

## **Information Technology (IT)**

IT Plays a dominant role in the management of Stock Exchange World over. IT has transformed the working of Stock Exchange in the global scenario. The rapid advances in information technology has determined important changes and innovation in the operation of Stock Exchange. Some changes have been a direct consequence of the physical presence implied by floor based trading systems and the result of new risks and opportunities that technology development on trading Mechanisms pose and make available to market participants and the market as whole. Information and Technology advances have produced, and continue to determine important changes also in way trading activity is carried out, thereby affecting market dynamics, price formation mechanism and price volatility. IT has impact on management of Stock Exchange through reporting and surveillance activity, allows regulators to assess the adequacy of any regulatory measures in place, the information acquired through market supervision and enforcement activities represent a crucial factor to adapt and, eventually, develop regulatory measures at the same time, a continuous market surveillance activity has to take into consideration the new and changed market signals.

The role of Stock Exchange as a major pillar at the Capital Market for any country cannot be over emphasised. They provide the market sufficient fund for raising project; here the importance of Stock Exchange becomes very essential to any Economy. Through the Market Capitalization the concept of Working Capital is very important to any firm. The role of Secondary Market is the main factor, whereas firm can obtain the funds by selling the stocks, which ensure the liquidity to the firm.

It is very important that the Secondary Market be highly liquid and transparent. The eligibility of Stock and bond for tracing in the Secondary

Market is regulated through Financial Supervisory Authorities and the rules of the Market place in question, which could be Stock Exchange.

Stock Brokers see the Secondary Market as the Retail part of their business. They are dealing with many clients and many relatively small transactions. This can be contrasted with the Primary Market in Initial Public offering, which can be seen as the wholesale side of their business. After investments in liquid markets such as the Stock Exchanges are considered to be more desirable. then investments that are considered relatively illiquid speculators and market contribute to the liquidity of a market.

Market Capitalization is very crucial to the Economy at national and international levels, for liquidity and free mobilization of Capital.

Market Capitalization can exceed the size of the Gross Domestic Product (GDP) in several countries including the Emerging Economies.

Market Capitalization is influenced by changes in stock prices and new listings as well as by capital increases of already listed companies.

Equalisation emerged as an important imperative in the international and domestic policy.

### **Importance of Stock Exchanges**

One of the key advantages of Stock Exchange is that they are efficient medium for raising of resources and channelling savings from the general public by way of issue of equity, debt capital by joint stock companies which are listed on the Stock Exchanges. The second main benefits is the wide spread dissemination of information and the need to disclose adequate information not only for the quarterly or year end financial results but also major events which have an impact on the working of the company.

Stock Exchanges Encourage investment by providing places for buyers and sellers to trade securities and enables corporation to obtain funds to expand

their business. Stock Exchanges essentially function as secondary markets. By providing investors the opportunity to trade financial instrument, the Stock Exchange support the performance of primary markets. This arrangement makes it easier for corporation to raise funds that they need to build and expand their businesses. Corporations do not directly benefit from secondary market transactions. The Managers of a corporation closely monitor the price of the corporation's stock in secondary markets. One reason for this concern involves the cost of raising new funds for further business expansion. The price of company's stock in the secondary market influences the amount of funds that can be raised by issuing additional stock to the primary market.

Stock Exchanges encourage investment by providing secondary market. Stock exchanges also encourage investment in other ways like they protect investors by upholding rules and regulations that ensure buyers will be treated fairly and receive exactly what they pay for. Exchange also support- state- of- the- art Technology and business of the brokering. This support helps traders buy and sell securities quickly and efficiently. Of course, being able to sell security in the secondary market increaser the relative safety of investing because investors can unload a stock that may be on the decline or that faces an uncertain future.

