

# The Impact of Information Technology on Global Capital Market Operations

## A Critical Appraisal of Some Selected Developed and Emerging Markets

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### Abstract

This study evaluates the impact of information technology on global capital markets operation with particular reference to the equity markets using a simple percentage and multiple regression analyses. Technology has fundamentally changed the landscape of the global financial market place by lowering transaction costs and thus leveling the playing field for investors and issuers. The data in the present study were collected from WFE, IMF, WEO from 2001 to 2010 for some selected developed and emerging markets, and through the use of a structured questionnaire. Equity market developments and its indicators as a whole were regressed against ICT developments indicators (i.e. telecommunication industry, internet technology, computer and regulatory industry and cloud computing technology). Using equity markets development as a dependent variable, the results disclose that ICT development indicators were all correct and positively signed. Information Technology have contributed to the growth of the global equity markets, with the effects mostly reflected in the aggregates of the equity markets indicators.

**Keywords:** ICT, Market, transaction, investors, cost, operation, market, development

### 1. INTRODUCTION

Technology is fundamentally changing the landscape of the global financial marketplace by lowering transaction costs and reducing asymmetric information, thus leveling the playing field for investors and issuers. Despite high initial investments for technology, economies of scale will eventually drive down costs and increase competitiveness. The rise of internet and the explosive pace of consolidation of exchanges are creating an increasing round-the-clock borderless global trading network. This has greatly increased the number of investment products accessible to international investors, improved market efficiency and reduced transaction costs. Being a portal in this global trading network has become a critical factor for success[4][3][7]. The effect of information and communication technology (ICT) on the growth and development of capital markets has been a subject of debate in recent times. A school of thought led by authors like [16][14][15][13] would argue that capital markets have become excessively volatile since the adoption of computer assisted trading strategies as the latter increase short-term price volatility and risks. They also argue that very few investors have access to online trading systems. Few actually own computers and have easy access to the Central Securities Clearing System [1][12][9][10][11]

Many investor, they claimed, do not have access to a system that sends orders to stockbrokers for automated execution. They also contend that ICT driven capital market operations are fraught with fraud and manipulation, which mostly affect individual investors. A case in point relates to the sale of shares without authorization of the stockholders, a practice that is given impetus by greed and dishonesty of some market participants. They further argued that surveillance problems and the lack of proper enforcement of penalties by the legal system make the adoption of a fast-paced ICT system dangerous to investors. The second school of thought, which includes authors[8][2], on the other hand, argued that information technology have made capital markets more efficient as attendant stock prices now reflect important information and investors perception of stocks more swiftly. In their contention, ICT has made the capital market more efficient by providing all participants with faster and more effective means of exchanging information. They maintained that new products and instruments have been made readily available as a result of the advent of sophisticated ICT. Evidently, capital markets can be more resilient, possess greater depth and breadth with the intervention of ICT [1][4][7][8]. Financial services are an information-intensive industry. It draws on large volumes of information about markets, risks, exchanges rates, interest rates, creditworthiness, and so on. It uses this information to make decision about what to invest, how much to charge borrowers, how much interest to pay to depositors, and the value and riskiness of a range of financial assets including corporate bonds, stocks, government securities, and currencies.

Because of this information intensity, the financial services industry has been revolutionized more than any other industry by advances in information technology since the 1970s. The growth of international communication technology has facilitated instantaneous communication between any two points on the globe. At the same time, rapid advances in data processing have allowed market makers to absorb and process large volumes of information from around the world. With the rapid rise of the internet and the massive increase in computing power that we have seen since 1990, it seems likely that the cost of recording, transmitting, and processing information has fallen and is now in trivial amount. Such developments have facilitated the emergence of an integrated international capital market. It is now technologically possible for financial services companies to engage in 24-hour-a-day trading. Due to advances in communications and data processing technology, the international capital market never sleeps. For instance, the Nigerian Stock Exchange (NSE) starts daily trading activity by 8 a.m-4p.m, while the New York Stock Exchange (NYSE) starts by 2 p.m-10p.m, but trading in the Asian markets starts by 10p.m-8:00a.m

## **2. STATEMENT OF THE PROBLEM**

The ability to meet the needs of stock exchange houses and institutional investors in a cost-efficient manner is another critical element for securities market to be successful in the global trading network. To this end various papers, research works, seminars and trading platforms etc have been written, held and developed to evaluate the role of Information Technology in the growth of global capital markets. It is now increasingly being recognized that without moving from one location to another, an international investor could deploy funds across the globe with the aid of ICT facilities in order to take advantage of better returns. In the light of the foregoing, this research would attempt to examine the impacts of Information Technology on global capital market operations.

