Chaminade and Roberts, 2003). Generic culture and organizational culture around the globe impact differently upon IC.

IC is composed of resources used in businesses operations to generate revenue yielding activities and economic benefits. Intellectual capital has no status in balance sheet of the company but it is a very strong intangible asset which ultimately enhances organizational performance (Dr. Nick Bontis, 2000). Best achievement a company can get through IC is competitive advantage. IC is totally knowledge bases and works much smoothly if supported by skills and expertise (Dr. Jyotirmayee Choudhury, 2010). External, internal, individual and combined knowledge leads to collective intellectual capital.

Concept and definition of IC is still under developing stage. This blur image of IC is also a very big question mark for thinkers, researchers and authors. Most widely IC has been identified as an intangible asset which produces significant impact on financial and non-financial performance any business. Many studies have classified non-physical assets and resources as key components of IC. Human capital, relational capital and customer capital are major one used in many research models. Key elements of IC are HC (knowledge, skills, expertise), SC (databases, organizational charts, executive instructions, strategies etc.). Concept of IC can't be bounded with in phase of HC, SC, RC or CC, it is a far broader concept which encompasses many complexities and relations to almost all intangible assets of the business. In short IC is like the strategic tool of boosting performance of any business.

III. Theoretical Framework and Research Hypothesis

Conceptual frame work used in research is based upon many theories of Intellectual Capital. This frame work is used by Nick Bontis, M. Khalique et al 2014; and the theory used as a base was defined and explained by Mr. Muhammad Khalique et al 2013. Frame work is used by Imran ali and Fatima 2013; Nick bontis 2003; and is very much effective for evaluating impact of IC on organizational performance. Framework also states that there is a very positive relationship exists between sub-components of Intellectual capital and organizational performance.

Based upon the chosen framework following hypothesis have been formulated:

H1. Intellectual capital has a positive effect on the organizational performance of SMEs in Pakistan.

H2. Human capital has a positive effect on the organizational performance of SMEs in Pakistan.

H3. Customer capital has a positive effect on the organizational performance of SMEs in Pakistan.

H4. Structural capital has a positive effect on the organizational performance of SMEs in Pakistan

H5. Social Capital has a positive effect on the organizational performance of SMEs in Pakistan.

H6. Technological capital has a positive effect on the organizational performance of SMEs in Pakistan.

H7. Spiritual capital has a positive effect on the organizational performance of SMEs in Pakistan.

In conceptual framework sub-components of IC and Organizational Performance are also mentioned separately for better understanding to readers. Conceptual framework has been used with complete reference from Nick Bontis, M. Khaique et al 2014; along with some other sound resources. Intellectual capital as united force has positive impact upon organizational performance (Figure 1: Conceptual Framework). Each sub-component of intellectual capital also influences positively sub-component of organizational performance.

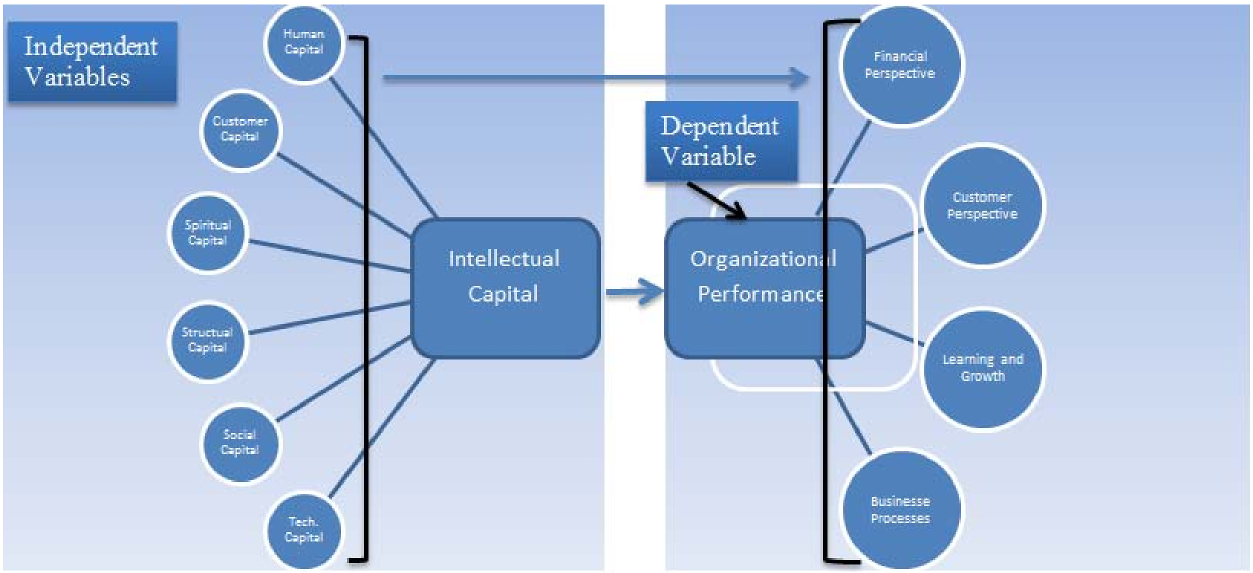


Figure 1 : Conceptual Framework

Resources: Bontis (1998); Stewart (1997); Bueno et al. (2006); Edvinsson and Malone (1997); Guthrie and Petty (2000); Ismail (2005); Kaplan and Norton (1992, 1996); Tovstiga and Tulugurova (2007; Nick Bontis, M. Khalique et al (2014).

IV. Research Methodology

In this research we have used multiple regression analysis to check hypothesis. All components of Intellectual Capital, mainly Human Capital (HC), Customer Capital (CC), Structural Capital (STC), Social Capital (SC), Technological Capital (TC) and Spiritual Capital (SPC) were entered in a single step. All these independent variables were selected on the basis of Literature Review. All these independent variables were measured by using a 5 point Likert Scale from (1=strongly Agree) to (5=Strongly Disagree). Instrument used was consist of 35 items which were selected on the basis of extensive literature review. All 35 components were effective enough to grasp the perception of management of different SMEs in Pakistan.

Human capital is measured with 4 items i.e. knowledge, attitude, intellectual agility and expertise. In case of Customer Capital items like customer loyalty and satisfaction, networking and state support for effectively meeting customer's demand. Structural capital was tested through dimensions of systems, infrastructure, policies and procedures. Relationships, cultural exchange and cooperation were main items used to test the social capital. Technological Capital encompasses IT knowledge, Research and Development and availability of latest technology. Finally, spiritual capital is tested by using religious and ethical items. All these items were selected on the basis of literature review. Organizational performance is the dependent variable and is measured by using financial perspective, employees' perspective, structural perspective, businesses process, growth and development, customer satisfaction and loyalty perspective.

a) Sampling

Rawalpindi chamber of commerce and Islamabad chamber of commerce comprises membership of organizations which are large in size. There is no specific publication exists containing detail of all SMEs in Pakistan. In twin cities of Pakistan, we created list of SMEs with the help of local Market Chambers. All SMEs were classified on the basis of their worth of the business. These directories proved to be quite valid as these were created by making financial data a sound base.

Rawalpindi and Islamabad are not recognized due to any special kind of business. Rather there exists great diversity of enterprises which includes furniture, food restaurants, clothing, chemical products, grocery, and many local and international brands etc. A valid sample was created from the directory which included enterprises from many industries. This was very effective sample because it contained data of SMEs from more than one sector. Hence, this contributed more toward the factual results.

For this research SMEs with range of 1 to 200 employees were selected. Employees which were targeted for the study were CEO, CFA, CMO, Middle Managers, Branch Managers, Operational Managers, Training Officers, senior technicians and staff. In short data was collected from employees who were playing their role in decision making either directly or indirectly.

Questionnaire was consists of 35 items and a total of 150 questionnaires were distributed. Out of 150, 34 questionnaires were rejected based upon their invalidity or wrong entrance of data. It was targeted to include a minimum sample of 130 respondents from 70 SMEs. Finally, 116 respondents were included from 50 different SMEs. These responses were collected through physical instruments. No email or Google docs were used to collect data. Response rate was 77% which is more than satisfactory for this study.

V. Results

SPSS version 16 was used to generate different results. Multiple tests had been applied in order to measure the impact of Independent variables over dependent variable. ANOVA table was generated which showed regression analysis along with degrees of freedom, F-test and level of significance.