According to the world federation of exchanges, Stock Exchange world over now report a market capitalization of \$ 45 Trillion, a trading value of USD 41 billion and listing of about 40000 companies and mobilized capital to the tune USD 4 trillion during the period 1995 and 2002. With international evidence of Equity Market liberalization by strong policy support, Equity market showed spectacular growth in the decade of 1990s with world market capitalization growing by 141 percent and trading volumes by 450 percent.

**The Bombay stock exchange (BSE) in India and Amman stock exchange (ASE) in Jordan have been leaders in their area**

The Stock Exchange, Mumbai was established in 1875 as (The Native Share and Stock Brokers Association), it is the oldest one in Asia.

It is non-profit making Association of Persons and is currently engaged in the process of converting itself into dematualized and corporate entity it has evolved over the years into its present status as the premier Stock Exchange in India. It is the first Stock Exchange in India to have obtained permanent recognition in 1956 from the Government of India under the Securities Contracts (Regulations).

BSE is the main contributor to Indian Capital Market whereas the Market Capitalization as on July 2005 is about Rs. 20 Trillion.

The Exchange, while providing one efficient and transparent market for trading in Securities, debts and derivatives upholds the interests of the investors and ensures redressal of their grievances whether against to educate and enlighten the investors by conducting investors education programmers and making available to them necessary informative inputs.

The Amman Stock Exchange (ASE) is a membership Organization owned and governed by its holders the Amman Stock Exchange has a dominant position to Jordanian Financial Market with Market Capitalization of JD 4477 mm at the end of (2001). A successful market infrastructure is a crucial role in market operation based on extension to the resources based theory of strategy. We examine how the Amman Stock Exchange's Information Technology Investment have enabled higher volumes of transaction processing which in turns has led to the need for increasing Investment in Information Technology. Using Amman Stock Exchange data on Information Technology Investment and Market Characteristics it is propose to illustrate the Exchange's use of Information Technology to create a set of Resources to try and sustain its competitive position.

## **Objectives of the Study**

The objectives of this study are as under:

1. To identify the role of IT in management of BSE & ASE.
2. To focus attention on increasing efficiency of Stock Exchange through IT.
3. To review the Existing application of IT on management of Stock Exchange.
4. To assess the IT impact on Management of Stock Exchanges.
5. To checkout the places of weakness due to lack of IT applications at BSE and ASE.
6. To make a study record of BSE and ASE management performance.

## **Statement of the Problem**

This study mainly focus attention on the management of Amman Stock Exchange (ASE) and Bombay Stock Exchange (BSE), through Information Technology (IT). The study evaluated the role of IT on management of Stock Exchange through Existing Technologies, which have been adopted by them. The study made a comparison between BSE and ASE relating to Technology applied to the management level. This study show the necessity of Information Technology to Management of Amman Stock Exchange (ASE) and Bombay Stock Exchange (BSE) to maintain more crucial role of BSE and ASE to Indian Economy as well Jordanian Economy through market capitalization, which ensure progressive Environment Direct Foreign Investment (DFI) in India and Jordan.

Due to the above mentioned points the study paid attention on the importance of Information Technology for management of ASE and BSE and

also to apprise the impact of previous Techniques and models which were adopted and implemented at ASE and BSE.

## **Hypothesis**

The study tested hypotheses as under:

- 1- That the management of Amman stock exchange (ASE) is better than Bombay stock exchange (BSE).
- 2- That the information technology (IT) application to Bombay stock exchange (BSE) is better than Amman stock exchange (ASE).

## **Research Methodology**

Variety of source of Data has been examined to collect relevant statistical information on the real and financial variables in order to test various hypotheses. Known statistical technique namely, Regression and Correlation studies have been apply. Published data used profusely, however personal visit had been arrange for analysis

## **Source of Data**

The following sources have been use: -

1. Central Bank of Jordan, Annual Reports.
2. Amman Stock Exchange, Annual Reports and Monthly Bulletins.
3. Department of General Statistics, Government of Jordan.
4. Ministry of Finance, Economic Surveys, Government of Jordan.
5. International Financial Statistics (IMF)
6. World Bank, Reports
7. And other Reliable sources of Data.
8. Stock Exchange, Mumbai (BSE), Annual Reports and monthly Bulletins.

