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“How the Karachi Stock Exchange (KSE) can be improved?”

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Abstract

Topic: How the Karachi Stock Exchange (KSE) can be improved?
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Background and Problem Discussion: Since last two decades the Karachi Stock Exchange (KSE) is progressing very well and has made international recognition in stock trading business. This progress is the result of reformation applied by the Security Commission of Pakistan, with help of the Government of Pakistan. But still in comparison with developed stock exchanges of the world, KSE is far behind in terms of infrastructure available for trading and technology using for trade. KSE needs to improve a lot to reach at the level of developed stock markets of the world.

Purposes: The main purpose of study is to highlight the shortcomings present in following three aspects of KSE and provide the suggestions to accelerate the development process of it.

- Organizational structure of the Karachi Stock Exchange
- Trading and Trading instruments of the Karachi Stock Exchange
- Clearing and Settlement process of the Karachi Stock Exchange

Secondary purpose of this research is to provide the basic information about the importance and functions of stock market, trading process and player which are involved in trading process and other information with reference to financial literacy.

Research Question: How the Karachi Stock Exchange (KSE) can be reached at the level of developed stock exchanges by improving the organizational structure, trading and trading instruments, and clearing and settlement process?

Methodology: Qualitative Research approach is employed for this study. This is a comparative study in which the Karachi Stock Exchange (KSE) is compared with two the world’s leading stock markets, the London Stock Exchange (LSE) and the OMX Nordic Exchange Stockholm (OMXS) and only secondary data is used for this comparison.
Conclusion: Currently, demutualization and incorporation should be the first priority of the KSE. As demutualization and incorporation is taking time so KSE should start stepping towards internationalization by developing business relations with other regional and international exchanges and try to attract the regional and international companies for cross border listing on its indices. Remaining three suggestions: separate markets for different capital companies, improvement in the derivative market and upgrading in trading, clearing and settlement process can be applied with the growth of KSE but these all are also necessary to achieve the world class standard of stock markets.

Keywords: Stock Exchange, the Karachi Stock Exchange, Organizational Structure, Financial Instruments, Trading process, Clearing and Settlement Process
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CHAPTER 1: ABOUT THE RESEARCH

This chapter provides a brief discussion about the topic selection and the purposes of the research and also covers the research methodology and delimitations of the research.

1.1 Introduction

In the present corporate culture joint stock companies are the most common form of business organizations in which management works on behalf of stockholders and maximization of firm’s profit as well as value is the fundamental goal for the management to achieve. Stock market is the devise, uses to obtain the firm’s value by getting its share price. So it is essential for every business student and manager of a firm to develop high level of understanding about stock market and its trading process and functions and also keep himself updated with the current developments in stock market, not only at local level but also internationally.

The main objective of this research is to find out the current position of the Karachi Stock Exchange (KSE) in comparison of highly developed and automated stock markets of the world and suggest the improvements needed to reach at the same level, in terms of trading process, trading volume and automation as well in terms of recognition as other the world’s stock markets have. Financial literacy for the business students is the secondary purpose of this report, especially for those students who don’t select courses related to the finance.

1.2 Background

The Karachi Stock Exchange (KSE) is the biggest and most liquid\(^1\) exchange of Pakistan. In 2002, KSE was declared one of ‘the world's Best Performing Markets by the international magazine Business Week. Similarly the US newspaper, USA Today, identified the KSE as one of the best performing bourses in the world’\(^2\). Since October 12, 1999 to April 12, 2004, KSE Index was recorded more than 333.10% rise from 1257 points to 5444 points. During that period market capitalization\(^2\) also surged 4 times: $6 billion to $25 billion (Boom-time at the Karachi Stock Exchange, 2004). Stein (2003) mentioned in his article, Pakistani Premium, about this achievement of KSE that ‘the Karachi stock exchange is one of the

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\(^1\)Liquid: Cash, or asset easily and quickly convertible into cash. For an asset to be liquid it needs an established market with enough participants to absorb the selling without materially impacting the price of the asset.

\(^2\)Market Capitalization (Market Cap): the value of a public company based upon the multiplication of the company's share price multiplied by the shares issued in the company.
hottest markets in the world right now—and also one of its most volatile. And it wasn't a to one-year fluke: The KSE has trounced both the New York Stock Exchange and the S & P 500 over three and five years’. But despite of those achievements, experts were not interested to give so much importance to KSE, due to its locality in a developing country, surrounded with plenty of internal and external instability issues.

According to Bill Rocco, Analyst of Morningstar Inc. (US’s leading investment research firm) ‘It's not really even a country emerging-market investors pay attention to, it's too small, too undeveloped, and too risky.’ Emerging markets guru, Mark J. Mobius, Chief Investment Officer of Templeton Asset Management, part of the Franklin Templeton group said ‘given the geopolitical situation, we think it's still a bit early to invest in Pakistan.’ (Stein, 2003)

But just after short period of six years, in January 2008, another expert, Mark Matthews, Chief Asia Strategist at Merrill Lynch (Merrill Lynch is one of the world’s leading wealth management, capital markets and advisory companies, with offices in 40 countries and territories and total client assets of almost $2 trillion) suggests in his interview with CNBS that ‘Pakistan is a safe haven for investors’. Further he argues that, despite of frequent violence incidents and unstable political conditions, ‘Pakistan is one of the best information arbitrage markets in the world’. Matthews is ‘very bullish’ on Pakistan and recommends investors to hold more Pakistani shares because on average, Pakistani shares trade on 10 times reported earnings with a dividend yield of 6%. Another reason for this recommendation is 45% rose in KSE-100 index and 7% Pakistan's GDP grew in 2007 and expecting 7.2% in next business year. Mark Jolley, Deutsche Bank’s Hong Kong-based Asian Equity Strategist, second Matthews’ views and says ‘On a longer-term view, I'm pretty bullish on Pakistan’, but Roger Groebli, head of Asian Equity Research at ABN Amro Private Banking in Singapore, don’t agree with them and states his opinion ‘I'm afraid that the instability in the region will dampen investor appetite’ but his comments also reflects the opportunities present in this developing county market. (Merrill Chief Strategist Says Pakistan a Safe Haven for Investors, 2008). Recently, Economist publishes a very interesting article with very interesting title: the World's Most Dangerous Haven (2008). This article is also based on the interview of Mark

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3. Emerging-market: New market structures arising from digitalization, deregulation, globalization, and open-standards. Such countries are considered to be in a transitional phase between developing and developed status.

4. Information Arbitrage: it refers to the simultaneous buying and selling of the same securities, commodities or foreign exchange in different markets to earn profit from unequal prices and unequal information.

5. Bullish: Stock market trend, a bull market tends to be associated with increasing investor confidence, motivating investors to buy in anticipation of further capital gains.
Matthews and in some extent, it also shows consensus with Mark Matthews and add ‘perhaps its main salvation is the lack of foreigners in the market: that means fewer people to panic about the security situation--or the subprime situation back home.’(The World's Most Dangerous Haven, 2008).

The reasons of this drastic change in the past reputation of KSE in a very limited period of time is not only the reformation introduced by the Securities Exchange Commission of Pakistan (SECP) to provide maximum transparency and better governance (Among Asia's Best Performers, 2008), but the Government of Pakistan also played a major role in this achievement. Dr. Abdul Hafeez Shaikh, Pakistan’s Minister for Privatisation & Investment, stated in an interview with Asiamoney that ‘we have brought about a silent revolution on the stock market. We have brought so many new investors to the stock market and put money in the pockets of many people, it's all very unprecedented.’ According to Shaikh, up to 400,000 new equity investors on the Karachi Stock Exchange (KSE) have picked up shares in four government-owned companies which have listed in the last 12 months, namely Oil and Gas Development Corporation (OGDC), Pakistan Petroleum Ltd, Sui Southern Gas and Pakistan International Airlines’ (Bokhari, 2004). Presently, KSE is considered one of the Asia's best-performing stock markets on the bases of performance in recent years. ‘The KSE-100 index hit a record 14,908.91 last October (2007), giving the exchange a market cap of $70 billion. Five years ago, the KSE hovered around 4,500. In fiscal 2007, which ended in June, it jumped nearly 38 percent’. Recently, the State Bank of Pakistan has stated to attract foreign investors that "On one hand, the equity markets in Pakistan offered an attractive P/E [of 12.8x]. On the other hand, the market traded at a discount [to] the other regional markets, whose P/Es averaged 15.1x’. And in the result of these positive developments, KSE archived record $3.2 billion as foreign portfolio investment in fiscal year 2007, compare with $964 million a year earlier (Among Asia's Best Performers, 2008). As on December 31, 2007 there are 654 companies listed on KSE with the market capitalization of Rs. 4,329,909.79 billion (US $ 70.177) having listed capital of Rs. 671.269 billion (US $ 10.880 billion) (KSE Website, ca.2007).

This upward tendency in KES from 1998 is based on numbers of factors. Including ‘improvement in the country's economic fundamentals and regional political environment,

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6Portfolio Investment: Investment in an assortment or range of securities, or other types of investment vehicles, to spread the risk of possible loss due to below expectations performance of one or a few of them.
government's commitment to capital market reform agenda and pro-market policies, stability in exchange rate, regionally cheap valuation of the scripts, large scale mergers and acquisitions, improving relationship with the neighboring countries, successful GDR offerings and increase in Pakistan's coverage by large international brokerage firms and investment banks. The biggest push to the market was caused by the interest shown by foreign investors with huge liquidity at their command, looking for investment opportunities throughout the world. (KSE Annual Report, 2007). Past performance of KSE suggests that it is progressing well but in comparison of developed stock markets of the world KSE still needs to improve a lot to convert into a developed stock market.

1.3 **Research Question:**

How the Karachi Stock Exchange (KSE) can be reached at the level of developed stock exchanges by improving the organizational structure, trading and trading instruments, and clearing and settlement process?

1.4 **Purpose of Study:**

The main purpose of this study is to highlight the shortcomings present in different aspects of KSE and suggest the steps to overcome them to accelerate the development process. As it is discussed above that the current progress of KSE is the result of improvement in the numbers of factor which are affecting the KSE directly or indirectly, like political condition of country, regional issues, economical growth, GDP, inflation rate, financial policies, financial reformation etc. In these factors some are controllable but some are not or very difficult to control for a developing country. In this study only three factors or aspects are considered
which are highly involved in the development of any exchange and also controllable for the authorities and can be changed according to the requirement:

- Organizational structure of the Karachi Stock Exchange
- Trading and trading instruments of the Karachi Stock Exchange
- Clearing and Settlement process of the Karachi Stock Exchange

Secondary purpose of this research is to provide the basic information about the functions and importance of stock market, trading process and player which are involved in trading process and other information with the reference to financial literacy.