Table 1 : ANOVA table

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	543.318	6	90.553	28.122	.000[a]
	Residual	350.983	109	3.220		
	Total	894.302	115			

a. Predictors: (Constant), spiritual capital, Customer Capital, Human Capital, structural capital, technological capital, social capital

b. Dependent Variable: organizational performance

Second most important table generated was table of correlations. In final results this table shows acceptance of all proposed hypothesis. There was existing positive relationship among all component of Intellectual Capital and Organizational Performance. All instruments collected from different SMEs and from respondents at different managerial levels showed positive impact of contents of IC over OP. Human Capital and Organizational performance has weaker positive relation. Customer Capital has weaker relation with dependent variable while structural capital has strong positive relation with OP. Organizational Performance also has strong impact by social capital. Technological and Spiritual capital has strong positive relation with organizational performance that is above 0.6.

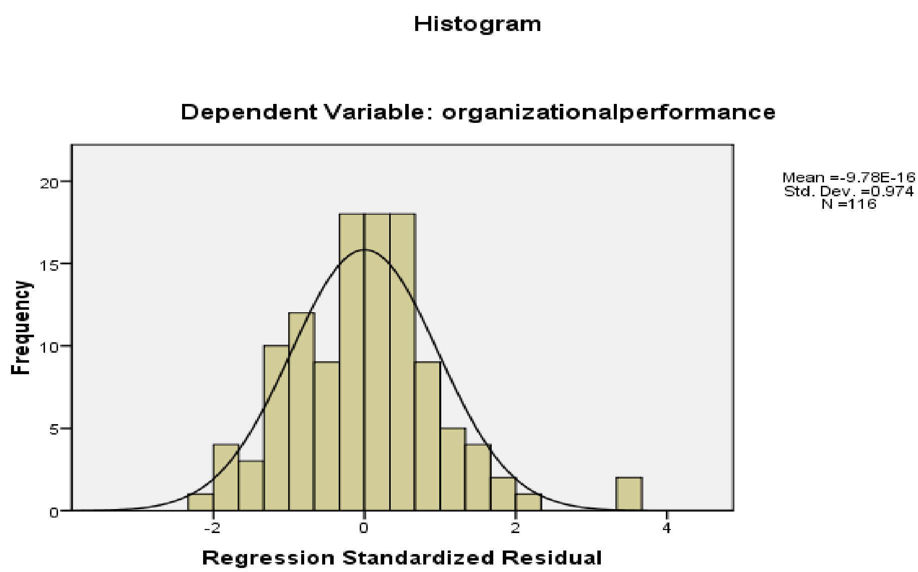
Correlations

		organizational performance	Human Capital	Customer Capital	structuralcapital	socialcapital	technological capital	spiritualcapital
Pearson Correlation	organizationalperformance	1.000	.339	.272	.545	.505	.675	.667
	HumanCapital	.339	1.000	.425	.454	.471	.191	.350
	CustomerCapital	.272	.425	1.000	.442	.325	.086	.249
	structuralcapital	.545	.454	.442	1.000	.507	.417	.453
	socialcapital	.505	.471	.325	.507	1.000	.561	.601
	technologicalcapital	.675	.191	.086	.417	.561	1.000	.622
	spiritualcapital	.667	.350	.249	.453	.601	.622	1.000
Sig. (1-tailed)	organizationalperformance	.	.000	.002	.000	.000	.000	.000
	HumanCapital	.000	.	.000	.000	.000	.020	.000
	CustomerCapital	.002	.000	.	.000	.000	.180	.004
	structuralcapital	.000	.000	.000	.	.000	.000	.000
	socialcapital	.000	.000	.000	.000	.	.000	.000
	technologicalcapital	.000	.020	.180	.000	.000	.	.000
	spiritualcapital	.000	.000	.004	.000	.000	.000	.
N	organizationalperformance	116	116	116	116	116	116	116
	HumanCapital	116	116	116	116	116	116	116
	CustomerCapital	116	116	116	116	116	116	116
	structuralcapital	116	116	116	116	116	116	116
	socialcapital	116	116	116	116	116	116	116
	technologicalcapital	116	116	116	116	116	116	116
	spiritualcapital	116	116	116	116	116	116	116

In table III Values of Beta, T- test, Significance level and Standard error are presented in this table. Beta value of independent variables was positive except social capital. Beta reflects the nature of impact of independent variable over dependent variable. Social capital has stronger positive relation with organization performance. In table below (-0.109) mean social capital has weaker negative impact over organizational performance bur there exist positive correlation among both based upon data collected from all respondents.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.597	1.408		-1.134	.259
	Human Capital	.060	.073	.060	.814	.417
	Customer Capital	.088	.101	.062	.870	.386
	Structural capital	.248	.093	.210	2.673	.009
	Social capital	-.109	.125	-.075	-.869	.387
	Technological capital	.608	.124	.410	4.898	.000
	Spiritual capital	.451	.118	.326	3.840	.000



Graph 01 : Histogram showing frequencies of IV over DV

VI. Discussion

All selected components of intellectual capital were expected to have positive impact over organizational performance. In this study data collected from 116 respondents has proved that all independent variables have positive correlation with organizational performance.

All of the components of intellectual capital are very crucial for a combine effect over organizational performance. Social capital beta value is in negative which signals a very weak impact of this IV over organizational performance. All other components had positive beta values. Beta is a very important statistical tool because it always has impact over total value and can bring change in the complete notion. Social capital has Correlation of 0.505 which is above average but its beta value is -0.075. This mean a very slight negativity of beta is supporting that in few SMEs social capital has a weaker impact of Organizational performance.

VII. Conclusion

Findings of this research support the assertion that selected components of intellectual capital have significant positive impact on organizational performance of SMEs in Pakistan. Social capital has comparatively weaker impact but it has over all strong positive influence over dependent variable.

Further, this study supports role of Human Capital, Structural Capita, Social Capita, Technological Capital, Spiritual Capital and customer capital have strong influence over organizational performance of SMEs operating in Rawalpindi and Islamabad. Findings of this research also match those which were observed in previous studies. This study has significant contribution towards the theory development, practical implication and strengthening the concept of Intellectual Capital.

VIII. Limitations

There are several limitations to this study. First, intellectual capital is a complex phenomenon and respondents' perception may have led to misunderstandings of items asked in instrument. Second, generalizability of this study is limited with in geography of Pakistan. As cultural diversity around the globe can produce significant changes in the results if same study is conducted in any other country. This is due to great variation of prevailing business environment from one nation to another. Finally, it can be related to a one specific time as it is not a longitudinal study.

IX. Future Researches

Future studies can continue with the same concept of intellectual capital but as a longitudinal study. This study is of exploratory in nature which has several limitations that can be removed in experimental or longitudinal study. Moreover, future studies can also be conducted over controversial role of Financial Capital versus Intellectual Capital for operating SMEs in a developing country like Pakistan.

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Smart Green Banking: Product with Deposit-Payment Mechanism in Education Discipline for Inclusive Financial Growth

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Abstract- Green Economy is the elemental philosophy of Sustainable Development Goals. Finance introduces scopes for long-term economic sustainability where green banking products are the novelty of financial revolution against the environmental destruction. The inclusion of unbanked youths into the banking services in a customized way is the automation of banking from educational platform. To achieve the environmental sustainability, Green technology should be applied from basic level. That's why the reformation of green banking products is now imperative. The environmental and social benefit can be achieved through the up gradation of students' banking in higher study level. In addition to this students can also be a part of surplus economic unit. The paper addresses the justification for smart green banking product with payment mechanism and shows its relevancy to financial inclusion.

Keywords: smart green banking, financial inclusion, education, economy, environmental sustainability.

GJMBR - C Classification : JELCode : G21, J13, O31, O44, Q55

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I. Introduction

The people of Bangladesh are afraid of using modern banking technology because of not having IT oriented education in all spheres and not having practical knowledge in this field. The uses are being advanced in different strata of lifestyles. Bangladesh Bank is working on inclusive finance targeting to add all publics into the banking system and using technology can be included in deposit based green banking. Only the green finance is noticed in the financial services. But automation of green banking products for savings and efficient payment purpose is one kind of banking upswing strategy. Creation and implementation of automated green banking products can teach the public how a person can be a part of green banking. Bangladesh Bank has been working to make banking services universal echoing the national aspirations and democratized the financial inclusion (Bangladesh Business News, 2015).