### **Limitations of The study**

This study is concerning in the issue of Information Technology and its impact on Amman Stock Exchange (ASE) and Bombay Stock Exchange (BSE) to Evaluate and Examine the role of Information Technology, on management of Amman Stock Exchange and Bombay Stock Exchange. This study had a limitation regarding the history of installing and using information technology in Amman Stock Exchange and Bombay Stock Exchange (BSE). The study operates within the related issues of Amman Stock Exchange and other activities of markets. This study would be an Information Technology's measuring the performance of management at Stock Exchanges. Our study would be a theoretically as well as empirically strong with Analysis.

**Chapter Scheme:** The following outline of chapters would incorporates the conducted study:-

**Chapter-I:-** The first chapter concentrates on Introduction. IT and Stock Exchange, Importance of Stock Exchanges, Objectives of the study statement of the problem, Hypothesis, Research Methodology limitations of the Study, Chapter Scheme.

**Chapter-II:-** the second chapter focused on the IT infrastructure in India and Jordan. Showing the range and level of IT implementation at both of them. It is also spotting the light on the size of IT sector and IT reality on ground in India and Jordan.

The term information technology has ballooned to encompass many aspects of computing and technology, and the term has become very recognizable. IT professionals perform a variety of duties that range from installing applications to designing complex computer networks and information databases. A few of the duties that IT professionals perform may include data management, networking, engineering computer hardware, database and software design, as well as the management and administration of entire systems. Therefore the stock exchange is directly benefited with the changing high tech scenario. Thus when computer and communications technologies are combined, the result is information technology, or "InfoTech". Information technology is a general term that describes any technology that helps to produce, manipulate, store, communicate, and/or disseminate information. Presumably, when speaking of Information Technology (IT) as a whole, it is noted that the use of computers and information are associated. Information technology revolution is rising above the barriers of time and place, assuring businesses and people new strategies and policies while paving the way towards a more efficient worthwhile future.

Around the globe, e-commerce is the subject of concentrated interest in many sectors: in government, business, service sectors, consumers, and academics. E-commerce has expanded from the closed world of business to business transactions amongst known parties to encompass a complex web of different activities, involving large numbers of individuals, many of whom may never meet each other. It has implications in economic and social life and its development is sharing in a new era of global communication and trade. It has the potential to fundamentally change the way commercial transactions, the business of government, the delivery of services and a host of other interactions are conducted, raising issues at the heart of policies directed at the regulation of traditional practices and procedures. Of greatest impact is the shrinking of the distance between producers and consumers, in an environment where geographical boundaries are no longer as significant as in the paper-based world.

Jordan is witnessing rapid developments in industrial modernization, liberalization of trade and information technology. The successful penetration of the Internet services into Jordanian business offices, manufacturing plants, schools and universities, governmental departments and ministries and households is becoming a reality. Many Jordanian businessmen are becoming more convinced that the Internet is the place to do business. Those who are learning the benefits of the Internet are looking for ways and means in order to develop their business manipulation, upgrade their resources, extent their marketing networks, and accomplish successful local and foreign sales.