1.5 Research Methodology:-

Qualitative, Quantitative and Mixed research are commonly used approaches for the research and for this research Qualitative Research Methodology is selected (Creswell, 2003). This is a comparative study in which KSE is compared with the London Stock Exchange (LSE) and the Stockholm Stock Exchange (OMX Nordic Exchange Stockholm or OMXS) to identify the weaknesses or gaps in organizational structure, trading and trading instruments and clearing and settlement process of KSE and on the bases of this comparison, suggestions for improvement is the outcome of this research. In this comparative study LSE and OMXS are used for benchmarking and because of two reasons these exchanges are preferred on other regional developed stock exchanges near to KSE like Bombay SE (India), the Shanghai SE (China) and the Tokyo SE Group (Japan), first: due to diversification of both exchanges, LSE is one of the oldest stock exchanges of the world and considered the founder of modern stock exchanges and OMXS comparatively new but very developed and very different from LSE in terms of organizational structure, operating under OMX Nordic Exchange with a group of exchanges, so information about these exchanges helped to achieve the secondary purpose of the study, second: selection of any developed stock market is not going to affect the result of this research because results are only based on the information, collected for KSE.

For this study only secondary data is used and majority of data is gathered from the publication and the official websites of the exchanges for comparison. The information about the company, from controlled sources of company raised the question of reliability of data because it could be exaggerated or limited up to the positive aspects of company. To avoid this, we tried to use the information from the sources other than these exchanges as much as possible. We also tried to reconfirm the facts by comparing it with other sources, if possible.
But majority of data that have used in this report is related to trading business of these exchanges which is very reliable, commonly available and carry no chances of exaggeration because of the nature of business.

1.6 Delimitations: -

As the main objective of this research is to suggest the steps should be taken to improve the standard of KSE, up to the level of developed stock markets. For this, a comparison was needed to find the shortcomings and the current standing of KSE in contrast of the world’s class stock exchanges. This comparative part is delimited as following:

- Only two leading stock exchanges, the London Stock Exchange (LSE) and the Stockholm Stock Exchange (OMXS) are selected for comparative study.
- This comparison of KSE with LSE and OMXS is also delimited up to three aspects, Organizational structure, Trade and trading instruments, and Clearing and Settlement process.

The secondary objective of research is to provide quality information about the different phases of evolution in securities exchange industry at international level since it was begin. To cover this aspect only limited and important knowledge is included in this report and only few very important players of security market are discussed. This selection of information is according to the preference of the author, can vary for others.

1.7 Thesis Structure: -

This Master Thesis consists of four chapters. The Chapter One: About the Research describes the background, research question and purpose of this research. Research methodology and delimitations are also discussed in this chapter. Chapter Two: Stock Exchange, Past and Present starts with the history of stock exchange till the development of initial but modern face of this market, later it covers functionality and importance, trading process and its participants and ends on the technological and structural revolution of the world’s stock exchanges. Chapter Three: Comparison of Stock Exchanges is providing comparison of selected aspects for all three stock exchanges and the final chapter, Chapter Four: Answer of Research Question includes discussion about finding of this work and answer of research question by providing suggestion needed to improve the level of KSE on the bases of finding.
CHAPTER 2: STOCK EXCHANGE, PAST AND PRESENT

This chapter is written to provide basic information about stock market, its functionality and trading process. It also covers the historical aspect and present revolutions of stock exchanges but in very brief manner.

2.1 Stock Exchange

Business Dictionary.com (2008) described stock exchange as an ‘Organized and regulated financial market where securities (bonds, notes, shares) are bought and sold at prices governed by the forces of supply’. And U.S. Congressional Committee during investigation for the control of money and credit in 1913 defined ‘A Stock Exchange is a market, controlled by rules, where securities consisting chiefly of the stocks, bonds and other securities of corporations are bought and sold’ (Michie, 1986. p.172).

2.2 History of Stock Market

There are different contradictory statements about the very initial starting point of stock market or trading but all have consensus on that the Amsterdam Stock Exchange (Amsterdam Beurs) is the very first stock exchange and the Dutch East India Company is the first joint stock company that issued its first shares on the Amsterdam Stock Exchange (Chambers, n.a)

Smith (1929) suggested that Stock Exchange as a proper organized body was not formed till 1773[year of LSE’s formation] but it was present in the form of an open but organized market for securities trading about a century before that date. These markets were autonomously developed to fulfill the capital needs of progressing industries, created due to commercial revolution and trend of joint stock companies. This trend was further encouraged by the possibility of high profits and earning because of speculation and this phenomenon was not only related to British economy but also to the Holland which was the commercial and financial center of Europe in the seventeenth century. He also evidenced that the Dutch East India Company was a type of early joint-stock companies founded in 1602. (Smith 1929, p.206)

The London Stock Exchange (LSE) is considered one of the oldest stock market and founder of modern stock exchange. LSE was neither invented nor developed by the government, it was
evolve over the time. The earliest evidence of stock trading in England appears in the late seventeenth century. At the end of seventeenth century because of liberalization of the banking sector so possibilities of fund borrowing was increased that became the cause of rapid increase in the trend of joint stock companies and in 1692 the stock trading became as much important that weekly stock prices for eight companies were started to publish by the name of Collection for Improvement of Husbandry and Trade (Stringham, 2002, p.3).

According to Smith (1929, p 208,210), initially, stock dealing was carried out in the Royal Exchange where the stock dealers used to trade in same manner as the dealers of various merchandise do. But due to increase in their numbers and as well increase in immoral activities like speculation and miss commitments, led to a movement to expel them from Royal Exchange. In 1697, first time the government attempted to control the practice of brokers and applied an act to restrain the numbers and ill-practices of stock-jobbers. That act prohibited everyone to act as a broker, only those people were allowed to do brokerage of shares in Royal Exchange who were licensed by the Lord Mayor and Court of Aldermen of London. As that act reduced the number of brokers up to 100, in result other brokers started to use neighbour streets for their business which are “ill-famed as Change Alley”.

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Dale (2004) writes in his book, *The First Crash: Lessons from the South Sea Bubble* at that time individual coffee houses were renowned because of their association with different professions and for stock trading Garraway’s and Jonathan's coffee houses in Exchange Alley were very famous. Thought there were seventeen other coffee houses also involved in shares trading but Jonathan's and Garraway’s were evidently the main trading venues and Jonathan's achieved more eminent status half a century later as the London Stock Exchange.

![Figure 3: Map: The Business World of London's Exchange Alley, c. 1746](image)

*Source: California State University, Northridge*

In 1762 [according to LSE in 1761] a group of 150 more substantial and reputed brokers decided to establish a club and transformed Jonathan’s Coffeehouse into a private club to use it exclusively for stock trading purpose and allowed only reputed brokers to work there to stop the potential bad dealings and frauds. But excluded brokers filed a suit against that new club and the government declared that being a coffeehouse, Jonathan’s did not have the right to exclude outsiders (Stringham, 2002, p.7). So in 1773 brokers purchased a building in Sweeting’s Alley by their own and named it New Jonathan’s that had a dealing room on the ground floor and a coffee room above. Sooner they changed its name and decided to call it “The Stock Exchange” (LSE Website: Our History, 2008). The new stock exchange became the recognized hub for all securities dealing excluding government stocks, which was continually traded in the Rotunda of the Bank of England, as it had been trading in same building since 1764 (Smith, 1929, p. 215). In 1801, brokers decided to apply members’
subscription to work in the stock exchange. For this, on 27 February 1801 the market was closed (Stringham, 2002, p.8) and reopened on 3 March 1801 under a formal membership subscription basis. That is how the first regulated exchange was established in London, and that was the starting of modern stock exchange (LSE Website: Our History, 2008).

2.3 **How Stock Exchange Works**

Stock exchange play very crucial role in national economy to encourage the investment by providing place for buyers and sellers to trade securities. Corporations issue their new securities in the primary market of stock exchange, usually investment banker help them for it by acquiring the initial issue of new securities from the corporation at a negotiated price and then make the securities available for its clients and other investors in an initial public offering (IPO). In primary market trading, corporations are the one who receive the earnings of security sales. After this IPO, the securities are bought and sold in the secondary market and the corporations usually do not involve in the secondary market’s trading. Stock exchanges basically function as secondary markets and also support the performance of the primary markets. Stock exchanges also encourage investment in stock trading by maintaining rules and regulations for investors’ protection that ensures trade will be fair and investors will receive exactly what they are paying for. Exchanges also support ‘state-of-the-art technology’ and the business of brokering, which helps traders in buying and selling their securities quickly and efficiently, and also increases the relative safety of investing to being able to sell a security in the secondary market because investors can unload a stock that may be on the decline or that faces an uncertain future (The Importance of the Stock Exchange, ca. 2005).

2.4 **Basic Functions of Stock Exchange**

Stock exchanges perform following very important functions:

- **Raising capital for businesses:**
  Basic function of the stock market is to help existing and newly formed companies in raising capital for running and expanding their business by selling share to the investing public.

- **Mobilizing savings for investment:**
  Stock markets also play a very important role of resources utilization by providing opportunities to the invertors of each level and make them invest their saving rather than keep it in their bank accounts. This mobilization of recourses promotes business activities and that
benefits all economic sectors like agriculture, commerce and industry and generates a better economic growth.

- **Creating investment opportunities for small investors:**
  Participation of small investors in investment activities is very important for economic growth of any country because the sum of these small investments hold a good parentage of total investment of a country. And stock exchanges provide opportunities for small investors to own shares of different companies like the big investors and play their role in country’s development.

- **Government capital-raising for development projects:**
  Governments can also raise money for development projects by issuing their bonds in stock exchanges for public purchase like other companies. The issuance of such bonds can prevent the need of direct tax to the citizens in order to finance development projects. (History of Stock Exchanges, n.d.)