Learning is the heart of education. Uses of green banking technology from learning stage enrich the knowledge level of students who are the next driver of the economy. Targeting to the group of people, green banking automation will be a parley to financial services.

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Ready successors to lead a country are the university going students undoubtedly. Total number of university going student were 2849865 in 2014 of public university and 330730 in 2014 of private universities in Bangladesh (University Grant Commission, 2015). Since the large numbers of students have no boundary to be city based, the rural students in higher study level can enjoy banking services. In addition to this, the respective guardians are also to be accommodated with the banking facilities.

The Asian community is up growing with the automation in banking services. It is not only limited within the territory of a country, but also spread out over the boundary. The example is the establishment of payment mechanism for real time gross settlement, the 3rd cross border payment-versus-payment link between the two nearest nations of Thailand and Hong Kong in 2013 (Hong Kong Monetary Authority, 2013). Bangladesh also introduced Real Time Gross Settlement (RTGS) system in the clearing and settlement of cheques on October 29, 2015. Total 55 scheduled banks are the participants in this settlement procedure. Initially 5000 branches have been added to this service (The Daily Star, 2015). So, automation is everywhere. Now, the clue for automation in green banking services of Bangladesh is providing the customized products to a targeted group of people. The study has been done on the automation of green banking products applicable into education discipline with the uses of banking technology for the sustainable economic, environmental and financial development.

II. Background from Literatures

David Le Blank (2015) emphasized on Goal-4 & 8 of Sustainable Development Goals (SDGs) where a link between the smart green banking & SDGs can be found in promoting sustained, inclusive economic growth and ensuring inclusive and equitable quality education and promote lifelong learning opportunities. He mentioned the SDGs have instrumental value and emphasized on the improvement of ecological and social phenomenon. Here, the outcome from integration of goal-4 & 8 is financial products that support economy, education and environment.

Dr. Sarita Bahl (2015) explained green banking as to promote environment friendly products in banking services, where the product coverage includes green mortgage, green loan, green savings account, online banking, mobile banking etc. By imparting education and awareness green banking can contribute in sustainable development. In the field of education using of projector instead of marker and white board, interaction through video conferences, e-learning process also indicates green.

Elisa Tavilla (2015) identified in her case study on payment strategies that Asian people are apathy to make technology based transactions. Their preference is to do cash transaction in all the personal and business currency movements mentioning the Nelson Survey 2013 stated 68% people favor cash transactions.

Mustafa K. Mujeri said, "For sustaining inclusive growth, it is important to make adequate public investments in social sectors especially education and health along with other essential services so that the poor can enhance their capacity to avail newly created opportunities" (The Financial Express, 2015).

Savings are the root of banking fund. So, bank should take care of depositors rather than other services receivers. As a lender of resort, a bank must grow its savings base to get strength in financial market operations. According to J. L. Fontela (2002) the ways of growing savings base includes attracting new depositors, encouraging them to put money into account, convincing them for extra savings and doing this with lower turnover of savings. So, Education is a good platform of money savings.

III. Objectives

- To analyze the initiation of smart green banking with automation role in deposit payment mechanism.
- To highlight the involvement of student group into the financial inclusion program.
- To justify the students' habit in using green banking technology at higher study level for the sustainable economic growth.

IV. Limitations

Due to not having enough resources and data of different countries, the study has to be completed on the discussion of the present and prospective market leaders and experts. The costs involved into green banking product could not be concretely estimated in view of Bangladesh as the selected companies and financial institutions were not willing to provide to-the-point cost information. And the competitions of financial market participants were not supportive to gather data during the study period.

V. Methodology

Based on the qualitative approaches, data have been collected from the discussion with the students and PhD Scholars of different universities of various countries, financial market participants of Bangladesh and abroad. Taking the data available from financial and research institutes, newspaper, articles of renowned journals, reports of Bangladesh Bank as well as Bank for International Settlement the study has been completed. Relevant data has been analyzed through the in-depth interview and consultation with financial experts and professional IT experts from different banks and universities based on qualitative approach. Mean calculation has been used in quantitative statistical analysis only. And decisions have been made through the cost-benefit analysis and inclusive financial contribution of smart green banking product, and the integration with Sustainable Development Goals (SDGs).

VI. Smart Green Banking

The application of green banking in every sector shows the sustainable development. The idea generation of sustainability starts from education. The investment in the education technology system brings financial strength in an economy. Green banking indicates the eco-supportive products innovation as well as application by creating awareness to the people. Green card can also be issued to participate in the overall banking development work (Pal & Russel, 2015). For this reason, Automation of green banking products should be served from creation period, which not only contribute in enriching students' knowledge regarding green banking application, but also play role to the financial inclusion.

Core Banking products, generally two broad categories depending on the serving arena, are deposit and loan products, so does the Green Banking products (Fig.1). From the initiation regarding automation, green banking products can be initiated into the educational practices. No educational institute provides education without any fees. The fees include admission fee, semester/trimester fee, examination fee, improvement examination fee, monthly payroll and so on. These types of financial services are provided by the respective university itself.

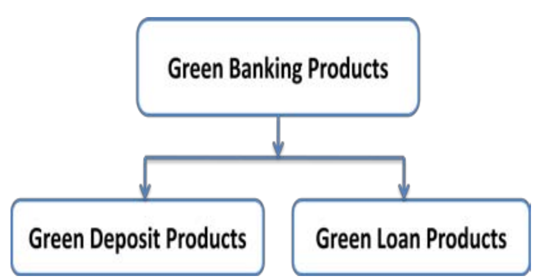

Fig.1 : Green Banking Products

Green banking products are segregated into Green Deposit Products and Green Loan Products. Bangladesh has a lot of loan products namely green finance to the specified sectors, here the green deposit products' initiation and rationality is necessary. Here, the focal point of the paper is smart green deposit product.

Green Deposit Products

The products that are provided to customer for the amount savings purpose, which are automated, are known as green deposit products. For the customization targeting to the student, higher study smart savings (HSSS) account, a green deposit product, has been introduced in this paper.

Higher Study Smart Savings Account (HSSS Account)

Higher Study Smart Savings Account is a deposit account where the students of bachelors, masters, M.Phil, PhD, Post-Doctoral level students can deposit money basically for the purpose of payment to university fees. Additional payment facilities by Point-of-Sale (POS) and withdrawal money from Automated Teller Machine (ATM) booth are also available. A student must have to open this account at the time of admission to a university for only higher study continuing purpose and after completing the higher study this account will be automatically converted into general savings account. Implementing the product will enrich the student knowledge regarding banking technology as well as habituate to stay into the banking system. The general criteria, requirements, facilities, restrictions and precautions, which should be inherited into, are below:

a) Criteria

Each and every account has some criteria fulfilling which one can open an account in the bank. For the customization of this product, the criteria are different from general savings account, where the customer must be:

- A candidate who is finally selected for admission to study into the University (Honors/Masters/M.Phil/PhD/Post-Doctoral Level)
- A valid National ID or Any other photo ID acceptable by bank

b) Requirements

At the time of opening this customized savings account, a customer (student) must provide followings demands to the bank:

- Photocopy of Valid National ID or another photo ID acceptable by bank
- Recent 03 Passport Size photograph
- 01 Reference Letter from Departmental Head and 01 from Legal Guardian with introduction.
- Photocopy of Nominee's NID or another photo ID acceptable by bank
- 01 copy Nominee's Passport Size Photograph
- A photocopy of University Registration Card (after completing registration)
- Photocopy of Student ID Card (when issued)

Initial Deposit as per bank policy and subject to the minimum amount to raise the student involvement into the banking system.

c) Facilities

The facilities provided to the customers (students) of this account, the reasons for which the students must open the account, are:

- More than general savings interest rate will be applicable.
- Account Maintenance Fee is as lower as possible can be taken bi-annually.
- Smart Student ID will be issued by the bank with Debit Card facility (See the features below in Fig.2).
- In case of not having chip supported ATM booth, an Automated Student ID will be issued and the word 'smart' should be avoided in the product name (Fig.3).
- ATM/POS supported Smart or Automated Student ID Card issuing charge is BDT 300 or more than the average cost of card (Table.1) and maintenance charge is free.
- A unique code from Bank will be provided using which a customer can generate Account Statement from bank's online services.
- Student (customer) must pay all the fees of university like Semester/Trimester/Monthly Payment Fee/Year Change Admission fee/examination fee with or without delay charge applied by University Authority from ATM Booth placed in the university premises or nearest area selected by the bank.
- Student must input the Personal Identification Number (PIN) provided by bank in ATM booth for fee payment. Student can also download an auto generated admit card using the University ID Number from the University's web portal (If permitted by the university authority).
- Anyone can deposit money into the account from any branch of the bank using any branch banking facility.
- There is no maximum deposited amount. In case of depositing big amount the customer has to give the declaration to the bank showing the reasons behind that.
- Using Electronic Fund Transfer (EFT), anyone can transfer money into the account.
- At the time of depositing money, the respective depositor has to mention the source of money.
- A notification will be sent to customer's cell phone for any debit or credit transaction occurred in the account by message.
- Student can get the clearance certificate issued by the bank after the payment of university fees in yearly basis.
- Any scholarship and donation amount from university or outside organization to the student will be deposited into this bank account.
- If Smart Card is issued and facilitated by the respective bank, a customer can use it in any EMV enabled ATM booth or POS Machine, in addition to this s/he will also be able to use the same card in general ATM booth or POS Machine using the magnetic stripe on the back side of the card.

d) Restrictions and Precautions

Generally some restrictions and precautions must be placed into this account to utilize the facilities that are:

- No cheque will be issued for this account as an initiative for being green product.
- Minimum balance should be applied as there in general savings account.
- For transacting or paying fee more than BDT 01 Lac, consent of Departmental Head will be given to the nearest branch.
- In case of losing Smart Student ID Card, an additional charge of a little bit more than the issuing charge should be paid to the bank with a general diary copy from the nearest police station.
- After ending the study period and at the time of getting provisional certificate, the card must be submitted to the respective bank.

Features of Smart Student ID and Automated Student ID Card

Opening a HSSS account, a student will get a Student ID Card from the bank after the admission confirmation from university. Bank will issue the card with debit card facility, where the facilitated card will be either Smart Student ID Card or Automated Student ID Card.

a) Smart Student ID & Debit Card

Smart Student ID & Debit Card is one card with dual facilities including the ID and Debit Card. The smart card is facilitated with chip or EMV (Europay MasterCard Visa) enable card services. The card has a front side as well as the back side (Fig.2). A special chip with a microprocessor, where all information of customer is present, will be added in the front side of the card.

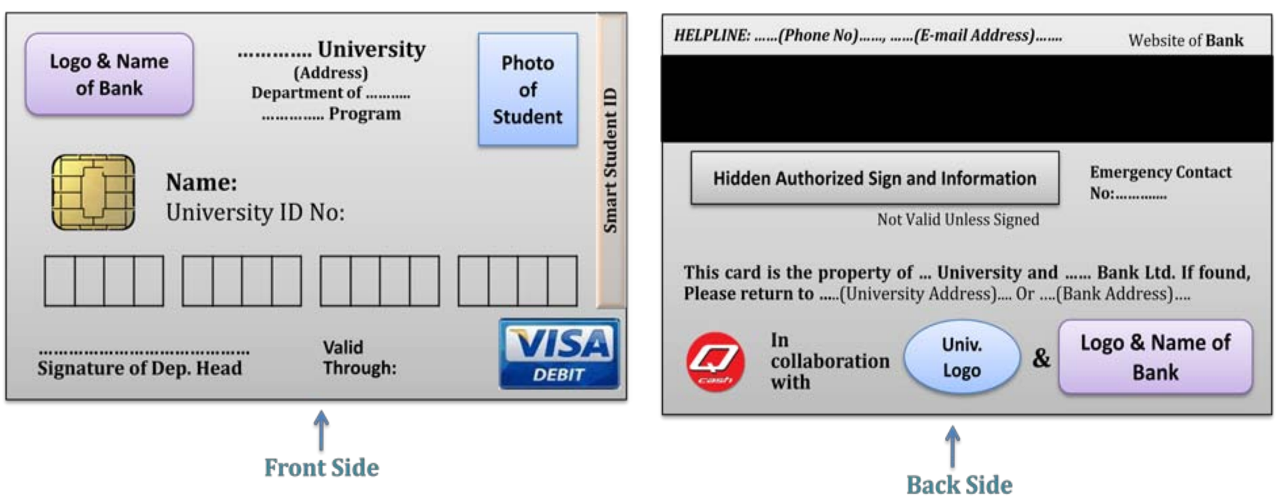

Fig. 2 : Smart Student ID & Debit Card

In addition to includes the banks logo and name, university name and address, student's photo, name and university ID number, Debit Card number, validity, signature of departmental head.

In the back side of the card, there are the helpline of bank for informing incase of immediate problem or breakage of card, the websites of bank, magnetic-stripe for ATM and POS uses, hidden authorized sign and bank information, emergency contact cell phone number by calling to which any return in case of lost to either respective department or bank, logo and name of bank and university. Bank affiliated card service providers' logo may be in the front or back or both sides of the card.

The facilities of the card are the uses the card in any university related work and verification for identity of the student, and to use the card for cash withdrawal from ATM booths, purchasing things from Point-of-Sale, money transfer, balance check, mobile recharge, university fees payment and other basic work facilitated by the respective bank.

b) Automated Student ID & Debit Card

The Automated card is a debit card with no EMV chip. In case of no ease availability of EMV chip enable facilities, bank can render service to the students with as usual debit card facilities including the fees payment mechanism with it. In the front side the card includes the information as it is in EMV chip ID card without only chip (Fig.3).

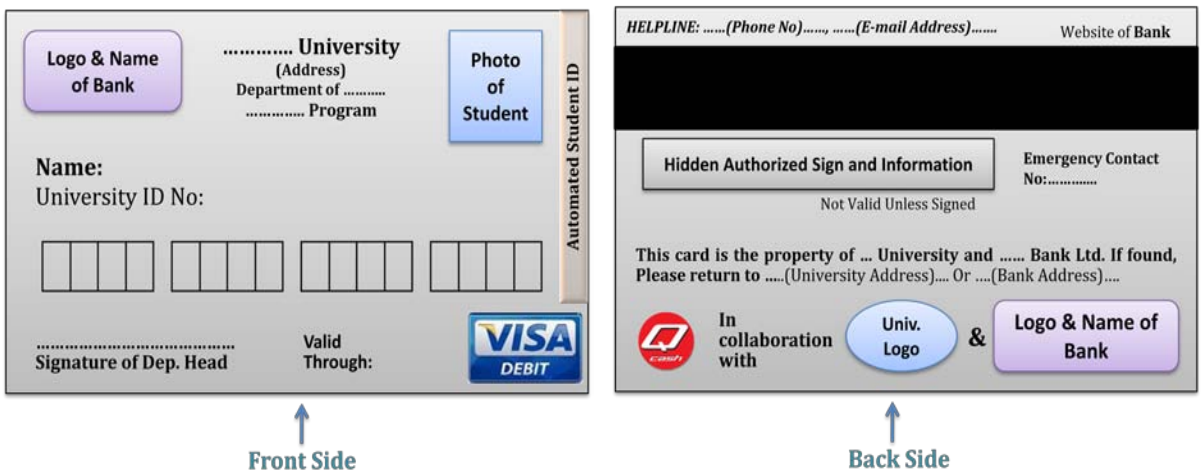

Fig. 3 : Automated Student ID & Debit Card

The chip is more secured in case of transaction. Although chip using is a little bit transaction time consuming, but the security is high. For the application of chip card, there must be an EMV enable ATM machine or POS machine to perform the transaction. In each time transaction, the 4 digit PIN code input is mandatory. The verification of customer's card with PIN number will be done through the chip enabled machine. University's basic and bank account information should be included into the chip. In Bangladesh, some banks are offering chip enabled card and rest of the banks are yet to issue chip card for their customers.

Personal Identification Number (PIN) is used both the chip enabled card and magnetic-stripe card, PIN is used for security purpose. But there is a problem with only magnetic-stripe card. In case of purchasing a product using POS, PIN is not a required input, only a signature is enough to make transaction through POS. In 2000, 4 billion PIN based transactions and 5.5 billion transactions through signature were effected throughout the United States (Bank for International Settlement, 2003). In Bangladesh approximately with 17 crore people, it is possible and will be efficient to effect PIN based transaction through the card banking.