As for Jordan, both the government and the private sector are interested in benefiting from those facilities by introducing the concepts of e-government and e-commerce. The government of Jordan already started a program called e-government in order to offer such services 24 hours a day, and seven days a week for the whole year around. As most of the people prefer to achieve such a job during the weekends, and that could be done by using e-government. Jordan has convenient telecommunication facilities among neighbouring countries. It applies the latest technologies in telephone and Internet services. The use of credit card and Internet is intensified. It is worth mentioning that e-commerce in Jordan is convenient, minimal e-commerce transaction is in practice. Some institutions and firms have websites, while actual on-line selling and buying is not that much occurring neither locally nor international. The application of e-commerce in Jordan is influenced by number of elements. The first is cultural resistance, which prevents consumers to use the Internet for trade with unseen and unknown parties. Moreover, language is considered as another factor of hindrance as local population relates more to Arabic sites, and that in turn encourage converting the language of foreign sites

The most important reason for the lack of e-commerce practice is the combination of the lack of awareness about what e-commerce practice is, and what kind of available solutions, in addition to the absence of legal mechanisms to protect transactions and consumers from on-line deceiving.

It is worth mentioning that Jordan is showing anxiousness towards e-commerce and e-government. E-commerce infrastructure in Jordan, It is composed of the followings:

- Jordan Telecom Group, which is composed of four companies:
- Jordan Telecom, Mobile Com, e-dimension and Global One.
- Internet service providers (ISPs)
- Website Development
- Fast link
- On-line mole (Jormall.com)
- EU funded projects
- National Information Canter
- The Reach initiative
- E-banking
- Logistics
- E-government initiative
- Laws and legislation
- Ministry of Education program for human resource development.

Bombay Stock Exchange is the oldest stock exchange in Asia with a rich heritage, now spanning three centuries in its 133 years of existence. What is now popularly known as BSE was established as "The Native Share & Stock Brokers' Association" in 1875.

BSE is the first stock exchange in the country which obtained permanent recognition (in 1956) from the Government of India under the Securities Contracts (Regulation) Act 1956.

BSE's pivotal and pre-eminent role in the development of the Indian capital market is widely recognized. It migrated from the open outcry system to an

online screen-based order driven trading system in 1995. Earlier an Association of Persons (AOP),

BSE is now a corporative and demutualised entity incorporated under the provisions of the Companies Act, 1956, pursuant to the BSE (Corporatisation and Demutualization) Scheme, 2005 notified by the Securities and Exchange Board of India (SEBI). With demutualization, BSE has two of world's best exchanges, Deutsche Bores and Singapore Exchange, as its strategic partners. Over the past 133 years, BSE has facilitated the growth of the Indian corporate sector by providing it with an efficient access to resources.

There is perhaps no major corporate in India which has not sourced BSE's services in raising resources from the capital market. Today, BSE is the world's number 1 exchange in terms of the number of listed companies and the world's 5th in transaction numbers.

The market capitalization as on December 31, 2007 stood at USD 1.79 trillion. An investor can choose from more than 4,700 listed companies, which for easy reference, are classified into A, B, S, T and Z groups.

The BSE Index, SENSEX, is India's first stock market index that enjoys an iconic stature, and is tracked worldwide. It is an index of 30 stocks representing 12 major sectors. The SENSEX is constructed on a 'free-float' methodology, and is sensitive to market sentiments and market realities. Apart from the SENSEX, BSE offers 21 indices, including 12 sectoral indices. BSE has entered into an index cooperation agreement with Deutsche Bores.

This agreement has made SENSEX and other BSE indices available to investors in Europe and America. Moreover, Barclays Global Investors (BGI), the global leader in ETFs through its shares brand, has created the shares BSE SENSEX India Tracker' which tracks the SENSEX. The ETF enables investors in Hong Kong to take an exposure to the Indian equity market. The first Exchange Traded Fund (ETF) on SENSEX, called "Spice" is listed on BSE. It brings to the

investors a trading tool that can be easily used for the purposes of investment, trading, hedging and arbitrage. Spice allows small investors to take a long-term view of the market.

BSE provides an efficient and transparent market for trading in equity, debt instruments and derivatives. It has a nation-wide reach with a presence in more than 359 cities and towns of India. BSE has always been at par with the international standards.