## **3. OBJECTIVES OF THE STUDY**

The objectives of this study are:

1. To evaluate the role of Information Technology on the growth of global capital markets.
2. To investigate how Information Technology can benefit investors by allowing them to diversify their holdings internationally and to raise short, medium and long term capital in the global capital market place which could be used to execute a particular project .

## **4. RESEARCH QUESTIONS**

This research shall be guided by the following research questions:

1. What are the relevant ICT development indicators that have contributed towards the growth of the global equity markets?
2. To what extent have these ICT development indicators as a whole contributed to the growth of the global equity markets?
3. To what extent have each ICT development indicators contributed to growth of the global equity markets?
4. What are the factors behind the rapid globalization of equity markets?
5. What are the challenges confronting the globalization of equity market?

## **5. STATEMENT OF THE HYPOTHESIS**

The hypothesis that would be tested in the course of this research is stated below as:

H<sub>01</sub>: There is no significant impact of telecommunication industry on global equity markets operation.

H<sub>02</sub>: There is no significant impact of internet technology on global equity markets operation.

H<sub>03</sub>: There is no significant impact of computer and regulatory industry on global equity markets operation

H<sub>04</sub>: There is no significant impact of cloud computing technology on global equity markets operation

## **6. SCOPE AND LIMITATIONS OF THE STUDY**

Due to the vast nature of the global capital markets, this study will not cover all the segments that make up the global capital market but will focus primarily on the global equity (stock) market for some selected developed and emerging markets as its activities have been influenced by advances in Information Technology. The time series secondary data is going to be restricted between 2001 and 2010. However, the following limitations were encountered in the course of this study:

- 1) Financial and material limitation; 2) Inadequate time to research extensively

## **7. SIGNIFICANCE OF THE STUDY**

The findings of this study will explore the impact of Information Technology on global capital market operations. Though the scope of the study will be limited to the global equity market, it is hoped that the exploration of this technological advancement will provide a broad view of its contributions to the growth of the global equity market. The findings of this study will contribute to the existing literature on the subject matter by investigating

empirically the role, which Information Technology plays in the growth of capital markets. The results obtained would answer to a large extent the question of whether the rapid growth experienced in the global capital markets can be attributed to advances in Information Technology.

## **8. RESEARCH METHODOLOGY**

This section concerned with the procedures and methodology used in this study. It describes the research design, the sampling procedures, the study area, the research instrument and the techniques for the collection and analysis of data.

## **9. SAMPLING DESIGN AND PROCEDURE**

The data obtained from the secondary sources were used to conduct a thorough analysis of the performances and trends of the global equity markets in the samples. The samples were divided into developed and emerging markets. The study selected ten (10) developed markets and ten (10) emerging markets for the purpose of the analysis. The selected developed markets in the sample include: Australian Securities Exchange, Deutsche Borse, Irish Stock Exchange, Borsa Italiana, New Zealand Exchange, Oslo Bors, NASDAQ OMX Nordic Exchange, Six Swiss Exchange, London Stock Exchange Group, and the New York Stock Exchange Euronext (US).

The Indonesia Stock Exchange, Tel- Aviv Stock Exchange, Bursa Malaysia, Mexican Exchange, Phillipine Stock Exchange, Warsaw Stock Exchange, Johannesburg Stock Exchange, Taiwan Stock Exchange and the Istanbul Stock Exchange were among the selected stock exchanges included in the emerging markets sample. These markets were included in the study sample based on up-to-date availability of data. However, from the review of literatures an instrument was developed with the aim of covering the basic research objectives regarding the survey in mind. The selected clusters in this study include:

1. Telecommunication Industries;
2. Commercial Banks;
3. Investment Banks/Stock Broking Firms;
4. Government Service/Regulatory Agencies;
5. Internet and other Service Providers

They were selected because the researcher felt that the clusters were large enough to represent the population and embrace the technical information the researcher was seeking to obtain.