Service Flow with Deposit-Payment Mechanism of HSSS Account

Due to customization done for the higher study students, from the initiation of the product, a working flow is noted with deposit-payment mechanism. The flows are different and categorized into three segments mentioning the Admission Period, Study Period and Study Completion Period (Fig.4).

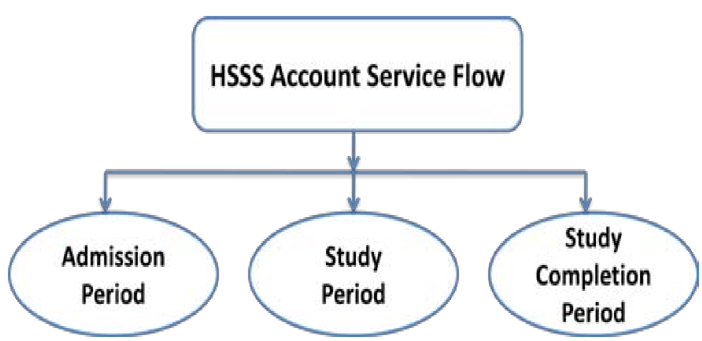

Fig. 4 : HSSS Account product and service flow in education level

a) *Admission Period*

A student has to follow some procedures to admit into a university. In Fig.5 the work flow are mentioned, which starts from application after the circular for admission and ends when the students get finally admitted. The banking involvement is also mentioned here.

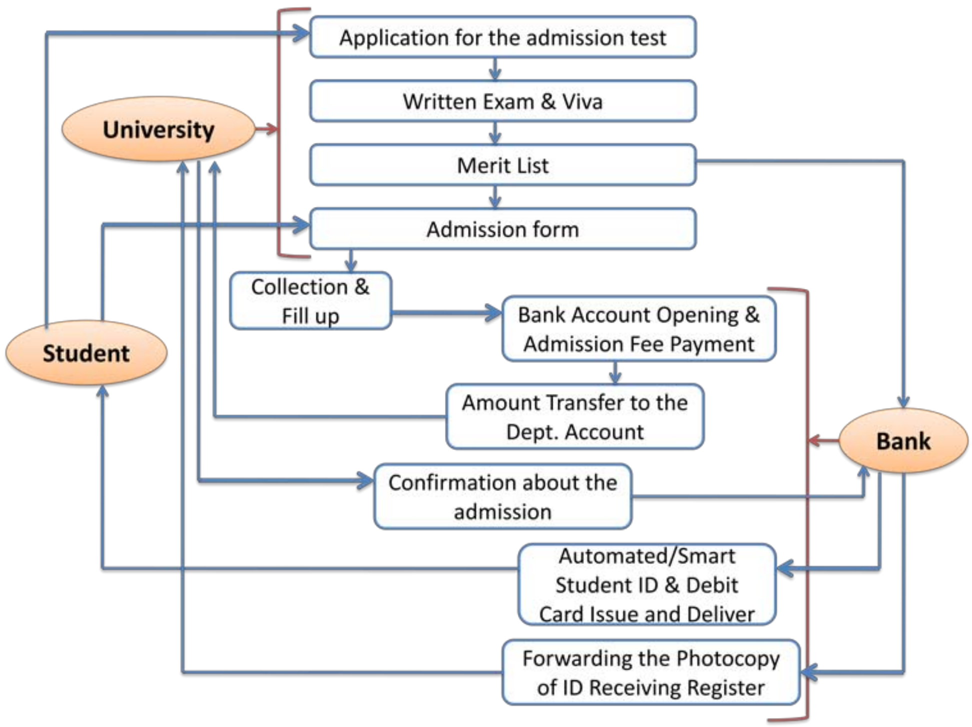

Fig. 5 : Product and service flow during the admission period in university

Here, the process of product and service is captioned in a short form. The details step-by-step procedures are below. After taking the mental preparation of student to get admission into a university-

1. A candidate has to apply for the admission.
2. In due date s/he must attend for the written test and viva-voce.
3. Final selection with merit basis and Subject (for which s/he is selected).
4. An Admission form will be collected from the respective department.
5. A formal notice with merit list will be sent to Head Office of the bank.
6. Bank will forward the notice to the selected branch nearest to university.
7. Student has to fill up the admission form and fulfill the documents.
8. S/he will go to the selected branch for opening a Higher Study Smart Savings Account.
9. Departmental Head and legal guardian will introduce into the account opening form.
10. Fulfilling the banking general requirement, the account will be opened.
11. The admission fee will be deposited into the account.
12. A portion of admission form (Bank Part) will be cut-off for the departmental head's confirmation.
13. The fee will be transferred to the account of the department.
14. Treasury of that university will collect the fund from departments' account (Function of the University).
15. A message will be automatically forwarded when the amount is debited from the student's account.
16. After confirmation from departmental head a smart student ID card or automated student ID card with debit card facility will be issued and forwarded it with pin number to the student.
17. A copy of ID receiving register will be forwarded to the respective department.

b) *Study Period*

After getting a student ID and debit card, s/he has to continue the study and during the period s/he will have to pay different types of university fees like semester or trimester fee, tuition fee, exam fee, development fee, library fee, penalty and so on. The duty of university is to give a notice for payment in the departmental notice board. The student will have to pay with the card going to the selected ATM Booth (Fig.6). Here, the student will see the notice board and,

18. At the time of any fee payment to the university student will go to the nearest ATM booth of that bank.
19. After pressing the ID card to the ATM machine and providing the pin number, the university fees payment (U-Pay) option will be found with the other general options there.
20. Selecting the University Fees Payment (U-Pay) option, the department selecting option will be found.
21. Going to the specific department option, there will be different types of fees payment options.

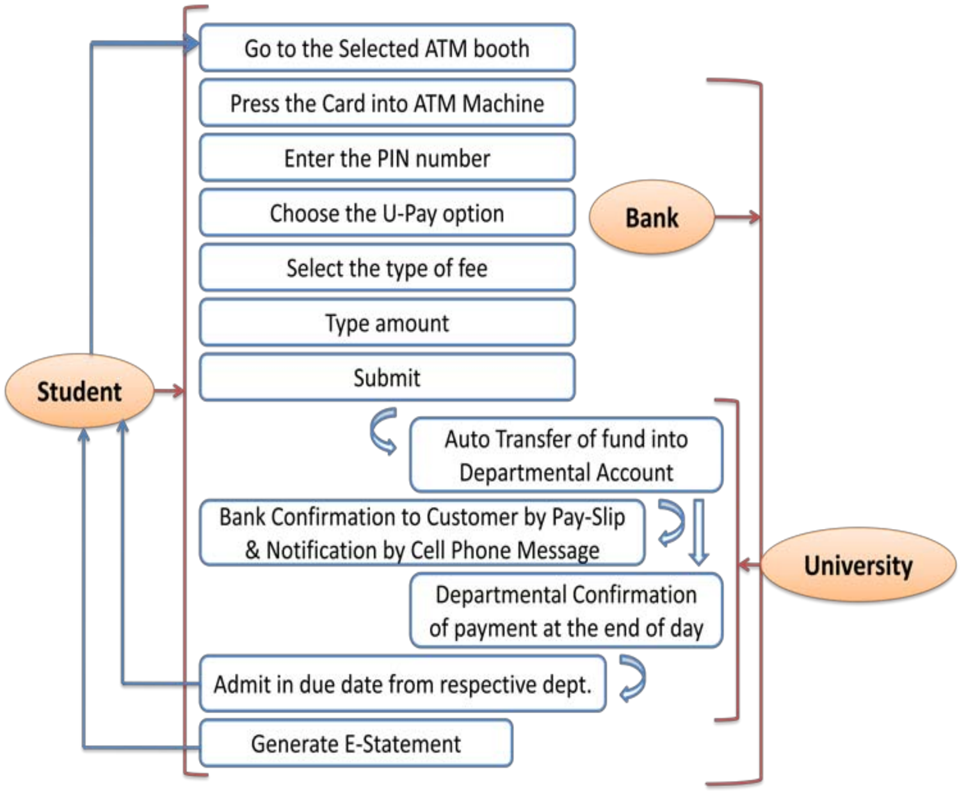

Fig. 6 : Deposit-Payment Mechanism of HSSS Account during the study period.