The systems and processes are designed to safeguard market integrity and enhance transparency in operations. BSE is the first exchange in India and the second in the world to obtain an ISO 9001:2000 certification. It is also the first exchange in the country and second in the world to receive Information Security

Management System Standard BS 7799-2-2002 certification for its BSE On-line Trading System (BOLT). BSE continues to innovate. In recent times, it has become the first national level stock exchange to launch its website in Gujarati and Hindi to reach out to a larger number of investors. It has successfully launched a reporting platform for corporate bonds in India christened the ICDM or Indian Corporate Debt Market and a unique ticker-cum-screen aptly named 'BSE Broadcast' which enables information dissemination to the common man on the street.

In 2006, BSE launched the Directors Database and ICERS (Indian Corporate Electronic Reporting System) to facilitate information flow and increase transparency in the Indian capital market. While the Directors Database provides a single-point access to information on the boards of directors of listed companies, the ICERS facilitates the corporate in sharing with BSE their corporate announcements. BSE also has a wide range of services to empower investors and facilitate smooth transactions:

**Investor Services:** The Department of Investor Services redresses grievances of investors. BSE was the first exchange in the country to provide an amount of

Rs.1 million towards the investor protection fund; it is an amount higher than that of any exchange in the country. BSE launched a nationwide investor awareness programme- 'Safe Investing in the Stock Market' under which 264 programmes were held in more than 200 cities.

**The BSE On-line Trading (BOLT):** BSE On-line Trading (BOLT) facilitates on-line screen based trading in securities. BOLT is currently operating in 25,000 Trader Workstations located across over 359 cities in India.

**BSEWEBX.com:** In February 2001, BSE introduced the world's first centralized exchange-based Internet trading system, BSEWEBX.com. This initiative enables investors anywhere in the world to trade on the BSE platform.

**Surveillance:** BSE's On-Line Surveillance System (BOSS) monitors on a real-time basis the price movements, volume positions and members' positions and real-time measurement of default risk, market reconstruction and generation of cross market alerts.

**BSE Training Institute:** BTI imparts capital market training and certification, in collaboration with reputed management institutes and universities. It offers over 40 courses on various aspects of the capital market and financial sector. More than 20,000 people have attended the BTI programmes.

**Chapter-III:-** The third chapter firstly view the country's profile of both countries India and Jordan . Showing some of cultural characteristic of them also review the existing literature on IT and its related role in business and economic sectors.

Jordan, officially the Hashemite Kingdom of Jordan, is an Arab country in the Middle East. It is bordered by Syria to the north, Iraq to the north-east, Saudi Arabia to the east and south, and Israel and Palestine to the west. It shares with Israel and Palestine the coastlines of the Dead Sea, and the Gulf of Aqaba with Israel, Saudi Arabia, and Egypt. Jordan is a Middle Eastern country, bordered by Syria to the north, Iraq to the northeast, Saudi Arabia to the east and south and Israel and West Bank to the west. All these border lines add up to 1,619 kilometres (1,006 mi).

Most Jordanian are Muslims, including the non-Arab Caucasians, belong to the Sunni sect of Islam. The Caucasians - as well as the other Jordanian minority, the Chechens - were originally from the Caucasus area of Russia. Christianity is the second religion in Jordan (around 5% of the population). Most of Christians belong to Greek Orthodox Church and the rest divided among other dominants like Greek Catholic, Syrian Orthodox, Armenians Orthodox, and Protestants. 99% of Jordanians Christians share mutual roots with their Muslim brothers as Arabs, except the Armenians who they descended from Armenia, after Turkish genocide during the First World War.

Ancient civilization in India reveals marvellous facts about our heritage. It is a eye opener as to how kingdoms ruled and how people went about life in a logical way. Though medieval, it is actually amazing to find how people transacted and went about building dams and tended to the chief occupation which was agriculture. Dance and rituals were always a part of Indian culture and this was the chief mode of entertainment. Indian culture is also about respecting elders, honouring heroes and cherishing love. It is a land of aspirations, achievements and self reliance. Indian culture has a very high level

of tolerance and hence the advent of so many external cultures was not restricted. Adaptation to any culture or embracing a religion was always the democratic culture.