### 2.5 Importance of Stock Exchange for Developing Economies

Levine and Zervos (1996) presented the empirical relationship between stock market development and long-run economic growth. They discovered in their empirical study that stock market development is positively correlated with economic growth even after controlling the other factors associated with long-run economic growth like initial conditions, inflation, size of government, black market exchange rate premium, and the predetermined component of financial depth (Levine & Zervos 1996 .p 332). Another study (Claessens et al, 2002) about the future of stock market in developing economies, shows that in last two decades financial markets, especially stock markets have grown in developing countries and ‘better fundamentals (higher economic growth, more macro stability), structural reforms (notably privatization of state-owned enterprises), and specific policy changes (notably domestic financial reform and capital account liberalization)’ are the supporting factors for this growth. Due to globalization, cross-border capital flows have increased, links among financial markets have enlarged and giant international financial player are showing their presence all around the world. This study pointed out that the globalization has generated a new trend in stock markets that is ‘the migration of stock exchange activities abroad’ and now many firms from emerging economies cross-list on international exchanges. Depository receipts (DRs) are also increasingly popular instruments of this trend (Claessens et al, 2002, p.167). Although the stock exchanges in emerging economies are neither participating in this trend and nor providing or not able to provide the facilities to the firms of developed countries.
to enter their stock markets because of their smaller size and weak legal and financial infrastructure, but they have pressure to participate. So this study suggests that emerging economies should do advancement in technology and generate the ability to interlink trading systems remotely to increase reliability. In addition, countries, those have small market, should link or merge their local trading system with global markets. Furthermore, ‘governments should encourage foreign trading systems and clearing and settlement operators to provide services locally’, with or without collaboration of local institutions, if necessary, to increase the confidence of foreign participation. Finally, give some freedom to domestic institutional investors by allowing them to invest in global markets and restrictions of portfolio investment only in local instruments, should be avoided (Claessens et al, 2002, p.200-201)

2.6 Stock Market Players

To understand the game of stock market one needs to be familiar with the different players of the stock market and their functionalities. Following are the most common and important players of securities market but not all:

- **Stock Broker**
  A broker can be a person or firm that facilitated the trade between customers. A broker is only responsible to make trade possible and easier and charge commission against it but not share the risk of that trade.

- **Dealer**
  A dealer can also be a person or firm that buys and sells for his or her own inventory of securities and for others. A dealer bears the risk for the transactions and may marks securities prices up or down to make a profit on their transactions.

- **Broker-Dealer**
  Broker-dealer can be a person or firm that are allowed to operate in either role, but never as both at the same time (How the Stock Market Works, 2008).

- **Registrars**
  When a company lists its share on the stock market it also appoints a company registrar. The company registrar is responsible to maintain the legal record of the company’s shareholders. Every time company’s share buys of sell the registers take that transaction in his record. This is necessary to keep the record of ownership of each share. (LSE Website: Who does what in the market?, 2008)
• **Registered Representatives**

‘Registered Representative is a person who works for a brokerage company that is licensed by the Security and Exchange Commission (SEC) licensed brokerage and acts as an account executive for clients trading investment products such as stocks, bonds and mutual funds’. (Investopedia, 2008)

• **Market Makers**

‘Market makers are firms that maintain a firm bid and offer price in a given security by standing ready to buy or sell at publicly-quoted prices’ (How the Stock Market Works, 2008). When an investor gives the order to buy or sell shares to broker, he forwards the order onto a market maker who will execute the deal. Market makers are ultimately responsible for share prices movement. (LSE Website: Who does what in the market?, 2008)

• **Third Market Maker**

A Third Market Maker is a firm ready to buy or sell listed stocks at publicly quoted prices. Because to two reasons brokers direct an order towards a third market maker, first: the broker is not a member of the exchange on which the stock is trading and second: the third market maker attracts to brokers by paying per share for the trade (Investopedia , 2008).

• **Central Counterparty**

‘A central counterparty is a financial institution that acts as an intermediary between security market participants. This reduces the amount of credit risk that market participants are exposed to. Trades on most major stock exchanges (including London) go through a central counterparty. The seller of a security sells to the central counterparty. The central counterparty simultaneously sells to the buyer. This means that if one party defaults then the central counterparty will absorb the losses’. (Moneyterms, 2008)

### 2.7 Role of Brokers in Stock Trading

Many investors who are connected with their brokers or brokerage houses and involved in online trading they assume they are directly connected to the securities markets, but they are not. In online trading same trade process and parties are involved when investor call to his broker or instruct him by any other way. Brokers have the responsibility to find best execution for its client. For this they have choice to execute the trade:

• If stock is listed on an exchange, such as New York Stock Exchange (NYSE), broker may directly order to that the exchange, or to another exchange (such as a regional exchange), or to a firm called a third market maker.
- For a stock that trades in an over-the-counter (OTC) market, such as the NASDAQ, broker can send the order to a NASDAQ market maker.

- Electronic Communication Network (ECN) is also an option for broker to route an order, especially a limit order that automatically matches buy and sell orders at specified prices. If investor applies a price limit, upper or lower, for an order to buy or sell a stock is known as limit order.

- Broker can fulfill the order to buy or sell a stock from its own securities inventory. This is called "internalization." In this way, broker or its firm may make money on the "spread" – which is the difference between the purchase price and the sale price.

Investor can direct the broker for his trade form a particular exchange, market maker, or ECN. Even investors can get direct access to exchanges or market makers or ECN by his broker if he feels he can do direct trading. (U.S. SEC’s Website: Trade Execution, 2004)

2.8 Trade Life Cycle:

Trade life cycle, trade execution, stock trading process and the clearing and settlement cycle, these all terms refer to the process of a transaction take place at any stock market, starts from investor’s order to buy or sell a stock and ends on the transfer of stock’s ownership to the buyer and money to the seller. In past this process was very simple, slow and based on the physical trade of stock certificates and money but after technological revolution in stock markets it become so fast but very complicated due to involvement of numbers of parties in this process to maintain its speed.
Each day, billion of trading transactions take place all around the world and uncountable investors, brokers, investors and fund managers, and may other player participate in this process. This trade process ends on clearing and settlement of each transaction that ensures sellers are paid for their securities and buyers have received the securities they bought. How this process works is not easily understood (DTCC: The T+3 Settlement Cycle. 2008).

Following is the basic practice of trade execution process all around the world so by getting familiarity with it one can understand trade life cycle of all stock exchanges:

**Figure 5: Source: Inspiration taken form DTCC: The T+3 Settlement Cycle**
In above mentioned process, for the New York Stock Exchange (NYSE) the Depository Trust & Clearing Corporation (DTCC) works as a settlement agency and its subsidiary the National Securities Clearing Corporation (NSC) as clearing agency (DTCC: The T+3 Settlement Cycle. 2008). And for the London Stock Exchange (LSE), the London Clearing House (LCH.Clearnet) is engaged in the clearing process as a Central Counterparty (CCP) and CREST (now Euroclear UK and Ireland), the UK’s central security depository settle the trading. (LSE Website: Clearing and Settlement, 2008)

2.9 **T+3 Settlement Cycle**

In all stock exchanges T+3 is the standard time period of trade life cycle or clearing and settlement process and we can see the above mentioned execution process in trading days:

- **Trade Date (T)**
  Trade date (T) is the business day or day on trade execute. That day investor passes an order to his broker to buy or sell the stock and broker execute the trade by sending that order to the exchange or market place. Exchange or market place executes the order with another broker or specialist and the details of trade, generally electronically, transmitted to clearing agency involved in that transaction.

- **Trade Date + 1 (T+1)**
  That clearing agency plays the role of central counterparty and after confirmation of all details, including share quantity and prices, automated confirmation report or trade contract send to the participants of transaction. This report is a legal binding document for participants.

- **Trade Date + 2 (T+2)**
  The clearing agency issues broker/dealers a preliminary settlement report, the summaries of all compared trades transaction on T date and information about the delivery or receiving of securities and payment on settlement date (T+3).

- **Settlement Date (T+3)**
  T+3 is the settlement day. That day seller of the transaction receives the payment of net sell and buyer get the ownership of security. Generally in this process bank of buyer transfers fund to settlement agency and then agency transfers that fund in seller’s bank account and also transfer the ownership of security to the buyer, in these days commonly through electronically not physically. (DTCC: The T+3 Settlement Cycle. 2008)
2.10 Technological Revolution of Stock Exchange

NYSE placed the ticker tape in 1867 and the telephone in 1878 on the trading floor to improve the communication and speed of trading and LSE allowed ticker tape in 1872 and the telephone in 1882-1883 (Michie, 1986). That was the starting point of technological revolution in stock markets and later use of computers and then invention of internet took this evolution on the peak in trading business. So there is no comparison of the classic trading practices with new automated trading business but of course this automation is the inspiration of the traditional trading practices and experience. This technological revolution not only increased the volume of security trading business by making it faster and more reliable but also forced it towards specialization and professionalism.

Use of computers and internet technologic in the securities industry has not only increased the trading volume enormously but also changed the behavior and expectations of investors. Online technology has provided direct access to information and instant trading has also opened. Now investors are more informed and more demanding then the past, and worldwide exchanges and their regulators are trying to meet their requirements which are not possible without automation of trading (Bauch, n.d). This technological revelation has introduced Alternative Trading Systems (ATS) or Electronic communications networks (ECNs) which has reduced the cost of trading and on other hand by providing fast pace to trading have increased the volume of trading massively and currently all exchanges using ECNs for their trading process (Aggarwal & Dahiya , 2006). ECNs act as order-matching systems, match the buy and sell orders that have the same prices for the same number of shares and this matching process does not take more than few seconds to execute the transaction. It is also providing facility of cross border transaction and one can sell or buy shares form international markets in same way he could form local exchange. Although electronic trading is increasing its volume in total trading volume of exchanges but still large and complex orders are placed through trading floors (Bauch, n.d).

Furthermore, this technological revolution brought up the concept of over-the-counter markets (OTC) and NASDAQ has dominating position in the OTC markets. NASDAQ was the first electronic stock exchange market of the world. In 1961, the Securities and Exchange Committee (SEC) of United State conducted a special study on the recommendation of Congress for possible improvement in securities market and 1963 they issued a report with the recommendation of an automated over-the-counter market (OTC market). The NASD
(National Association of Securities Dealers Inc.) was given the responsibility of planning and implementation of this automated market and in 1966 it formed an especial Automated Committee to investigate the possibilities of automated quotations (bids) in OTC market. By 1968, Bunker-Ramo Corp. designed and builds that automated system to be called the NASD Automated Quotation, or NASDAQ (Heckman, 2001) and on February 8, 1971 NASDAQ started trading (NASDAQ Website, 2008). And now NASDAQ Stock Market is considered one of the most famous stock market of the world. Currently more than 3,200 companies are listed on its indices. In automation and innovation there is no competitor of NASDAQ. Without physical existence it has developed a high-tech image and the NASDAQ digital studios transmit live market information to more than 175 networks including CNBC and BBC. The NASDAQ MarketSite Video Wall, located in the heart of Times Square, became the identity of NASDAQ.

The impacts of this technological revolution are very positive for invertors of stock markets. It has increased the pace of trading and made it more secure and reliable, reduced the transition cost and providing access to international markets but on other hand for exchanges it makes this industry more competitive and innovative and in the retune of this a new revolution, changes in organization structure of exchange, was started since last two decades.