22. After Selecting option and typing the fees amount, student has to press confirm button.
23. The fees will be automatically deposited to the respective department.
24. Department will generate the e-statement at the end of day to confirm the students' fee payment and collect the account statement from the branch of the bank at the end of fee payment period.
25. At the departmental account statement, the account number and payment will be found with due time and date.
26. Payment will be confirmed by getting the pay-slip from ATM booth and notification message to his/her cell phone (provided in the account opening form).
27. Finding the payment into the Departmental Account Statement and confirming by the departmental head, admit card or student needed documents will be provided to the student.
28. Student can generate the statement from online using account number and pin sent to the e-mail address of the student by the bank authority.

c) *Study Completion Period*

During the study period student has to renew the card, when it expires. A renewal fee will be counted. After the final exam university will publish the result and provide the date for collecting provisional certificate. The student should collect the certificate and a new debit card (Fig.7).

Then what a student should do:

29. After completion of study and result published, Student will go to the ATM booth and give payment for Provisional Certificate and Mark Sheet.
30. Student will take Pay-Slip from booth and go to the branch of bank.
31. Before taking provisional certificate student has to submit the student ID card into the bank and a confirmation slip will be provided from the bank to the students.
32. Students will submit a part of that confirmation slip to the counter of university from where they will collect the provisional certificate and mark sheet.
33. Since the Student ID card has been submitted, in due date given by the bank, customer (student) will have to go to the branch and providing the last part s/he will collect a new debit card as the account will be converted into the general savings account and a new debit card will be issued on behalf of the customer.

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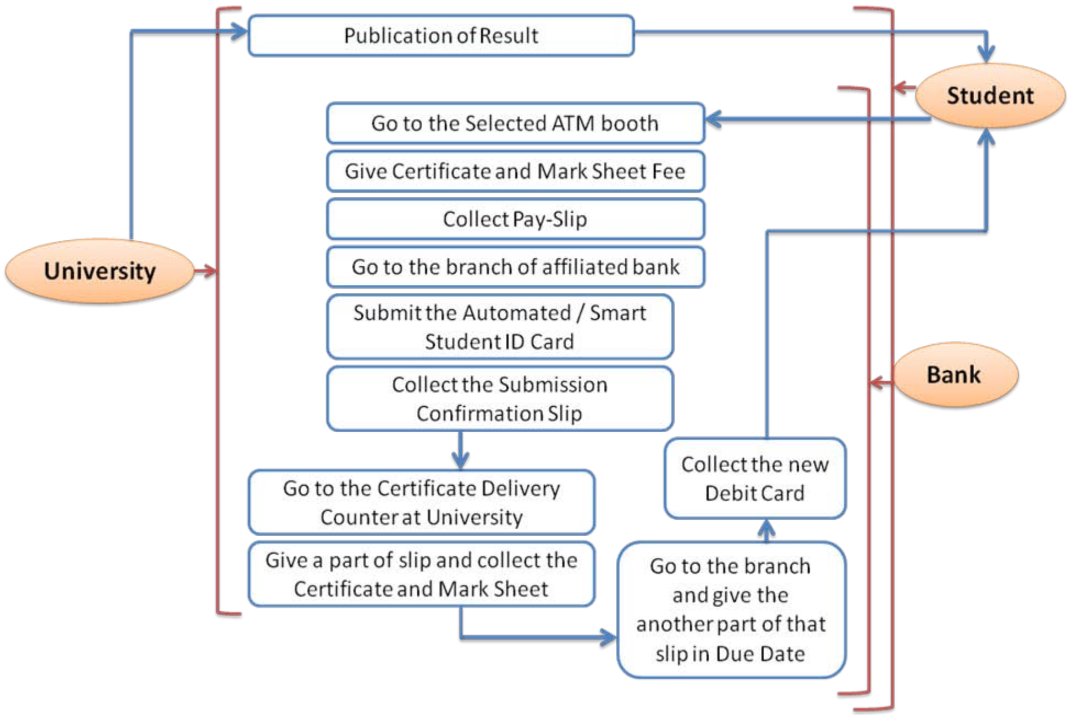

Fig. 7 : Process of work at Study Completion Period

VII. Benefits and Costs Analysis of the Smart Green Banking Product

For launching a product the market response with the cost and benefit analysis is necessary. No product is beyond benefit, that's why cost involvement is must into the product too. There are multi-level benefits of the product. In a short way the segmented benefits will be enjoyed by the students, university and bank as primary beneficiaries of the product and government, economy as well as environment as secondary beneficiaries of the product (Fig.8).

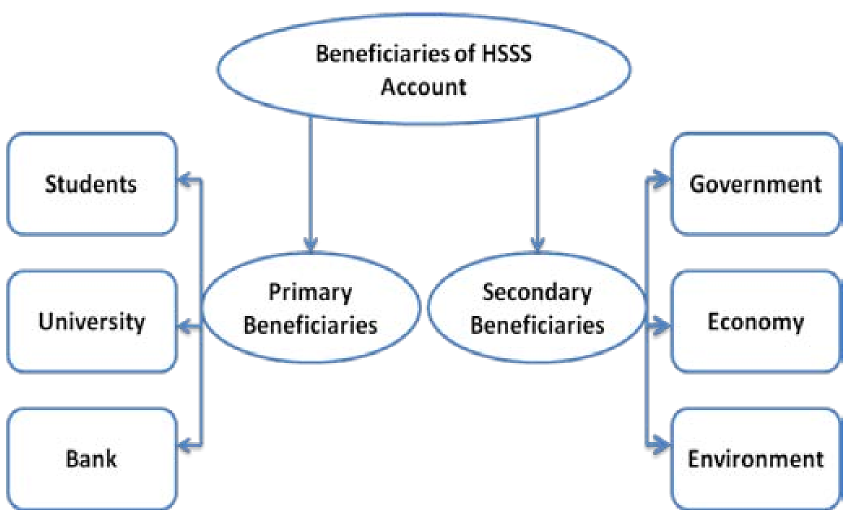

Fig. 8 : Beneficiaries of Higher Study Smart Savings (HSSS) Account

a) *Benefits of Primary Beneficiaries*

The persons or institutes who will enjoy the facilities of the products from the front level are the students, university and the respective bank. The benefits of them are different in the product nature, are below:

i. *Benefits of Students*

- Students can gather knowledge about green banking system from higher study level.
- Students of different level will be habituated in payment technology.

- They can deposit money into their account from any branch of a bank through any branch banking system and any bank through electronic fund transfer.
- Students can pay fees from the selected ATM booth using the Smart or Automated Student ID Card.
- Time and Cost will also be saved.
- If the university claimed for non-payment of fees, student can generate an online statement and provide it to the respective department.
- Students are eligible for withdrawal of cash from ATM booths of the banks.
- Anyone can deposit money from anywhere of a country.
- After the study period, the account will automatically converted into the general savings account and the card will be replaced by the new general debit card, so, the student need not close the account.

ii. *Benefits of University:*

- University will get fees in due time from the students.
- Accounts departmental work will be under the banking services.
- University's Smart Student ID Card issuing responsibility will go to the respective bank.
- University education and premises will be free from terrorism as the illegal funding can be easily noticed, traced and notified by the bank.
- University authority will easily identify the income and expenditures from education services provided which will help to make budget for every department.

iii. *Benefits of Bank*

- Bank can enlarge its servicing scope.
- Bank can contribute in maintaining corporate social responsibility.
- Since the present general student savings account maintenance charge is free, bank can influx the higher study students and scholars into the banking services.
- Due to having no cheque, there is not any cheque issuing cost.
- The interest will be given onto the monthly minimum balance, so the extra balance of that account will be no cost deposit.
- Bank can include these types of account in green banking services.
- Bank will get a large amount of deposit in the University's Short Noticed Deposit (SND) Account where all the fees will be credited.
- Bank can identify the account holder if any illegal transaction done into the account.
- Students will be habituated in doing banking with that particular bank for a long period, which will enhance to grow trustworthiness to that bank.