## **10. RELIABILITY AND VALIDITY OF THE INSTRUMENT OF THE STUDY**

Experts opined that all data measuring instruments particularly in the social sciences contain some degree of errors no matter how precise and careful the efforts of the observation. The research instrument was duly evaluated by my supervisor. Besides, the research instrument was sent to industry professionals (respondents) who also validated the instrument by making necessary corrections, comments, recommendations, and the result confirms its genuiness and authenticity both in framing and context. However from the feedback received, the instrument was corrected and modified.

## **11. METHODOLOGY AND DATA COLLECTION**

This study employed secondary data obtained from the World Federation of Exchanges (WFE), the International Monetary Fund (IMF), and the World Economic Outlook (WEO) database April 2012 and from the relevant literatures (books, journals, previous research paper and electronic sites). The time series data cover the period 2001-2010. The secondary data were used to analyze the performance of the global equity markets within this study period.

However, this study also utilized a descriptive survey design. The purpose of descriptive surveys, is to collect detailed and factual information that describes an existing phenomenon. The structured questionnaire was specifically design to accomplish the research objectives, answer the research questions raised in this study and to test the study hypothesis. The questionnaire was completed anonymously and no demographic variables of the respondents were asked or collected. The questionnaire was divided into two sections, Section A and Section B using the Five Points Summated Likert Scale: Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree. In each of the sections, the respondents were requested to mark a cross (x) at a point that represent their feelings. Hundred (100) copies of the questionnaire were administered personally to various organizations in the selected clusters. Out of these, seventy-four (74) responded or were returned indicating a response rate of 74% while forty (40) copies were sent through the electronic mail to the organizations in the sample. Out of these, ten (10) responded indicating a response rate of 25%. It appears that the electronic means of questionnaire delivery has not been gaining acceptance.

A total of one hundred and forty (140) structured questionnaires designed on the Likert Scale Five Points Scale were administered. Out of these eighty-four (84) were returned with a response rate of 60%, six (6) were discarded because they contained errors such as incomplete answers and inconsistency. Seventy-eight questionnaires (56%) were found suitable for the analysis.

### 12. METHOD OF DATA ANALYSIS

Analyses of data collected were carried out using simple percentage and multiple regression analyses. Regression analysis is a statistical tool, which helps to predict one variable from the other variable or variable on the basis of assume nature of the relationship between the variable [6]. The variable being predicted is usually known as the dependent or unknown variable because its values are dependent on the values of the other variable or variable called predictor variable or predetermined variable.

In the analysis, Development of Global Equity Market and its Indicators as a whole were regressed against ICT Development Indicators which are: Telecommunication Industry, Internet Technology, Computer and Regulatory Industry, and Cloud Computing Technology. In multiple regression, the aim is to examine the nature of the relationship between a given dependent variable and two or more independent variables.

Thus multiple regression analysis, analysis of variance (ANOVA) and Likert scale were the various tools used in this study to evaluate the impact of Information Technology on Global Capital Markets operation (with particular reference to equity market) with F-test utilized in determining level of significance. The student t-test was used to test for level of significance of each individual factor. In multiple regressions, the model describing the relationship between the dependent variable and a set of independent variables

$$Y = a + b_1X_1 + b_2X_2 + \dots + b_kX_k \dots \dots \dots \text{equation 1}$$

Where:

a, b, and b2 are the unknown parameters to be estimated  
 Y = Developments of Global Equity Market and its Indicators ( i.e. Domestic Market Capitalization, Number of Listed Domestic Companies, Domestic Value Traded and Domestic Turnover Velocity) = Dependent Variable  
 X1 = Telecommunication Industry = Independent Variable; X2 = Internet Technology =Independent Variable;  
 X3 = Computer and Regulatory Industry = Independent Variable; X4 = Cloud Computing Technology = Independent Variable

### 13. ANALYSIS OF VARIANCE (ANOVA)

In multiple regression the total deviation on each observation Yi from the mean (Yi-Y) can be expressed as the sum of its explained and unexplained variations.

$$\sum(Y_i - Y)^2 = (\sum Y_i^2 - (Y)^2 + \sum Y_i^2 - \sum Y^2)^2 \dots \dots \dots \text{equation .2}$$

$$SST = SSR + SSE$$

Where  $\sum Y_i^2 - (Y)^2$  = Explained Variable  
 $\sum Y_i^2 - \sum Y^2$  = Unexplained Variable

$$SST = \sum Y_i^2 - (Y)^2 / n \dots \dots \dots \text{equation 3}$$

$$SSE = \sum Y_i^2 - \sum Y^2 = SST - SSR \dots \dots \dots \text{equation 4}$$

Where SST = Sum of Square Total  
 SSR = Sum of Square Due to Regression  
 SSE = Sum of Square Due to Error

The necessary sums of squares, degrees of freedom, mean squares and variance ratio for multiple regressions are summarized in the ANOVA table below.