2.11 Structural Revolution of Stock Exchange

Aggarwal & Dahiya (2006) has provided very good details about the current trend of demutualization and public offerings in stock exchange industry. In the starting of 1990s, most of the stock exchanges had a traditional organization structure, the non-profit, mutual organization owned by the members of the exchange. But form 1993 things started to change when the Stockholm Stock Exchange became the first major exchange after demutualization and the Australian stock exchange transformed it to a public limited company and issued its share for public offer. In 2000 the Toronto Stock Exchange also demutualized. Later this trend did not stop and now all major stock exchanges of European region including LSE, the Deutsche Borse and Euronext are converted in publicly owned companies. In Asia Hong Kong and Singapore stock exchanges are listed companies and Tokyo Stock Exchange is also demutualized but not converted in to public limited company. In the U.S., the Chicago Mercantile Exchange (CME) was the first demutualized exchange and in 2003 converted into public limited company. In 2002 NASDAQ was reconstructed and on July 1, 2002 NASDAQ shares were started to trade on its own OTC market first time then on NASDAQ Stock Market
in February 2006. The NYSE is also became a listed company in 2006 after its merger with publicly-listed Archipelago Holdings (Aggarwal & Dahiya, 2006) and then it is merged with Euronext in June 2006 and converted in to NYSE Euronext. The merger of Borsa Italiana and the London Stock Exchange in June 2007 and merger of Nasdaq Stock Market with OMX (now converted into the NASDAQ OMX Group) in December 2007 is also a part of this organizational change.

Aggarwal & Dahiya (2006) suggested three reasons of this drastic change in stock industry:

- **Growing Conflict of interest between Existing Owners**
  The mutual structure of exchange requires keep into account the interest of all members or groups of members during major strategic change and decision. But because of interest diversification of member and due to complexity in current trading business it is very difficult. So as a solution, exchanges started to convert into demutualized and public limited companies so management could focus on the maximization of profit of the exchange rather than the interest of other members or corporations.

- **Technology and the Rise of ECNs**
  Since last decade, use of alternative trading system or ECNs has been increased and this increased trend pressurised the exchanges to adopt more efficient trading system and the migrated to electronic trading system. That adaptation was not only required huge capital but also merger and acquisition for that transformation which was quite difficult in the old organizational structure. This trend is also affecting the comparatively small and regional exchanges and enforced them towards merger with giant stock exchanges.

- **Shifting Regulatory Landscape**
  As the business of securities trading is increasing its complexity, regulatory authorities is also changing their laws and regulation to protect the investors and to reduce the conflict of interest in stock exchanges. This is also a motivation for exchanges to come into a less conflicted organizational structure to reduce the complication in meeting the regulation (Aggarwal & Dahiya, 2006).

### 2.12 Market Share in the Stock Exchange World

In the comparison of two centuries, ninetieth and twentieth century’s, U.S is the market leader. Its market share has increased from 22 % to 47 %. Numbers of reasons are behind this
progress, good financial condition, availability of large investments, greater technological advancement and in result greater productivity in all the sectors of business including securities industry.

Japan is also progressed well and increased its market share up to 9%, from 4% to 13%. Japan’s progress is more relay on the development in technological sector and it helped to over all economy of Japan.

In contrast, U.K. has lost its market share due some historical crises like the world wars, the collapse of the British Empire and the complicated colonial system slowed the UK’s economical growth massively. But UK has come out form these crises and London is standing along with New York and Tokyo as major and dominated marketplaces (The Stock Market: A Look Back, 2007)
CHAPTER 3: COMPARISON OF STOCK EXCHANGES

In this chapter a comparison of KSE with other two selected stock exchanges LSE and OMXS is made with the intention to answer the research question

3.1 The Karachi Stock Exchange:

The Karachi Stock Exchange (KSE) the first stock exchange of the Pakistan, was formed on September 18, 1947 and incorporated on March 10, 1949 with 5 listed companies with paid up capital of Rs. 37 million. Open-Out-Cry-System was used for stock trading and KSE 50 Index was the first index of KSE. Now, KSE is the biggest and the most liquid exchange of Pakistan, around 652 companies are listed on KSE Indices and trading currently through an Electronic Trading System, KATS (Karachi Automated Trading System) since 1997. As on February 2008 KSE’s Market capitalization is US $ 73.90 billion and Paid up Capital, Rs. 677,214.060 million (KSE Corporate presentation, 2008)

3.1.1 Organizational Structure

The Karachi Stock Exchange is private, non-profit organization and owned by the members of KSE. It is registered as company limited by guarantee. The Membership rights of the KSE are limited and fixed at 200.

Board of Directors

The KSE is managed by the Board of Directors that consists of 10 members including Managing Director. In this board, 5 directors are elected from among the 200 members of KSE and remaining 4 non-member directors are nominated and appointed by the Securities and Exchange Commission of Pakistan from among the professionals belong to various trades and professions. The Chairman is also elected by the Board from 4 non-member directors. The Managing Director, who is the full time Chief Executive of the exchange, is responsible for all the operational and administrative activities of KSE. (KSE Website: Board of Director, 2008)

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7 Open-out-cry-system: Securities trading on the trading floor, on the open auction principle.

8 Company Limited by Guarantee is a private limited company where the liability of the members is limited. It does not have a share capital, but has members who are guarantors instead of shareholders. Guarantee companies are useful for non-profit organisations that require corporate status.
The Securities and Exchange Commission of Pakistan

The Securities and Exchange Commission of Pakistan (SECP) is a regulatory authority for the securities markets and corporate sector in Pakistan. The SECP was established on January 01, 1999 by dissolving the Corporate Law Authority (CLA) which was formed in 1981 under a Special Law. The commission administers the compliances of the corporate laws in the country. Conversion of CLA into the Securities and Exchange Commission of Pakistan as an autonomous regulatory authority was envisaged under the Capital Market Development Programme of the Asian Development Bank (KES Website, 2008)

KSE Business Units

KSE is organized around three business units: Operations Department, Business Development & Marketing Department and IT Department.

- **Operations department** is responsible for running operations in KSE smoothly, maintaining relationships with members and listed companies and provides them the highest standard of customer service.

- **Business Development & Marketing department** is responsible for conducting research for the betterment of KSE, introduction of new products in KSE and for marketing of the exchange and its products.

- **IT department** is responsible to maintain a state of the art trading system with a capacity of over a million trades per day. It is also responsible to develop technological infrastructure with partnerships of Microsoft, Oracle and Unisys.

Other departments of KSE support these three departments in their own capacities.

- KSE’s robust **Risk Management System** allowed to achieve Value-at-Risk-based risk management⁹ administration, Real-time monitoring of exposures and cash/security margins. Comprehensive default regulations and creation of an Investor Protection Fund and a Clearing House Fund to reduce the risk for investors.

- KSE’s independent **Market Control and Surveillance Department** is established to monitor the market activities, price fluctuation and trading patterns and identifies the activities that violate SECP and KSE rules.

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⁹**Value-at-Risk-based risk management**: A technique uses to estimate the probability of portfolio losses based on the statistical analysis of historical price trends and volatilities.
- **Financial Planning Team** of KSE plays a key role of the guardian of KSE. They are responsible for financial budgeting and planning for the future, maximizing returns from treasury operations and keeping track of day to day expenses of the organization.

**KSE’s Business Units**

![Diagram of KSE's Business Units]

*Figure 7: Sources: KSE Corporate Presentation*

- **HR Department** is responsible for the process of recruitment, training and advancement of talented individuals to improve productivity and while keeping the turnover rate low.
- **Internal Audit Department** keeps KSE to implement rigorous audit and internal compliance process by ensuring that internal processes are being self-regulated and code of ethics and corporate governance is being achieved (KSE Corporate Presentation, 2008).
3.1.2 Trading and Trading Instruments

Trading Markets of KSE

KSE trading business basically bases on the Regular Market and it is the around 84% of total trading volume of KSE. The Future market is the beginning of KSE derivative\(^{10}\) market and only future contracts\(^{11}\) are trading in this market.

Indices of KSE

KSE started with 50 Index, but due to grow in the market new indices were introduced in place of it and now KSE is maintain three indices, KSE 100 Index, KSE 30 Index and KSE All Share Index.

- KSE 100 Index

KSE 100 Index, the most popular index of the exchange was introduced in November 1991. This is a capital weighted index, consists of 100 companies representing around the 85 percent of market capitalization. In KSE 100 Index ‘out of 35 Sectors, 34 companies are selected i.e., one company from each Sector (excluding Open-End Mutual Fund) on the basis of the large market capitalization and the remaining 66 companies are selected on the basis of highest market capitalization’.

This KSE100 index provides a benchmark to compare the stock price performance over a period of time. ‘The KSE100 is similar to other indicators that track various sectors of the Pakistan economic activity such as the gross national product, consumer price index, etc’.

(KSE Website: Index Brochures, 2008)

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\(^{10}\)Derivative: In finance, a security whose price is dependent upon or derived from one or more underlying assets. The derivative itself is merely a contract between two or more parties. Its value is determined by fluctuations in the underlying asset. The most common underlying assets include stocks, bond, commodities, currencies, interest rates and market indices. Futures contracts, forward contracts, options and swaps are the most common types of derivatives.

\(^{11}\)Future contract: This is a very common type of derivative. Futures are generally used either to hedge or to speculate on the price movement of the underlying asset. This is a financial contract obligating the buyer to purchase an asset (or the seller to sell an asset), such as a physical commodity or a financial instrument, at a predetermined future date and price. Futures contracts detail the quality and quantity of the underlying asset; they are standardized to facilitate trading on a futures exchange.
Table 1: List of KSE 100 Index Sectors

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Open-end Mutual Funds</td>
<td>19</td>
<td>Oil &amp; Gas Marketing Companies</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Close-end Mutual Funds</td>
<td>20</td>
<td>Oil &amp; Gas Exploration Companies</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Modarabas</td>
<td>21</td>
<td>Engineering</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Leasing Companies</td>
<td>22</td>
<td>Automobile Assembler</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Investment Banks/Inv. Cos./Secur.</td>
<td>23</td>
<td>Automobile Parts &amp; Accessories</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Commercial Banks</td>
<td>24</td>
<td>Cables &amp; Electric Goods</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Insurance</td>
<td>25</td>
<td>Transport</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Textile Spinning</td>
<td>26</td>
<td>Technology &amp; Communication</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Textile Weaving</td>
<td>27</td>
<td>Fertilizer</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Textile Composite</td>
<td>28</td>
<td>Pharmaceuticals</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Woollen</td>
<td>29</td>
<td>Chemical</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Synthetic &amp; Rayon</td>
<td>30</td>
<td>Paper &amp; Board</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Jute</td>
<td>31</td>
<td>Vanaspati &amp; Allied Industries</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Sugar &amp; Allied Industries</td>
<td>32</td>
<td>Leather &amp; Tanneries</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Cement</td>
<td>33</td>
<td>Food &amp; Personal Care Products</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Tobacco 3</td>
<td>34</td>
<td>Glass &amp; Ceramics</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Refinery</td>
<td>35</td>
<td>Miscellaneous</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Power Generation &amp; Distribution</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: KSE Index Brochures

- **KSE All Share Index.**
  In 1995, the need of an all share index was felt to reconfirm the results of KSE-100 and also to provide the base for index trading in future. On August 29, 1995 the KSE all share index was constructed and introduced on September 18, 1995. The same methodology is applied for this which was used to calculate the KSE 100 Index but in the case of All Share Index, all the listed companies are included (except Open-End Mutual Funds).