b) *Benefits of Secondary Beneficiaries*

The product helps to the person, institutions or country indirectly are mentioned as secondary beneficiaries, who are the government, economy and the environment. The product provides benefits to them in the following way:

i. *Benefits of Government*

- The income level of students' legal guardian and source of fund will be informed to the government.
- The practical knowledge of banking in financial transactions will be gathered by the students. It's a long term achievement of the concerning government.
- Government will get more efficient officials in public services.
- Educational Payment System will be fully digitalized.
- Government easily can calculate the income of that university for tax calculation purpose.
- Allocation for government fund on higher education will be easily distributed.
- Government can take step if any illegal or terrorist financing done into these accounts.

ii. *Benefits to Economy*

- All the youth students will stay under the financial inclusion Program.
- Financial Literacy regarding green technology will be quickly gained.
- Central Bank will easily identify the person having illegal motive or connected with any terrorist group, if any unjustified transaction is occurred.
- Banking Service will be reachable to all groups of public like the parents or legal guardians of the students.
- Unbanked students' family will be under the banking services.
- University payment procedure will be done under the banking system.
- The yearly budget for every department of the university is possible through the departmental inclusion into the banking services.
- Money Laundering from these accounts will be noticed quickly.

iii. *Benefits to Environment*

- Uses of paper will be reduced for having electronic services to the fees payment system.
- Wastage can also be controlled.
- Reduction of paper will maintain the ecological balance.

c) *Costs involved in the product*

There are total 6422 own ATM and 71723 shared ATMs are operated and 86480962 total number of accounts in Bangladesh (Bangladesh Bank, 2015). And the numbers of universities were 75 in 2014 whereas public universities were 35 and private universities were 40 containing 2849865 and 330730 students respectively. Here, only National University carried 2097182 students in 2014 (University Grant Commission, 2014).

So, university based product will get coverage of 3180595 student with 30 lac connected families. The HSSS Account can be an efficient inclusive financial green product in Bangladesh from the sense of knowledge generation, environmental positive response, and economic strength enrichment. So, we need count the cost for that product. The cost can be of three types mentioned (Fig.9).

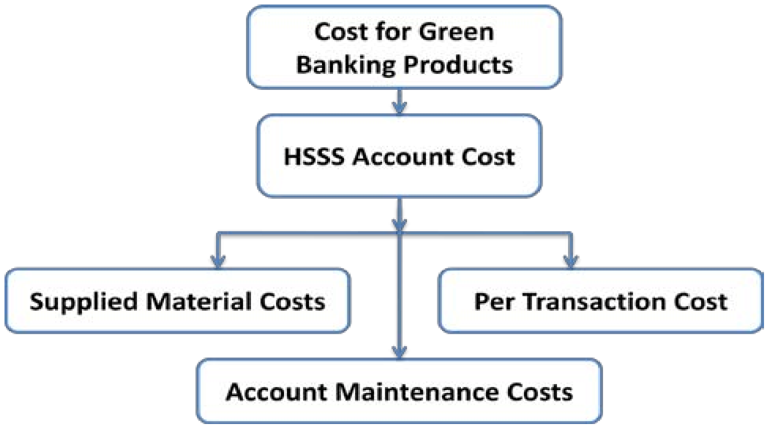

Fig. 9 : Costs involved in the Green Banking Product (HSSS Account)

i. *Supplied Material (Card) Cost*

There is a cost involved in chip debit card production and supply level. Financial institutions are thinking about high cost of chip card compare to magnetic-stripe card, which may be double. The estimated cost can be count on to the cost of countries implemented the debit card services with or without EMV chip. From United States we got an idea regarding smart green card manufacturing cost (Table.1). The lowest average costs of EMV Chip Debit Card of Large Banking Corporations in United States is US$2.17 and Credit Unions counts highest cost per chip card of US$ 2.90.

Table.1 : Comparative cost position of manufacturing smart and magnetic-stripe card

Supplier	Cost	US$	Conversion Rate	BDT
Large Banking Corporations (X1)	Per Chip Card	2.17	US$ 1.00 = BDT 78.0925	169.46
Credit Unions (X2)		2.90		226.47
Mean [ẍ= (X1+ X2)/2]	Average	2.535		197.96
Per Magnetic-Stripe Card Cost		0.08		6.2474

Source: Business Wire, 2015, usd.fxexchangerate.com/bdt/, 2015 And Cyber security and Privacy blog, 2014

The average cost considering Mean is US dollar 2.535 equivalent to Bangladeshi Taka 197.96 per debit card. Suppliers of chip card in the banks and financial institutions in Bangladesh may take a little bit more. If they count 15 percent more costs per chip card stood BDT 227.66. A bank can charge for each card amounting BDT 300.00 as HSSS Account is not only facilitated with debit card but also university ID card.

ii. *Per Transaction Cost*

A working report with special reference to State Bank of India (SBI) shows that, the cost allocation per transaction from different channel includes:

Table. 2 : Per transaction costs involved in HSSS Account

Type of Costs	India (Rupee)	Conversion Rate	Bangladesh (Taka)
Teller Cost	1.00	Rs. 1.00 = BDT 1.17	1.17
ATM transaction cost	0.45		0.53
Phone Banking	0.35		0.41
Debit Card Expense	0.20		0.23
Internet banking	0.10		0.12

Source: IRJER, October 2015 And inr.fxexchangerate.com/bdt/, 2015

The green deposit product will take the ATM transaction cost per transaction, phone banking cost as a message to be forwarded for each debit transaction, debit card expense is must, and per transaction internet facilitated cost which will Rs. 0.45, 0.35, 0.20, 0.10 in India. In Bangladesh, with total amount of ATM transaction cost with the referred facilities will be BDT 1.29 according to exchange rate calculation. As the Bangladeshi banking IT support and set up cost is not like India, per transaction cost may be a little bit more here. Students normally will not do frequent transaction; a bank can take the general average cost for the student transaction. Here, bank will only have to bear the per transaction cost.

iii. *Account Maintenance Costs*

In addition to the supplied card cost and transaction cost, there is account maintenance cost. Generally banks counts average per transaction cost as the account maintenance cost. Since all the transactional point and service are included into the per transaction cost. The other cost involved here is the initial costs namely the cost of account opening form, any other instruction form, reference letter format provided be the bank to the customer or any other form (Fig.10).

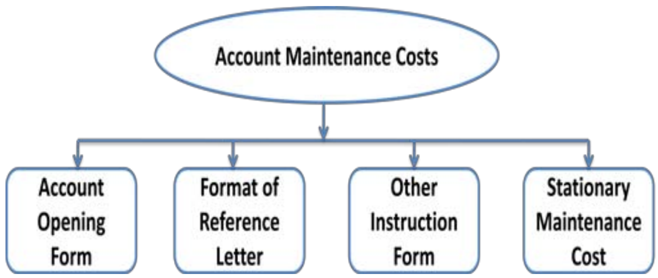

Fig.10 : Account Maintenance Cost for HSSS Account

Generally account opening form costs BDT 5.00 on average, reference letter costs BDT 2.00, other instruction form costs BDT 2.00 on average and stationary maintenance like deposit slip, ink of pen, ink of office seals etc. in the account opening time and each time cash deposit average combined costs BDT 5.00. So, the annual cost for each of the product is BDT (5.00+2.00+2.00+5.00) = 14 only. Thinking about the educational development and corporate social responsibility, the account maintenance fee can be waived by the respective bank.

VIII. Financial Inclusion through the Smart Green Banking Product

Financial inclusion program of Bangladesh Bank (central bank of Bangladesh) is an effective initiative to add the un-served people into the banking service. But, how the product and what types of people will be added into the banking system is discussed below (Fig.11).