**TABLE 1: ANOVA TABLE FOR MULTIPLE REGRESSION**

Source of Variation	Sum of Squares (SS)	Degree of Freedom	Mean Square	F- Ratio
Regression	SSR	K	$MSR = \frac{SSR}{K}$	$F = \frac{MSR}{MSE}$
Error	SSE	n-K-1	$MSE = \frac{SSE}{n - K - 1}$	
Total	SST	n-1		

Source: Nworuh (2004)

### 14. TEST FOR SIGNIFICANCE

We are often interested in testing whether or not there is a significant relationship between the dependent variable Y and the independent variables X1, X2, X3, and X4. That is testing whether or not Y is dependent on X1, X2, X3, and X4 of the hypothesis.

$$H_0 : b_1 = b_2 = \dots = b_k = 0 \dots \dots \dots \text{equation 5}$$

$H_A$  : At least one  $b_k = 0$  ... .. ✓ equation 6

$F = \frac{MSR}{MSE}$  ... .. equation 7

Also,  $F = \frac{R^2/K}{(1-R^2)/[n-(k+1)]}$  ... .. equation 8

Where,

$R^2$  = Coefficient of Multiple Regression;  $K$  = Degree of Freedom for Regression;  $n-k-1$  = Degree of Freedom for Error. Thus, larger values of the F test statistic provide stronger evidence against  $H_0$ .

**15. T-TEST Or STUDENT TEST**

From the F-test, if it is observed that there is a significant relationship between the dependent and independent variables. We proceed to examine the regression coefficients further and test more hypothesis about them. Thus, if the null hypothesis  $H_0$ , is rejected we may examine the individual coefficients further to find out which ones contribute to the significance by testing the null hypothesis. Here, the test statistic:

$t = \frac{b_i}{Se_i}$  ... .. equation 9

Where,

$b_i$  = unstandardized regression coefficients;  $Se_i$  = the standard errors

**16. COEFFICIENT OF MULTIPLE DETERMINATION  $R^2$**

The coefficient of multiple determination measures the proportion of the total variation in the dependent variable Y that is attributable to the dependence of Y on all the independent variables  $X_1, X_2, X_3$ , and  $X_4$  included in the regression.

$R^2$  assumes the value of 0 when all  $b_i = 0$  ( $i = 1, 2, \dots, k$ ) and assumes the value 1 when all observations fall in the fitted regression line that is when  $Y_i = \hat{Y}_i$  for all i.  $R^2$  is defined thus,

$R^2 = \frac{SST - SSE}{SST}$  ... .. equation 10

And

$R = +\sqrt{R^2}$  ... .. equation 11

**17. DECISION RULE**

Accept the null hypothesis if the critical tabulated value is greater than the calculated value, otherwise reject. The rejection of the null hypothesis means the automatic acceptance of the alternate hypothesis. The common practice among researchers is to set the level of significance at 0.05 or 0.01.

**18. MODEL ESTIMATION AND HYPOTHESIS TESTING**

In estimating the model of relationship, the data in table 3.0 were subjected to multiple regression analysis using SPSS version 17.0. The result obtained from the multiple regression analysis is shown in tables' b, c and d below:

**TABLE 2: MODEL SUMMARY**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.489 <sup>a</sup>	.239	.198	2.46404	.239	5.743	4	73	.000

a. Predictors: (Constant), CLOUDCOMP, INTERNET, TELECOMM, COMPREG

**19. INTERPRETATION OF RESULTS**

In table 2, the meanings of the various statistical tool used in analyzing the model of this research work were given as follows:

a. The co-efficient of correlation (R) shows the degree or extent of relationship between the dependent and the independent variables. The value 0.489 in table (2) shows the existence of a positive relationship between these variables.

b. The Co-efficient of Determination ( $R^2$ ) explains the proportion of the total variations in the dependent variable that is attributable to the variations in the independent variable. From table (2), it was revealed that about 23.9% (0.239) of the variations in the dependent variable are attributable to variations in the independent variables.

c. The Adjusted Co-efficient of Determination ( $R^2$  Adjusted) which shows the actual variations in the dependent variable is attributable to the independent variable. Table (2) above reveals that the adjusted coefficient of determination is 0.198 which implies that the actual variation is 19.8% as against 23.9% suggested by normal  $R^2$ .

d. The Student t-test (t-test) shows the significance of individual parameters (i.e. ICT development indicators) used in the model reveal a significant estimator as all variables under consideration at 5% (0.05) level of significant.

e. The F-change (F-ratio) shows the overall significance of the model and evaluates the fitness of the model. The model is significant because the calculated F-ratio of 5.743 is greater than the table values of 2.53 at both 5% levels of significance.