- **KSE 30 Index**
  KSE has also introduced KSE-30 Index which is calculated by using "Free Float Market Capitalization Methodology". The free-float methodology refers to an index construction methodology that takes into account only the market capitalization of free-float shares of a company for the purpose of index calculation. ‘Free-Float means proportion of total shares issued by a company that are readily available for trading on stock exchange market. It generally excludes the shares held by controlling directors / sponsors / promoters, government and other locked-in shares not available for trading in the normal course’ (KSE Website: Index Brochures, 2008).
### Table 2: KSE 5 Year Progress 2004 – 2008

<table>
<thead>
<tr>
<th></th>
<th>Upto 31-12-2004</th>
<th>Upto 30-12-2005</th>
<th>Upto 29-12-2006</th>
<th>Upto 31-12-2007</th>
<th>Upto 12-05-2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total No. of Listed Companies</td>
<td>661</td>
<td>661</td>
<td>652</td>
<td>654</td>
<td>654</td>
</tr>
<tr>
<td>Total Listed Capital - Rs.</td>
<td>405,646.32</td>
<td>470,427.47</td>
<td>519,270.17</td>
<td>671,255.82</td>
<td>694,543.53</td>
</tr>
<tr>
<td>Total Market Capitalisation - Rs.</td>
<td>1,723,454.36</td>
<td>2,746,558.97</td>
<td>2,771,113.94</td>
<td>4,329,909.79</td>
<td>4,317,721.78</td>
</tr>
<tr>
<td>KSE-100 Index</td>
<td>6218.40</td>
<td>9556.61</td>
<td>10040.50</td>
<td>14075.83</td>
<td>14286.61</td>
</tr>
<tr>
<td>KSE-30 Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KSE All Share Index</td>
<td>4104.86</td>
<td>6444.64</td>
<td>6770.06</td>
<td>9956.76</td>
<td>10193.76</td>
</tr>
<tr>
<td>New Companies Listed during the year</td>
<td>17</td>
<td>19</td>
<td>9</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>Listed Capital of New Companies - Rs.</td>
<td>66,837.0</td>
<td>30,090.28</td>
<td>14,789.76</td>
<td>57,239.92</td>
<td>6,148.24</td>
</tr>
<tr>
<td>New Debt Instruments Listed during the year</td>
<td>5</td>
<td>8</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Listed Capital of New Debt Instruments - Rs.</td>
<td>4,775.0</td>
<td>10,900.00</td>
<td>3,400.00</td>
<td>6,500.00</td>
<td>22,000.00</td>
</tr>
<tr>
<td>Average Daily Turnover - Shares in million</td>
<td>343.70</td>
<td>365.64</td>
<td>260.69</td>
<td>257.34</td>
<td></td>
</tr>
<tr>
<td>Average value of daily turnover - Rs.</td>
<td>17,408.95</td>
<td>33,583.29</td>
<td>31,610.71</td>
<td>25,262.97</td>
<td>28,900.96</td>
</tr>
<tr>
<td>Average Daily Turnover (Future) YTD*</td>
<td>69.64</td>
<td>117.16</td>
<td>82.68</td>
<td>57.88</td>
<td></td>
</tr>
<tr>
<td>Average Value of Daily Turnover - YTD</td>
<td>4,914.25</td>
<td>15,461.42</td>
<td>13,587.63</td>
<td>9,077.61</td>
<td>10,048.16</td>
</tr>
</tbody>
</table>

*Year to date

Source: KSE Website 2008

**Instrument Trading in KSE**

In Regular Market of KSE following investment products are available:

- Ordinary/preference shares
- **Modaraba Certificates**\(^{12}\) of listed companies (Islamic Financial Instrument)
- **Unit trust schemes**\(^{13}\)
- **Mutual funds (Open-end and Closed-end)**\(^{14}\) certificates
- Corporate bonds/Debt Instruments i.e., Term Finance Certificates (TFCs)
- Government securities i.e., Federal Investment Bonds (FIBs), Pakistan Investment Bonds (PIBs) and Special US Dollar Bonds.(KSE Website: A Guide to Investors, 2008, p14)

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\(^{12}\)**Modaraba Certificate**: This is an Islamic financial instrument in which return is calculated annually based on the company’s profits.

\(^{13}\)**Unit Trust**: is unincorporated mutual fund structure that allows funds to hold assets and pass profits through to the individual owners, rather than reinvesting them back into the fund. The investment fund is set up under a trust deed. The investor is effectively the beneficiary under the trust.

\(^{14}\)**Mutual Fund**: An investment vehicle that is made up of a pool of funds collected from many investors for the purpose of investing in securities such as stocks, bonds, money market instruments and similar assets. The main advantages of mutual funds is that they give small investors access to professionally managed, diversified portfolios of equities, bonds and other securities. **Open Ended Mutual Funds** = There is no particular period for buying & selling M, F, (no time limit). **Close Ended Mutual Funds** = Here is a limited period of transactions of buying & selling M.F (time limit)
The Future Market is the derivative market of KSE in which very simply types of derivative, future contracts of shares, CFSC (Cash Settled Futures Contract) and future contracts of index\textsuperscript{15}, SIFC (Stock Index Future Contract) are trading.

### 3.1.3 Clearing and Settlement Process

The Central Depository Company (CDC) and National Clearing and Settlement System (NCSS) are the main plays of clearing and settlement process.

**Central Depository System (CDS)**

Central Depository System (CDS) is an electronic book-entry system of securities and used to eliminate the physical maintenance and transfer of securities. This system is in line with the international practice and has replaced the manual system of physical handling and settlement of shares at stock exchanges. In KSE, the CDS is managed by the Central Depository Company of Pakistan Limited (CDC) and it is necessary for all new companies to enter their shares in CDC record. There are still few companies which are not entered in CDC and trading physically from KSE’s Clearing Counter but they are also required to enter in this system soon. (KSE Website: A Guide to Investors, 2008, p14)

**The Central Depository Company (CDC)**

The Central Depository Company was established in 1993 and started its operations in 1997 to introduce electronic custody of shares and paperless settlement of securities. CDC is the only securities depository of the Pakistan what is sponsored by the stock exchanges, national and international institutions and regulated by the Securities Exchange Commission of Pakistan. The key function of CDC is to operate and maintain the Central Depository System (CDS) in the guidance of a well-defined legal framework. The CDS is an electronic book entry system to record, maintain and to register transfer of securities and offers transparent and instant transfer of securities’ ownership.

‘CDC introduced Investor Account Services in 1999 enabling retail investors to open and maintain securities' account directly with CDC and thereby being in complete control of their holdings. Through the services of CDC access, which include an Interactive Voice Response (IVR) and an interactive Web, CDS account holders can get their account information from

\textsuperscript{15}**Index Futures**: The futures contract on a stock or financial index. For each index there may be a different multiple for determining the price of the futures contract.
anywhere in the world. In addition to the core service, the company has diversified its operations to provide Custodial and Trustee Services (C&TS) to Mutual Funds. In a short span of time since commencement of C&TS in 2002, CDC has emerged to be the largest provider of Trustee and Custodial Services in the country's private sector’ (DTCC Press Releases, 2007).

Table 3: Facts and Figures about CDC
(Sources: CDC Presentation: Country Profile Pakistan)

**Operational Highlights**

<table>
<thead>
<tr>
<th>Listed Securities at KSE:</th>
<th>671</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of live securities:</td>
<td>568</td>
</tr>
<tr>
<td>Number of shares in CDS:</td>
<td>45 Billion</td>
</tr>
<tr>
<td>Mkt. value of shares in CDS:</td>
<td>USD 31 billion</td>
</tr>
<tr>
<td>% of shares in terms of share capital excluding GOP holding:</td>
<td>76.39 %</td>
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</table>

(as of 31/May/2007)

National Clearing and Settlement System (NCSS)

‘Clearing and Settlement is one of the most important parts of the securities trading business. This process involves reporting, matching, correcting securities transactions and finally delivery or receipt of net balances. ‘NCSS is an electronic system developed to replace the individual Clearing Houses of Pakistan’s three stock exchanges by a single entity. This system is operated by National Clearing Company of Pakistan Limited (NCCPL), which has been registered as a separate legal entity and it is a significant institution of Pakistan's Capital Market providing clearing and settlement services to all three stock exchange in the country’.

‘The operations of NCSS are rapidly gaining momentum and so far a majority of the securities have been inducted into the system for settlement purpose. NCSS provides stability to the market by capping the systematic risk to a good extent. It has also improved efficiency of the settlement process by introducing a consolidated and geographical neutral clearing and settlement system. NCSS’s technologically advanced features such as automated Pay and Collect functionality, introduced extraordinary transparency and efficiency in the clearing process’. (KSE Website: A Guide to Investors, 2008, p14)
The National Clearing Company of Pakistan Limited (NCCPL)

As a part of Capital Market Development Programme, Asian Development Bank (ADB) recommended for the National Clearing & Settlement System (NCSS) to replace the separate and individual Clearing Houses for Pakistan’s three stock exchanges by a single and centralized entity. On July 3, 2001 to manage and operate the National Clearing & Settlement System (NCSS), an automated electronic settlement system, NCCPL was incorporated. NCSS live operations commenced from December 24, 2001. However, the company became fully operational in the year 2003-04 by inducting and handling the clearing and settlement of all book-entry securities through NCSS. The Capital Market of Pakistan has a triangular foundation comprising of the stock exchanges, Depository Company and NCCPL; the goal of all being an economically stronger, more prosperous Pakistani Capital Market. (NCCPL Website, 2008)

3.2 The London Stock Exchange

As we have discussed in detail about LSE’s starting in Chapter Two, how New Jonathan’s was converted in “The Stock Exchange” in 1773 and how the first regulated exchange came into existence in London and the modern Stock Exchange was born.