Indian history is about war heroes during Indus valley civilization and the initial time when currency was coined. Indian history talks a lot about self reliance especially in terms of food and agricultural produce. This was the great effort put in by the farmers and support received through irrigation. The modern agriculture also shows a lot of indigenous methods of preserving the produce. The Chola dynasty, the great King Emperor Ashoka and the secular era of Emperor Akbar will always be green in our memory. Several books are written on the rich Indian culture wherein the saints preserved the Vedas and scriptures.

There are shlokas and mantras i.e. chants that can evoke positive energy and revoke enthusiasm in life. The rich culture of yoga as a part of life and the Goodness of ayurveda has now got a universal lifestyle approach. Our roots are strong and despite the westernization and access to technology, the distinct Indianness is still maintained whilst celebrating Diwali or observing the Shravan fast. This is also believed to be a land of Lord Rama which is Ayodhya or the birthplace of “Sri Krishna” is considered as Mathura. The birth of Sikh religion and the reverence felt by all Indians is still intact. Indians are extremely secular and especially in the metros there is seamless blending of Indians during Xmas and Id.

Ethnic charm is exuded in simple outfits in India. The tropical climate is well adapted to the range of muslins and cottons. The mixed variety in cotton goes from viscose, polycot and also cotton silk which have sheen of its own. Attires are very much about the region and climate. The Himalayan costume is suited for the environment where the dress is a blanket wrap in red and black secured

with a ethnic pin. The ornaments or jewellery is a festive adornment with a big red bindi to complete the outfit.

During the mid of 1980s Porter and Miller (1985) offer a framework for Analysing the strategic significances of Information Technology. But Johnson and Vitale (1986) focus on strategic advantage from Inter-organizational System. Venkatraman and Zaheer (1990) conducted a Quasi- Experimental field study of strategy and Information Technology in the Insurance Industry and found that Insurance Agencies that Adopted new Technology generated more new Business, though these Agencies began with better history of new business than matched that had not yet implemented new system. Clemons and Weber (1990a) examined the 1986 Big Bang reforms of London Stock Exchange, and conclude that Information Technology and the exchange's new screen based market were 'Strategic Necessity'. Clemons and Weber (1990b) Clemons (1991) present a framework for evaluating strategic Information Technology Investment and Clemons and Row (1991) provide an analysis of the role of Information Technology in the rapid growth of Rasenbluth Travel, worldwide Philadelphia Travel Agency. Coplend and Mac Kenney trace the history of Computerized Reservations System (CRS) and the strategy (CRS) vendors during from the development of these systems in the mid 1960s. Duliba, Kauffman and Lucas (2001) extend this study using a Framework of co-specialized assets to show the benefits of CRS vendor's strategy of developing their systems to the travel Agencies

Comparative study is being made after reassess of literature that the study is concerning in the issue of Information Technology and its impact on Amman Stock Exchange (ASE) and Bombay Stock Exchange (BSE) to Evaluate and

Examine the role of Information Technology, on management of Amman Stock Exchange and Bombay Stock Exchange. This study has a limitation regarding the history of installing and using information technology in Amman Stock Exchange and Bombay Stock Exchange (BSE). The study will also operate within the related issues of Amman Stock Exchange and other activities of markets.

**Chapter-IV:-** the fourth chapter focused on mass understanding and acceptability of IT through enhancing and introducing national programmes and initiatives for mass understanding and the awareness about the role of IT in this speeding era.

The global economy is increasingly, more open and competitive. Countries that are more innovative and productive are capturing a greater share of the world's trade, investment and jobs. In this context, His Majesty King Abdullah II has pointed Jordan in the direction of becoming a knowledge-based economy and society.