**TABLE 3 : ANOVA<sup>b</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	139.462	4	34.866	5.743	.000 <sup>a</sup>
Residual	443.217	73	6.071		
Total	582.679	77			

a. Predictors: (Constant), CLOUDCOMP, INTERNET, TELECOMM, COMPREG

b. Dependent Variable: EQUITYMKT

**TABLE 4:Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	5.106	4.535		1.126	.264	-3.932	14.144
TELECOMM	.025	.170	.017	.146	.885	-.315	.365
INTERNET	.268	.113	.243	2.371	.020	.043	.494
COMPREG	.006	.159	.004	.035	.972	-.311	.323
CLOUDCOMP	.442	.127	.409	3.482	.001	.189	.695

a. Dependent Variable: EQUITYMKT

Table 4, shows the unstandardized Beta Coefficients that present the contributions of each variable to the model. The t and p-values shows the impact of the independent variables on the dependent variable. From Table 4, it was clear that Cloud Computing Technology had the highest impact on overall satisfaction (the independent variables), achieving a  $\beta$  of 0.4442( the large t-value and corresponding low p-value buttressed the result for Cloud Computing Technology which had the highest Beta coefficient ( both for standardized and unstandardized), followed by Internet Technology ( $\beta=0.268$ ),Telecommunication ( $\beta=0.025$ ) and Computer and Regulatory ( $\beta=0.06$ ).

Using the regression output on table 4.3, we estimated the following equation.

$$Y=5.106 + 0.025 X_1 + 0.268X_2 + 0.006X_3 + 0.442X_4 \dots \dots \dots \text{equation 12}$$

Where Y = Equity Market Developments and its indicators

$X_1$  = Telecommunication Industry;  $X_2$  = Internet Technology;  $X_3$  = Computer and Regulatory Industry;  $X_4$  = Cloud Computing Technology

Equation 12 shows the relationship existing between equity market development and the four explanatory variables ( $X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$ ) are strong.

## 20. TEST OF HYPOTHESIS

$H_{01}$ : There is no significant impact of telecommunication industry on global equity markets operation.

$H_{A1}$ : There is significant impact of telecommunication industry on global equity markets operation.

Using the decision rule, we found that the tabulated value of t-statistics is 1.667 and the calculated t-value of telecommunication industry is 0.146. Since  $t_{cal} < t_{tab}$ , we accept null hypothesis ( $H_{01}$ ) and reject alternate hypothesis ( $H_{A1}$ ) and conclude that telecommunication industry has no significant impact statistically on global equity markets operation. Alternatively, at significance level of 0.885 for telecommunication industry, this variable is also insignificant because this probability value 0.885 is greater than 0.05 significant level ( $P >$

0.05). We therefore accept null hypothesis ( $H_{01}$ ) and reject alternate hypothesis ( $H_{A1}$ ) and conclude that telecommunication industry has no significant impact statistically on global equity markets operation.

$H_{02}$ : There is no significant impact of internet technology on global equity markets operation.

$H_{A2}$ : There is significant impact of internet technology on global equity markets operation.

Using the decision rule, we found that the tabulated value of t-statistics is 1.667 and the calculate t-value of internet technology is 2.371. Since  $t_{cal} > t_{tab}$ , we reject null hypothesis ( $H_{02}$ ) and accept alternate hypothesis ( $H_{A2}$ ) and conclude that internet technology has significant impact statistically on global equity markets operation.

Alternatively, noting that the significance probability value of internet technology is 0.020 is less than 0.05 significance level, (i.e.  $P < 0.05$ ), we therefore reject null hypothesis ( $H_{02}$ ) and accept alternate hypothesis ( $H_{A2}$ ) and conclude that internet technology has significant impact statistically on global equity markets operation.

$H_{03}$ : There is no significant impact of computer and regularly industry on global equity markets operation.