3.2.1 Organizational Structure

In 1986, LSE was converted in to a private limited company under the Companies Act of 1985 and its member broker firms became shareholders. But under the company's articles of incorporation, these shareholders were not entitle to obtain any profits earned by the company but all profits were allowed to utilize for infrastructure and other development costs of the exchange. On October 27, 1986, the LSE moved toward more revolutionary transformations which are known as the "Big Bang". That day deregulation of the market occurred and several changes were applied in LSE's operations. In 1991 the Governing Council of the Exchange was replaced with a Board of Directors and directors not only selected for the executives of exchange but also from the customer. In 2000 LSE transferred its role as the UK Listing Authority to the Financial Services Authority (FSA) and with the votes of their shareholders became a public limited company: London Stock Exchange plc and in 2001 its share were listed on its own Main Market (LSE Website, 2008).
**The Financial Services Authority (FSA)**

FSA is the regulatory body in the UK which looks after the financial sector including stock markets. In May 1997, banking supervision and investment services regulation was merged into the Securities and Investments Board (SIB) and in October 1997 the SIB formally changed its name in the Financial Services Authority. In May 2000 the FSA took over the role of UK Listing Authority from the London Stock Exchange. ‘Under the Financial Services and Markets Act, FSA have four statutory objectives:

- Market confidence: maintaining confidence in the financial system.
- Public awareness: promoting public understanding of the financial system.
- Consumer protection: securing the appropriate degree of protection for consumers.
- The reduction of financial crime: reducing the extent to which it is possible for a business to be used for a purpose connected with financial crime.’ (FSA Website, 2008)

**Organization Chart**

Organization of LSE can be seen in following chart:

![Organization Chart of London Stock Exchange](Source: LSE Website: Discover the Exchange)
• Marketing
The Marketing Department is responsible to make new marketing strategies and tactics to increase the business and is also responsible for Internal Communications and Public Affairs.

• Finance and Operations
Finance and Operations departments are responsible to provide all necessary information to senior management regarding the issues related financial and operation continuations and also provide help of management to make better strategies to get best result in futures. Finance has responsibility for financial accounting, procurement, finance processes and internal audit. Human Resources, The Legal department and The Facilities team also work to support of the business strategy.

• Corporate Development Group
This Group is responsible for both, the development and promotion of the exchange’s corporate strategy and supports its business unit strategic development. Additionally, along with other business unites, it allocate the exchange’s product development budgets and check proper application of funds.

• Media Relations
Media relations department maintains the relationships of all the exchange with the media and is also responsible for the Media Complex. This department acts as the exchange's spokesperson on all issues related to the exchange in front of local, national and international media. The team also promotes new business initiatives, issues news releases and statements, and arranges interviews on behalf of the exchange. In addition, maintain Media Complex’s operation which facilitated a wide range of TV and radio broadcasts each day, often includes interviews with visiting company executives who are taking advantage of the exchange's extensive range of external event facilities and expertise.

• Market Services
LSE provides following services to its customers:
  o **Issuer Services** facilitates companies to raise the capital by listing securities on LSE markets. Issuer services also manages the relationship with issuers and develops products and services to meet their needs.
  o **Broker Services** ‘develops the Exchange’s trading markets and related products and services, and attracts and admits new customers to the markets and expand the customer base by providing new value added products and services’.
o **Derivatives Services** EDX London provides the services as an international equity derivatives exchange, is pioneering diversification beyond core equity markets. It is one of the world’s efficient markets for equity derivatives.

o **Trading Services** provide the trading platforms and customers support to brokering firms around the world for securities trading.

- **Information Services and Technology**

  Accurate and real-time market updates and other information delivery is the responsibility of the Information Services Division. This division markets and sells ‘London Market Information and other specialist securities information to the Exchange’s member firms, information vendors, companies and investors’. Technological upgrading in products and services is also necessary to maintain and attract the new customers and for this the exchange works closely with the world-class partners. (LSE Website: Discover the Exchange, 2008)

### 3.2.2 Trading and Trading Instruments

#### Market Structure

According to the World Federation of Exchanges in February 2008 LSE have 3286 listed companies, sum of 2567 domestic and 719 foreign companies (The World Federation of Exchange’s Website, 2008). To manage as such much huge numbers of listed companies, LSE have divided its trading operation into two markets, the Main Market and Alternative Investments Market (AIM), and EDX London is a separate market for the trading of derivatives.

- **Main Market**

  This is most prestigious trading market of Europe and the world's biggest and best, domestic and international public limited companies are listed on it. To come on the list of the LSE’s Main Market, first companies need to register their securities to the official list maintained by the UK Listing Authority (UKLA), a division of the Financial Services Authority then companies can get permission to trade on Main Market of LSE. (LSE Website: The Markets, 2008)

- **Alternative Investments Market (AIM)**

  This market is for smaller and growing companies. Since it was launched in 1995, more than 2,200 companies have joined AIM. More than 1,500 companies from across the world are
trading on AIM. For listing on AIM there are no specific industry requirements for companies but some key qualifications and admission documents are required to inform potential investors about the business activities and company’s financial position etc. The support of a nominated adviser approved by LSE is also necessary and this adviser is responsible for ensuring that the company is suitable for an AIM’s admission. Once the company gets admission on the list of AIM for two years it can entered to the Main Market after good performance. (LSE Website: The Markets, 2008)

- **EDX London**

EDX London is a separate international equity derivatives exchange. This is the combination of OMX AB advance equity derivatives technology with market strength of LSE. This combination makes it the world’s most efficient and liquid market for equity derivatives. Members of EDX London can trade in futures and options on international exchanges through a common order book. EDX London is a Recognized Investment Exchange, regulated by the United Kingdom’s Financial Services Authority. (LSE Website: EDX London, 2008)

**Indices of LSE**

To measure the LSE’s trading figures; series of indices are maintained by the FTSE. FTSE Group (FTSE) is the world-leading company of indices creation and management and jointly owned by the Financial Times and the London Stock Exchange. FTSE All Share and FTSE 100 are most famous indices of LSE. FTSE covers all shares listed on Main Market and FTSE 100 follows the performance of the 100 biggest list companies on Main Market, which are known as “Blue Chips”. Other LSE Indices are FTSE 250 and FTSE 350, to cover Main Market, FTSE AIM UK 50, FTSE AIM100 and FTSE AIM All-Share to track the performance of Alternative Investments Market. Indices related to techMARK™ and techMARK mediscience™ represents the highly innovative R&D based companies listed on Main Market. (LSE Website: Indices, 2008)

**Instrument deal in Stock Market**

The LSE offers numbers of trading instruments to invertors

- **Ordinary Shares**: The most common security type traded on the LSE
- **Bonds**: More on the issuing and listing of bonds on LSE market.
• **Covered Warrants**: More on the opportunities presented by the fast-growing market in covered warrants.

• **Exchange Traded Commodities**: Simple and efficient securities that provide exposure to a range of commodities and commodity indices.

• **Exchange Traded Funds**: Simple, low-cost and flexible investments that track indices and sectors in the UK, US and European markets.

• **Global Depositary Receipts** (GDRs): Enabling overseas companies to gain access to London’s pool of liquidity whilst giving investors greater exposure to emerging markets.

• **Structured Products**: From plain trackers to products with more sophisticated expiry profiles discover the opportunities presented by listed structured products’. (LSE Website: Security Types, 2008)

• **Derivatives**: Most advance technology can be used for futures and options derivative trading in EDX London.

### 3.2.3 Clearing and Settlement Process

The London Stock Exchange possesses a very efficient clearing and settlement infrastructure for domestic and international markets trading. LSE’s coordination with LCH.Clearnet and Euroclear UK and Ireland ‘allow members to take advantage of the efficiency and cost benefits provided by a Central Counterparty (CCP) and settlement netting’. The CCP for the Exchange’s electronic order book, SETS, was introduced in February 2001, in conjunction with CRESCo (now Euroclear UK and Ireland) and the London Clearing House (now LCH.Clearnet Ltd). (LSE Website: Clearing and Settlement, 2008)

**Clearing**

LCH.Clearnet Ltd clears the trading of LSE through indirect or a direct clearing relationship with member firms:

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16 **Warrant**: A derivative security that gives the holder the right to purchase securities (usually equity) from the issuer at a specific price within a certain time frame. The warrants are issued and guaranteed by the company and the lifetime of a warrant is often measured in years. **Covered Warrant**: This is a type of warrant but can have a wide variety of financial products, only issued by financial institutions, can have a variety of exercise prices depending on the conditions set forth by each issue. Normal warrants generally have a company’s stock and issued by the company and have only one exercise price.

17 **Global Depositary Receipts**: A bank certificate issued in more than one country for shares in a foreign company. The shares are held by a foreign branch of an international bank. The shares trade as domestic shares, but are offered for sale globally through the various bank branches.
‘An indirect relationship is when non-clearing Members (NCMs) establishes relationships with General Clearing Members who clear their business on their behalf.

A direct relationship is when a firm is also a member of LCH.Clearnet.’ (LSE Website: Clearing, 2008)

**Settlement**

‘UK security trades are normally settled in CREST, the UK’s central security depository but it is also possible to settle these trades in Euroclear Bank. CREST also provides depository interest securities for a wide range of international securities. These instruments allow UK investors the ability to invest in foreign securities within the CREST service’. (LSE Website: Settlement, 2008)

**Share Transaction Process**

![Share Transaction Process Diagram](Image)

*Figure 9: Clearing and Settlement Process of LSE*

*Source: LSE Website, Education, 2008*

### 3.3 Stockholm Stock Exchange (OMX Nordic Exchange Stockholm)

The Stockholm Stock Exchange was established in 1863 and in 1998 it was merged with the subsidiary of OMX AB, OMX Nordic Exchange Group and converted in to OMX Nordic Exchange Stockholm. OMX Nordic Exchange has over 850 listed companies and as on May
12, 2008, 268 companies are listed on the index of OMX Nordic Exchange Stockholm. (OMX Derivative Market as Counterparty, 2008)

3.3.1 Organizational Structure

Thought the Stockholm Stock Exchange has converted in to the OMX Nordic Exchange Stockholm AB, a wholly-owned subsidiary of the OMX Nordic Exchange Group but it has a separate board of directors to run and manage its business. Stockholm exchange is authorized to run its business as a securities exchange and offer securities trading, fixed income products and derivatives instruments as well as clearing, listing and information services. The Swedish Financial Supervisory Authority (Finansinspektionen) is the supervisory authority of the Swedish financial market including the exchange markets. (OMX Derivative Market as Counterparty, 2008)

The Swedish Financial Supervisory Authority (Finansinspektionen)

In 1991, after the merger of the Private Insurance Supervisory Service and the Bank Inspection Board, a single integrated regulator body, the Swedish Financial Supervisory Authority (Finansinspektionen) was established to cover the banking, securities and insurance sector of Sweden. Finansinspektionen is responsible to monitors and analyses the trends in the financial market. It also examines the risks and controls the financial companies and supervises compliance with statutes, ordinances and other regulations. Around 3,700 companies are in the supervision of it, including stock exchanges, authorized marketplaces and clearing houses. (Swedish Financial Supervisory Authority Website, 2008)

3.3.2 Trading and Trading Instruments

OMX Stockholm local Indices

- OMX Stockholm 30 (OMXS30)

It is the most famous and leading share index of the OMX Nordic Exchange Stockholm. This index consists of the 30 most actively traded stocks on the OMXS. This index has excellent liquidity so this is highly suitable for derivatives products. ‘OMXS30 is also used for structured products, e.g. warrants, index bonds, exchange traded funds such as XACT OMX™ and other non-standardized derivatives products’.
- OMX Stockholm All-Share Index (OMXS)
The All-Share-index of the OMX Stockholm includes all shares listed on the OMX Nordic Exchange Stockholm. The purpose of the index is to reflect the current status and changes of the market.