The success in the knowledge economy demands increasingly higher skill levels, especially greater facility with information and communications technologies. Accordingly, the government of Jordan decided to reform the national education system to foster more creative, critical thinking and collaborative capacities in its students and graduates as well as its adult learners. Increased opportunities to learn with computers and networks are a central part of this transformation.

In order for the Jordanian citizen to have ready access to Information and Communications Technologies (ICT), Jordan's schools, universities and colleges need to be connected via networks at a level and speed that can support the

rapid growth of network traffic demand over the long term. Equally important, the knowledge stations, which provide convenient and affordable public access to computers and the Internet, need improved network support.

### **NBN Programme Scope:**

1. University Broadband Network - connecting 8 public universities at 9 sites.

On January 14<sup>th</sup>, 2003 the Government of Jordan has approved the implementation of the University Broadband Network. MoICT was mandated to implement the network and hand it over to JUNET, a non profit organization that represents the Jordan's public universities, that is responsible to operate and maintain the network.

2. School Broadband Network, connecting 3300 public schools, 100 knowledge stations, 17 public community colleges and 12 learning resource centres.

On June 25<sup>th</sup>, 2003 the Government of Jordan has approved the implementation of the School Broadband Network. MoICT was mandated to implement and operate the network.

### **NBN Programme Objectives:**

- *Contributing to development of the Jordanian Educational System:*

Promote the usage of ICT for learning purposes at universities, schools, community colleges and learning resources Kingdom wide through a fiber optics broadband network.

- *Contributing to development of the Jordanian Social System:*

Support the knowledge stations in developing the ICT capabilities of communities through broadband access to applications and the internet.

Enhance the deployment of ICT throughout the Kingdom by laying the foundation for new services.

- *Contributing to development of the Jordanian economic system:*

Stimulate economic development by subcontracting the build up of the network to local and foreign contractors.

**NBN Programme Key Stakeholders:**

- Ministry of Information and Communications Technology (MoICT)
- Ministry of Education (MoE)
- Ministry of Higher Education (MoHE)
- Jordan Education Initiative (JEI)
- Jordan Universities Network (JUNET) a non profit organization
- Public Security Department
- Royal Jordanian Air Force
- Aqaba Special Economic Zone Authority (ASEZA)
- National Electric Power Company (Nepco)
- Electricity Distribution Company (EDCO)
- Irbid District Electricity Company (IDECO)
- Batelco Jordan

**NBN Programme Accomplishments:**

According to the programme the strategy formulate that the Jordon stock exchange is in it fore stage therefore grant strategy required.

**University Broadband Network:**

Constructed a Broadband Network connecting all 8 public Universities and the network is operational since June 30th, 2004 and was officially launched on

September 13th under the Royal Patronage of HM King Abdullah II (The operation and maintenance of the network is now the responsibility of JUNET) Constructed the network through utilization contract to use dark fiber cables from National Electric Power Company (Nepco) as a backbone for this network. The connection of universities sites with Nepco's sites was done through civil works, fiber cables and equipments through MoICT and Nepco.

- Signed an indefeasible right of use agreement with JUNET and Nepco.
- Connected the Ministry of Higher Education to the University Network.
- Connected the University Network through a consolidated internet gateway
- Connected the University Network to the European educational network GEANT- Eumedconnect

### **Strategy:**

Before we can propose what actions an IT organization should take to position itself for IT fighting, it is necessary to fully understand strategy and its derivative concepts of strategic thinking, strategic frameworks, strategic paradox, and strategic planning. Strategy and all its associated terminology are part of the everyday vernacular and what is meant is often erroneously assumed. Strategy is a discipline just like mathematics, logic, computer science, or politics. It is first necessary to understand the definition of each concept and its implications before developing a strategic response. It is one of the most puzzling and persistent contradictions of our times that while strategy compounds in importance as one climbs the corporate ladder and the times grow more chaotic, there is routinely little to no formal training in strategy conducted and, amazingly, people are routinely told to develop a strategy without any formal preparation whatsoever. To engage in superior information age IT fighting, we will need to do significantly better than that.