$H_{A3}$ : There is significant impact of computer and regularly industry on global equity markets operation.

Using the decision rule, we found that the tabulated value of t-statistics is 1.667 and the calculated t-value of computer and regulatory industry is 0.035. Since  $t_{cal} < t_{tab}$ , we accept null hypothesis ( $H_{03}$ ) and reject alternate hypothesis ( $H_{A3}$ ) and conclude that computer and regulatory industry has no significant impact statistically on global equity markets operation.

Alternatively, at significance level of 0.972 for computer and industry, this variable is also insignificant because this probability value 0.972 is greater than 0.05 significant level ( $P > 0.05$ ). We therefore accept null hypothesis ( $H_{01}$ ) and reject alternate hypothesis ( $H_{A1}$ ) and conclude that computer and regulatory industry has no significant impact statistically on global equity markets operation.

$H_{04}$ : There is no significant impact of cloud computing technology on global equity markets operation.

$H_{A4}$ : There is significant impact of cloud computing technology on global equity markets operation.

Using the decision rule, we found that the tabulated value of t-statistics is 1.667 and the calculate t-value of cloud computing technology is 3.482. Since  $t_{cal} > t_{tab}$ , we reject null hypothesis ( $H_{04}$ ) and accept alternate hypothesis ( $H_{A4}$ ) and conclude that cloud computing technology has significant impact statistically on global equity markets operation. Alternatively, noting that the significance probability value of cloud computing technology is 0.001 is less than 0.05 significance level, (i.e.  $P < 0.05$ ), we therefore reject null hypothesis ( $H_{01}$ ) and accept alternate hypothesis ( $H_{A4}$ ) and conclude that cloud computing technology has significant impact statistically on global equity markets operation.

## 21. SUMMARY OF FINDINGS AND CONCLUSION

This study utilized a simple percentage and multiple regression analyses to evaluate the impact of information technology on global capital markets operation with particular reference to the equity markets. The results reveal the following important findings:

1. Using equity markets development and its indicators as the dependent variable, the results show that the ICT development indicators were all correct and positively signed. This implies that the ICT development indicators as a whole have contributed towards the growth of the global equity markets since the F-value is significant at 5% level.
2. It was found that the telecommunication industry had positive but insignificant impact statistically on the growth of the global equity markets.
3. However, the internet technology was positively signed and also statistically significant to the growth of the global equity markets operation.
4. On the other hand, the computer and regulatory industry had a positive influence but statistically insignificant to the growth of the global equity markets.
5. It was also noted that, the adoption of cloud computing technology by capital market operators had a positive impact and also statistically significant to the growth of the global equity markets.

Based on the above findings of the study, we can conclude that the global equity markets have grown substantially over the years within the study period under review as reflected in aggregates such as number of companies listed domestically, domestic market capitalization, domestic value traded and domestic turnover velocity. This is attributed to the level of developments in ICT in the form of telecommunication industry, internet technology, computer and regulatory industry and the adoption of cloud computing technology by capital markets operators as identified by this study.

## 20. RECOMMENDATIONS

The state of capital markets in many emerging economies looks particularly poor when considering the many efforts already undertaken to improve the macroeconomic environment and reform the institutions believed to foster financial development. In spite of the phenomenal growth recorded in the emerging markets sample as

reflected in aggregates of its indicators, these markets are still relatively small compared to other more developed markets in the study sample. In order to successfully experience further growth in the emerging markets, the following suggestions are put forward:

1. The regulators of the emerging markets should seek to expand and deepen the markets by introducing state of the art technology like automated trading and settlement practices, and mobile trading since some industry professionals from the emerging economies have perceived that “the use of mobile applications that provide market data in real time to financial institutions and individual investors have contributed to easy accessibility of market information” is yet to be obtainable in some emerging markets.
2. Secondly, to boost the value traded in the emerging markets, there is need for availability of more investments instruments such as derivatives like options and future trading.
3. To increase the number of listed companies, there is need to ensure stable macroeconomic environment which will encourage foreign multinationals companies or their subsidiaries to be listed on the emerging markets exchange.
4. There is also need to restore more confidence to the market by regulatory authorities of both developed and emerging markets through ensuring transparency, fair trading transactions and dealings in the stock exchange.
5. In addition, online trading by investors directly through the internet or mobile phones should be explored rather than the traditional system of passing all trades through stock brokers creating unnecessary delays and inappropriate pricing of securities in some emerging markets.

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