- OMX Stockholm Benchmark (OMXSB)
It is consists of the 80 to 100 largest and most traded stocks, representing the majority of sectors, adjusted by the free float.

- OMX Stockholm Sector indexes (SX)
The OMX Stockholm Sector indexes are based on the Global Industry Classification Standard (GICS) developed by the Morgan Stanley Capital International Inc. (MSCI) and the Standard & Poor’s. The GICS sector classification is divided into four different levels, comprising sectors, industry groups, industries and sub-industries. The indexes covers all shares listed on OMX Nordic Exchange Stockholm and are calculated up to level three (Industry) in each GICS sector.

- OMRX - interest-rate indexes
OMRX is the designatd for the OMX Nordic Exchange Stockholm's interest-rate indices, a family of indices all design to show the value growth trend for a certain type of passively managed portfolio of liquid interest-bearing Swedish securities. (OMX Nordic Exchange Website: OMX Stockholm local Indices, 2008)

**Trading Instruments**

The centralized trading system is established for all the Nordic Exchanges that enable efficient cross-border trading and settlement, offers cross-membership and provides one market source of information on the web for all exchanges including OMX Stockholm.

The Nordic Exchange offers a wide variety of products to its customers ‘such as Equities, Equity rights, Convertible loans, Subscription options, Premium bonds, Retail bonds, ETFs, Warrants, Equity derivatives, Index derivatives and Fixed income derivatives.’ These all products are divided in three main products of Nordic Exchange according to the natures:

**The Nordic Equity product** includes following instruments:

- Equities
- Equity rights, bonus subscriptions, interim shares, etc.
• Convertibles
• Warrants
• Mutual funds

The Nordic Derivatives product contains trading in the following instruments:
• Equity options and futures
• Index options and futures

The Nordic Fixed Income product deals in:
• Government bonds
• Mortgage bonds
• Corporate bonds
• Premium bonds
• Mutual funds (OMX Nordic Exchange Website: Services and Products, 2008)

3.3.3 Clearing and Settlement Process

In Sweden Riksbank, the Swedish Central Bank manages the electronic cash clearing system K-RIX, which is used to settle the cash transactions in SEK on the settlement day, related to premiums, fees and other cash settlements but not relating to delivery. The Swedish Central Securities Depository (CSD) handles settlements involving all payments relating to deliveries on the Swedish market.

‘Settlement is carried out per clearing member and payment bank. Members that are not participants in the payment or the CSD system must use an institution that is such a participant to be able to fulfill their obligations with respect to settlement and delivery. Settlement of most fixed income forwards at OMX is a combination of:

• Cash settlement of the difference between the forward price and determined fix.
• Delivery of underlying securities through the CSD.’ (OMX Nordic Exchange Website: Clearing and Settlement, 2008)
CHAPTER 4: ANSWER OF RESEARCH QUESTION

This Chapter summarized the research by discussing the facts, gathered in comparison of Chapter 3 and providing the answer of the research question on the bases of these finding.

4.1 Comparative Facts Sheet

Following comparative fact sheet is the finding of this research. These facts are used to answer our research question:

<table>
<thead>
<tr>
<th>Table 4: Comparative Facts Sheet</th>
</tr>
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<tbody>
<tr>
<td><strong>Factors</strong></td>
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<tr>
<td>Organization Structure</td>
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<td>Indices</td>
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<td>Listed Companies</td>
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<td>Trading Instruments</td>
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<tr>
<td>Clearing and Settlement Process</td>
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**Source:** *Author’s Collected Information from Official Websites of Three Exchanges*

### 4.2 Comparative Discussion

In this comparative study, comparison is not among the all three stock markets, actually KSE is compared with other two the world’s leading and very developed stock exchanges, LSE and OMXS, with the intention to get the ideal about the current standard and standing of KSE and find out the direction of future progress, needed to became an truly international level stock exchange.

#### 4.2.1 Discussion about Organization Structure

KSE was formed in 1947 and it is quite young in comparison of LSE and OMXS. It has not seen as much phases of evolution that both exchanges have seen before to get their current standard.

LSE and OMXS, both are Public Limited Companies and KSE still operating as a Guarantee Limited Company, a Non-Profit Organization. This organizational status is considered the biggest hurdle in the pace of KSE’s growth. No doubt, this structure was necessary in the beginning to establish a strong and proper securities market but once KSE got the momentum, this formation should be changed with the Public Limit Company as other developed stock exchanges have done. Though SECP has implemented dynamic changes and reformation in KSE’s policies and operations and these changes helped a lot to build credibility in international market but still incorporation and demutualization is insisting at every forum of domestic and international business community.

The biggest short coming of mutually owned exchange is that the members or member firms are the direct user of the trading services provided by the exchange and also the decision makers for the exchange. So this allows them to keep their own interest above the interest of the exchange and other investors. In this setup members generally avoid ‘any changes that would require them to put in additional capital, or threaten their customary way of doing
business, or decrease the potential value of their membership. It also inhibits the exchanges from responding quickly to changes brought by new technologies’ (Ahmed, 2002).

By including 4 non-member directors in the board and the selection of the Chairman from non-member directors, SECP has attempted to fill the gap present in this structure but still the current trend of incorporation and demutualization of stock markets is demanding this change in KSE. The members and SECP both are well aware about this need and are agreed upon it. In January 2006, the Memorandum of Understanding between SECP and KSE has been executed and in January 2007, the Deutsche Bank is appointed as financial advisor of valuation of the exchange and in August 2007 Stock Exchange (Corporatization, Demutualization and Integration) Act, 2007 is also approved. The exchange has appointed M/s. Mandviwalla & Zafar, Advocates to fulfill the legal requirements for incorporation and demutualization and for a new corporate structure of KSE. Collaboration of KSE with SECP for corporatization and demutualization of the exchange is very positive sign and will help to add significant credibility and efficiency in the growth prospects of KSE. This is also very encouraging that ‘many Stock Exchanges worldwide are keen in acquiring a stake in the Karachi Stock Exchange (KSE Annual Report 2007). Borse Dubai, the holding company for Dubai’s stock exchange business and competitor of NASDAQ in the deal to OMX acquisition has shown intention to buy 40% shares of KSE when it will convert into a public limited company. (Husain, 2008)

4.2.2 Discussion about the Trading and Trading Instruments

In comparative way KSE looks far behind from LSE and OMXS in terms of market capitalization, but if we analyze individual facts and figures which suggest that KSE is progressing in right direction. KSE 100 Index started to grow from 879.62 points in June 30, 1998 and have reached to the level of 14075.83 points on December 31, 2007, 34% compound annual growth rate over past 10 years [Figure 1: Performance of KSE 100 Index] and in terms of Total Listed Capital and Total Market Capitalization it also increased respectively form US $ 4910.1 million and US $ 10032.1 million to US $ 10968.46 million and US $ 70750.16 million since 2002 to 2007 [Figure 10: Market Capitalization of KSE].
LSE and OMXS have different market according to the sizes and capitalization of companies and according the different products. They also maintain different indices for every market to transfer accurate information to the investors. But KSE haven’t reached at this level. Regular Market is the one where almost 84% business activities took place. Future Market which is the derivative market of KSE has very initial level and need a long journey to be established.

Currently, KSE is maintaining 3 indices in which KSE-30 Index was introduced in September 2006. Currently, 654 companies are listed on KSE which is a reasonable number for the stock market of a developing country like Pakistan. But issue is that this number is moving around the same level from quite a long time. In terms of capitalization KSE has different size of companies but all are trading on same market. In past KSE 100 Index was mainly used to measure the market movement but due to different capital size companies it was not representing the true picture of market. This issue become the reason for the introduction of 30 Index which is bases on free float [i.e. only consider total shares of a company that are available for trading at the stock exchange] and provides better representation of market movement (KSE Annual Report, 2007). In Regular Market of KSE shares, corporate bonds, Modarabas Certificates and mutual funds are trading and in derivative market only futures contracts of shares and futures contracts of indices are trading. By nature all trading instrument of KSE are very simple but according to the need of the market. Financial literacy and market maturity are the reasons of this low demand of complex instruments, especially in derivative side.

Figure 10: Market Capitalization of KSE (Source: KSE Corporate Presentation)
4.2.3 *Discussion about Clearing and Settlement Process*

LSE and OMXS are the leading exchanges in technological utilization for security trading. They have the best automated, electronic systems for trading and, clearing and settlement process and they invest very huge amounts for continues upgrading of trading automation. This has not only increased the efficiency and accuracy in the operations of the exchanges but also make them more precious and attractive for companies and investors to get affiliation with them.

LSE and OMXS both are using fully automated clearing and settlement system, which not only provides clearing and settlement facilities at domestic level but also supports international and cross exchanges trading. In this department KSE is also at initial stage. KSE has developed a strong and automated clearing and settlement system, according to international standard by including CDC and NCCPL, which is enough to fulfill current trading requirements. Almost all listed companies are converted from physical trading and settlement to electronic trading and, clearing and settlement system and few reaming companies are instructed by SECP to become the part of this system as soon as possible.

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*Figure 11: KSE Volume of Daily Turnover (Source: KSE Corporate Presentation)*

- Average Volume of Daily Turnover has been increasing at a CAGR of 9% and 12% in the Regular Market and Futures Market Respectively
4.3 Result of Comparison

This research is conducted to answer our research question, that is:

*How the Karachi Stock Exchange (KSE) can be reached at the level of developed stock exchanges by improving the organizational structure, trading and trading instruments, and clearing and settlement process?*

And we used LSE and OMXS as a benchmark to make a comparison and find the answer of this question. This comparison which has been shown in Chapter Three and we have also made a detail discussion about the result of this comparison in the starting of this chapter, provides us following six suggestions for improvements in KSE as the answer of our research question which will help KSE to achieve the level of developed stock market:

1. **Demutualization and incorporation:**

Demutualization and incorporation is necessary for overall development of KSE. As WFE described that demutualization and structural change as a public company creates more professional image of the exchange. Demutualized structure of the exchange supports in establishing an alliance or joint venture and also in mergers. It provides better access to new products and new markets and increases the performance and transparency in trading (WFE Annual Meeting, Evolution of Markets, 2005. p.15). And in near future KSE will need to come into an alliance or merge with one of the leading exchanges for improvement in its operations and technology of trading.