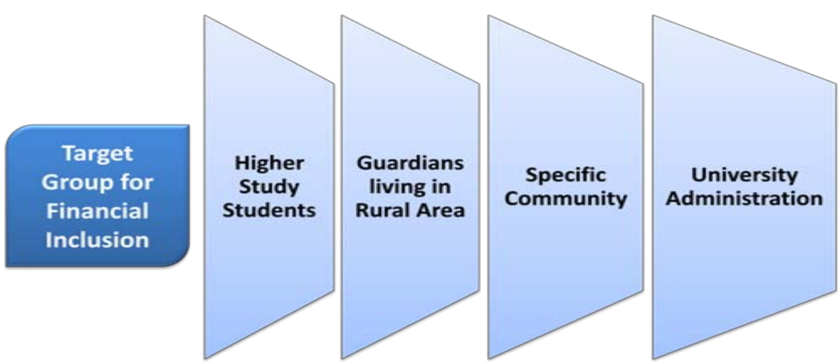

Fig.11 : Target group for Financial Inclusion through the product

The above figure shows the target group of people who will be added into the boundary of banking service for launching the product. They are specially the students (future leaders of an economy), the guardians and relatives living in the rural and remote area, specific community as well as the university administration. The way are-

a) Since each and every student has to open account at the time of admission, higher study student group will be added into the banking system.
b) Parents, legal guardians and relative who are living in the rural area are able to deposit money into the student savings account from anywhere, so they will open bank account.

c) Various communities will be served by the banks due to the higher study of their child.
d) Segment wise community addition to the banking service is the indication for unit banking in Bangladesh in future.
e) All departments of a university as well as university administration will also be included into the banking service.

Inclusive finance always works for the people to generate knowledge to their mind, to support them to overcome their financial problems in the way of financial literacy. The idea regarding financial inclusion is the biggest financial program in Bangladesh. And the HSSS Account will be a part of inclusive financial revolution. The smart product will be the only witness of creating knowledge of students, future leaders of the economy, about the digitalized banking system. So, the importance of Higher Study Smart Savings (HSSS) Account is not nuance.

IX. Integration of Green Banking Product with Sustainable Development Goals (SDGs)

The novelty of green banking products into the financial inclusion is the integration of the green banking with SDGs. The product has a good connection with the different goals. The initiation of those products can be economically viable which supports the environment, contributes in financial growth and broadens the technology based knowledge level of students. In this way, different goals of SDGs (ICSU & ISSC, 2015) have been interconnected with the financial products (Fig. 12).

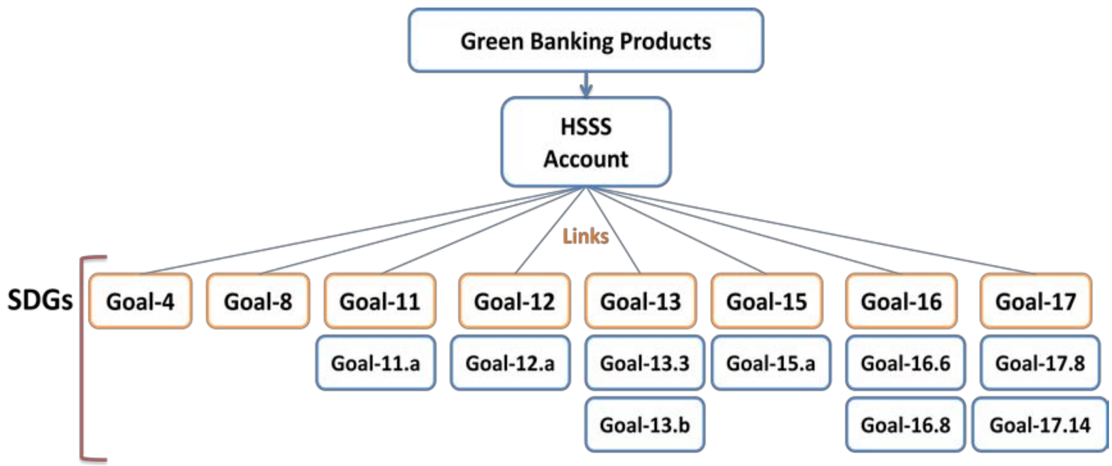

Fig.12 : Integration of HSSS Account with SDGs

- *Goal-4 of SDGs*

Green HSSS account ensures students achieving higher education with technical knowledge about updated technology in university level (4.3) and also indicates the ensuring knowledge and skill to promote sustainable development through education (4.7).

- *Goal-8 of SDGs*

The green banking product promotes inclusive and sustainable economic growth including per capita economic growth through environmental up gradation (8.1 & 8.4), drives innovation, technological upgrading through diversification (8.2), makes development oriented green deposit policies (8.3), involves in education and training to youths (8.6) and specially supports people for capacity building with expand excess to banking, insurance and financial services to all.

- *Goal-11 of SDGs*

The HSSS account makes a link between the people of urban area, peri-urban and rural area (11.a) as the different students are from different areas and the guardians, relative are living in remote areas. To support the students for fees payment, they have to open bank account which will create a link among the people of all classes.

- *Goal-12 of SDGs*

This deposit product supports the developing countries like Bangladesh to strengthen the technological capacities (12.a) in the way of e-banking and paper less banking as the customer use the smart or automated debit card for all transactions.

- *Goal-13 of SDGs*

The green banking deposit product improves the education, awareness regarding climate change mitigation (13.3) through uses of card based savings product that focuses youth consciousness about the environment (13.b).

- *Goal-15 of SDGs*

The product mobilizes the financial services and resources (15.a) to the students of university as well as their guardians by supporting stable biodiversity and ecosystems as the product offers savings with online banking facilities.

o *Goal-16 of SDGs*

An institution will be effective, accountable and transparent, when the customer or client will be able to know the services and efficiency level by using its products and services. The HSSS account develops institutional level transparency (16.6) and confirms the participations in global governance being an example of technology based product innovations (16.8).

o *Goal-17 of SDGs*

Smart Green Banking product is the means of technology based product implementation which enhances to tech-operationalize the bank (17.8). And since the most banking software is purchased from outside of Bangladesh, it maintains the international standard including the regarding policy for the sustainable development (17.14).

X. Why the Smart Green Banking Product should be Initiated

The word, "Green" shows the sustainability strength of earth. Banking service for the environmental health development is green banking and Green Banking for Sustainable Development is a program of Bangladesh Bank (BB), central bank of Bangladesh. Under this program, BB introduced e-tendering, e-recruitment, online credit information bureau, automated clearing house, online documentation and leave management system, electronic and online fund transfer, e-commerce, e-noting and so on to give extra importance on eco-supportive banking in Bangladesh. Some of its product like mobile banking has driven a gigantic move within last few years. In this way it stands forward for financial inclusion in Bangladesh. As part of accelerating green products with ATM, POS, mobile banking, internet banking etc. services National Payment Switch of Bangladesh (NPSB) is also in operation since 2012. In addition to these, 13 types of under-privileged persons are taken into consideration for the financial inclusion program and school going children are one of them (Bangladesh Bank, 2015), as we know; literacy starts from school. Reminding the all initiatives taken from Bangladesh Bank a smart green deposit product is necessary, and the educated wing of our nation can be the perfect successor for green moves. However, the product, HSSS Account, is strongly connected to take part for the implementation of Sustainable Development Goals (SDGs) and to increase savings strength. In this view Smart Green Banking (HSSS Account) in education should be initiated.

XI. Conclusive Remarks

Bangladesh is a low lying country. Natural calamity happens several times in this region that affected more that 13 crore people directly and indirectly in last 20 years and Bangladesh stood third highest country of the world in terms of population affected in natural calamities that is 131 million after China and India (CRED & UNISDR, 2015). For safety of peoples' lives green banking works as a primal issue for the financial and ecological sustainable development. Due to having highest foreign currency reserve in Bangladesh currently, Banking institutions are trying hard to finance into the green projects. But, a large portion of our country people is poor and living in the remote area. The touch of technological development has not yet happened in the remote area. The rural people are generally not having the competencies to get a loan either for business or the green investment. But, they can save money, that's why they need consciousness and learning about banking. Taking these into consideration, green deposit product with technological impact can play a vital role for the conscious development as well as savings support. The product analysis shows the positive dictation to win-win effects on economic progress with savings, financial inclusion, enriching knowledge, time and cost savings and environmental sustainability with reduction of paper uses in banking service. Above all, undoubtedly the financial innovation (Smart Green Banking) combats against the pollution and performs as a lead arranger of financial inclusion of the educational system in Bangladesh.

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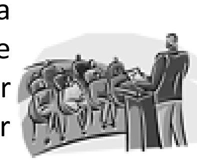

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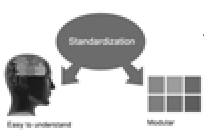

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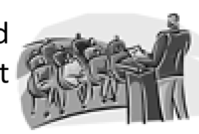

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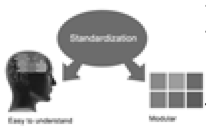

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Author Guidelines:

1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript’s Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

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- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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