2. **Business Relation with other Exchanges:**

Though, demutualization should be the priority of KSE but as it is taking time so KSE should start to establish business relation with other exchanges, especially with them which are in same region. Demutualization and structural change process is in progress since 2002 and can take some more time may be few years due to political and establishment crisis in Pakistan. The Bombay SE (India), the Shanghai SE (China), the Hong Kong SE, the Tokyo SE Group (Japan) and many other exchanges including the Middle East stock markets are in the reach of KSE. KSE is a member of the Federation of Euro-Asian Association of Stock Exchanges (FEAS) and the South Asian Federation of Exchanges (SAFE) and also an Affiliated Member of the World Federation of Stock Exchanges (WFSE) and the International Organization of
the Securities Commission (IOSCO) so can use these platforms to get affiliation with international exchanges. That will increase the standard of KSE before offering its share in public and can get more attention of international player in the incorporation process.

3. **Cross Border Listing:**

KSE should try to motivate the regional and multinational companies to get them on the list of KSE indices. This cross border listing will increase the confidence of international investors who are afraid to invest due to regional instability.

4. **Separate Markets for Different Cap-Companies:**

At this moment 654 companies of different capital size are listed on KSE and trading in one market. This is a good number of companies which can be divided into two separate markets according to the size and maturity of companies and indices for these markets can also maintained separately. Listing requirements and rules and regulations should be different for each market, a little relax for new and small or medium capital companies. That will motivate the small companies to come on the list of KSE and Indices are also going to present actual situation of market.

5. **Improvement in Derivative Market:**

In the Regular Market, KSE has very good standard and trading almost same securities or financial instruments which are trading in any developed stock market but don’t offer structured products and ETFs like developed exchanges. In derivative market KSE needs to improve a lot. Currently KSE is only dealing in the future contract of shares and index but in international derivative markets call and put options of securities and indices, convertibles, warrants and swaps are very famous and common instrument to trade. Presently very simple instruments are trading in KSE which are according to the need of market. KSE don’t have demand of complex instrument because of financial literacy. So KSE should work on it along with SECP and Government of Pakistan.

6. **Upgrading in Trading, Clearing and Settlement Process:**

KSE has changed floor trading and physical exchange of securities to automated electronic trading, and clearing and settlement system by including CDC and NCCPL in this process. It has improved the efficiency of trading and reduced the risk, involved in trading. But in
comparison of leading stock markets KSE has initial level of automation technology which is good enough to support the current numbers of instruments and trading volume. So KSE should continue the upgrading of technological side of trading as well clearing and settlement system. Conversion of CDC and NCCPL in to a publically owned company will also help to improve the clearing and settlement process in Pakistan.

### 4.4 Conclusion

Currently, demutualization and incorporation should be the first priority of the KSE’s and SECP’s authorities. Not only because this is the current trend of industry but also because other five suggestions regarding the improvement in KSE directly or indirectly depend on this aspect. Conversion into a public limited company will encourage KSE to maximize its profit and for this innovation and advancement will be applied in the present working style and that will attract both domestic and foreign investors.

As demutualization and incorporation is taking time so KSE should start to stepping towards internationalization by developing business relation with other regional and international exchanges and by attracting regional and international companies for cross border listing on its indices.

Remaining three suggestions: separate markets for different capital companies, improvement in derivative market and upgrading in trading, clearing and settlement process can be applied with the growth of KSE but these are also necessary to achieve the world class standard of stock market.

Presently, KSE is progressing in right direction and above mentioned suggestions will help KSE to speedup the development process. But this is also true that supporting environment for financial industry is still missing in Pakistan. Because of the worst internal and external political and regional conditions, KSE is declared ‘the world's most dangerous haven’ by *Economist* and this recognition is the biggest obstacle in the development of KSE.

### 4.5 Suggestions for Future Research

Stock exchange is very vast area to cover and numbers of topic can be recommended for future research. Currently organizational change in stock industry and trend of mergers and acquisitions is the hottest issue for this industry. The reasons and affects of this trend could be
an interesting and worthwhile research work. As the possibilities of cross borders listing has been increased so benefits and motives of this trend can be study in future. Financial instruments which are trading in different stock markets differ according to the needs of market. Why needs of different markets differ and how this difference affect the demand of different financial instruments will be an interesting work. Introduction of new of financial products in stock market could be considered as a good topic of research.
### Appendix A

*Detailed Comparative Facts Sheet*

<table>
<thead>
<tr>
<th>Factors</th>
<th>KSE</th>
<th>LSE</th>
<th>OMXS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formed</strong></td>
<td>Formed on September 18, 1947</td>
<td>Formed in 1773</td>
<td>Formed in 1863</td>
</tr>
<tr>
<td></td>
<td>Incorporated on March 10, 1949</td>
<td>Converted in Regulated Exchange in 1801</td>
<td>In 1998 merged with OMX Nordic Exchange and Converted into OMX Nordic Exchange Stockholm AB (OMX Stockholm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incorporated as Private Limited Company in 1986</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Converted in Public Limited Company in 2001</td>
<td></td>
</tr>
<tr>
<td><strong>Organization Structure</strong></td>
<td>Guarantee Limited Company</td>
<td>Public Limited Company</td>
<td>Subsidiary of OMX AB, a Public Limited Company</td>
</tr>
<tr>
<td></td>
<td>Non-Profit Organization</td>
<td>Owned by the Stockholders</td>
<td>Owned by the Stockholders</td>
</tr>
<tr>
<td></td>
<td>Owned by 200 Members</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Regulatory Body</strong></td>
<td>Securities and Exchange Commission of Pakistan (SECP)</td>
<td>Financial Services Authority (FSA)</td>
<td>Swedish Financial Supervisory Authority (Finansinspektionen)</td>
</tr>
<tr>
<td><strong>Indices</strong></td>
<td>KSE 100 Index</td>
<td>FTSE 100</td>
<td>OMX Stockholm 30 (OMXS30)</td>
</tr>
<tr>
<td></td>
<td>KSE All Share Index</td>
<td>FTSE 250</td>
<td>OMX Stockholm All-Share Index (OMXS)</td>
</tr>
<tr>
<td></td>
<td>KSE 30 Index</td>
<td>FTSE 350</td>
<td>OMX Stockholm Benchmark (OMXSB)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTSE All-Share</td>
<td>-OMX Stockholm Sector indexes (SX)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTSE AIM UK 50</td>
<td>OMRX - interest-rate indexes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTSE AIM 100</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>FTSE AIM All-Share</td>
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<td>FTSE techMARK 100</td>
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<td>FTSE techMARK All-Share</td>
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<td>FTSE techMARK mediscience</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTSE Small Cap</td>
<td></td>
</tr>
<tr>
<td><strong>Listed Companies</strong></td>
<td>645 Companies (as on May 2008)</td>
<td>Total Listed Companies 3286</td>
<td>Over 856 listed on OMX Nordic Exchange (as on April 2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Domestic 2567</td>
<td>268 Listed on OMXS (as on May 2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Foreign 719 (as on February 2008)</td>
<td></td>
</tr>
<tr>
<td><strong>Market Capitalization</strong></td>
<td>US $ 73.90 billion</td>
<td>Main Market £3,500 billion</td>
<td>OMX Nordic Exchange 794 billion Euro</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AIM £37 billion</td>
<td>OMXS 380 billion Euro (as on April 2008)</td>
</tr>
<tr>
<td><strong>Trading Markets</strong></td>
<td>Regular Market</td>
<td>Main Market for Large Companies</td>
<td>Not Available</td>
</tr>
<tr>
<td></td>
<td>Future Market</td>
<td>Alternative Investments Market (AIM) for Smaller Companies</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EDX London for Derivative trading</td>
<td></td>
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</tr>
<tr>
<td>Trading Securities</td>
<td>Mode of Trading</td>
<td>Clearing and Settlement Process</td>
<td>Main Player of Clearing and Settlement Process</td>
</tr>
<tr>
<td>--------------------</td>
<td>----------------</td>
<td>---------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Shares</td>
<td>Through Electronic Trading System, KATS (Karachi Automated Trading System)</td>
<td>Major part through electronic system</td>
<td>The Central Depository Company (CDC)</td>
</tr>
<tr>
<td>Bonds</td>
<td></td>
<td>Some companies still trading physically</td>
<td>The National Clearing Company of Pakistan Limited (NCCPL)</td>
</tr>
<tr>
<td>Modarabas Certificates Of Listed Companies</td>
<td>Through Electronic Trading System SETS (Stock Exchange Electronic Trading Service)</td>
<td></td>
<td>Euroclear UK and Ireland (CREST) as the UK’s central security depository</td>
</tr>
<tr>
<td>Mutual Funds Certificates</td>
<td></td>
<td></td>
<td>LCH.Clearnet as Clearing House</td>
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<tr>
<td>Futures</td>
<td></td>
<td></td>
<td>The Swedish central securities depository (CSD)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>The Swedish central bank manages electronic cash clearing system K-RIX</td>
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<tr>
<td>Ordinary Shares</td>
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<tr>
<td>Bonds</td>
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<tr>
<td>Covered Warrants</td>
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<tr>
<td>Exchange Traded Commodities</td>
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<tr>
<td>Exchange Traded Funds</td>
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<td>Global Depositary Receipts (GDRs)</td>
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<td>Structured Products</td>
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<td>Contracts for Difference (CFDs)</td>
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<td>Derivatives (Options and Futures)</td>
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<td>Equities</td>
<td>Through Electronic Trading System</td>
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<tr>
<td>Equity rights, bonus subscriptions, interim shares, etc.</td>
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<td>Convertibles</td>
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<tr>
<td>Warrants</td>
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<tr>
<td>Mutual funds</td>
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<td>Equity options and futures</td>
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<td>Index options and futures</td>
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<td>Government bonds</td>
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<tr>
<td>Mortgage bonds</td>
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<td>Corporate bonds</td>
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<tr>
<td>Premium bonds</td>
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</tbody>
</table>

Source: Author’s Collected Information from Official Websites of Three Exchanges
References:

Reference of Books:


Reference of Articles:


**Reference of Websites:**


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