From an academic perspective, the purpose of strategy is to provide direction, concentration of effort (focus), constancy of purpose perseverance), and flexibility (adaptability) as a business relentlessly strives to improve its position in all strategic areas. Strategy is mathematics and is equal to direction plus focus plus perseverance plus adaptability. At a very pragmatic level, strategy can be viewed simply as finding a way short (the shorter the better) of *brute force* to accomplish one's ends. Strategy should be comprehended as the movement from a current position to a more desirable future position but with economies of time, effort, cost, or resource Utilization. There is neither elegance nor insight in brute force, but there must be both in strategy.

### **Strategic thinking:**

Strategic thinking is the method that strategists use to think about things. It is quite different from the daily thinking that governs our routine and daily lives. Figure (3-4) illustrates the three dimensions of strategic thinking:

- *Time*: Strategists think across time. They think about a problem from the perspectives of the past, the present, and the future.
- *Substance*: Strategists think about problems in turns of both their concrete and abstract natures.

*Cardinality*: Strategists think about multiple issues concurrently. Synthesis, not analytical decomposition, lies at the heart of strategic thinking.

**Chapter-V:-** The Fifth Chapter offers the legal issues and regulations in India and Jordan regarding all aspects of intellectual property Rights as Patents, Trademarks, Copy Rights. The objective in the protection of property rights, just for encouraging the spirit of creativity and development.

Intellectual property rights in Jordan are generally regulated by the following statutes'.

- Patents: The current statutes concerning patents are Law 22/1953 and Law 8/1986.
- Trademarks: The current statutes concerning trademark law is Law 33/1952 and the current statute concerning merchandise generally is Law 19/1953.
- Copyrights: The current statute concerning copyright is Law 22/1992 with related Regulation 4/1994

According to the Jordanian Copyright Act a work can be protected unless it is deposited at the Ministry of Culture. Foreign works by non-Jordanians first published outside of Jordan and not republished in Jordan are not protected, and thus a significant segment of copyrightable work circulating in Jordan at this moment is not subject to the Jordanian Copyright law.

It is my understanding that the Jordanian government is in the process of amending all of the current laws related to intellectual property

Protection in order to bring them up to the international standards as a step towards the ratification of other international convention.

There is a lack of understanding about the nature of intellectual property rights and their protection, particularly in the copyright area. Accordingly, the most important task for Jordan is undertake a public sector and private sector educational and public relations program to create public awareness as to the identity of intellectual property rights, as well as the importance of such rights. There is no doubt that once Jordan joins the WTO and accordingly the TRIPS agreement a number of changes will affect the Jordanian economy. It is. However, expected that the overwhelming impact is going to be positive

. Therefore Protection of Intellectual Property Rights is increasingly becoming a factor to be considered in the process of technology transfer, technology development, industrial and economic progress, export trade, identifying of new markets and their retention, the promotion of national inventive and innovative activity.

The first Indian patent laws were first promulgated in 1856. These were modified from time to time. New patent laws were made after the independence in the form of the Indian Patent Act 1970. The Act has now been radically amended to become fully compliant with the provisions of TRIPS. The most recent amendment was made in 2005 which were preceded by the amendments in 2000 and 2003. While the process of bringing out amendments was going on, India became a member of the Paris Convention, Patent Cooperation Treaty and Budapest Treaty.

### **Copyrights:**

Copyright is a right, which is available for creating an original literary or dramatic or musical or artistic work. Cinematographic films including sound track and video films and recordings on discs, tapes, perforated roll or other devices are covered by copyrights. Computer programs and software are covered under literary works and are protected in India under copyrights. The Copyright Act, 1957 as amended in 1983, 1984, 1992, 1994 and 1999 governs the copyright protection in India. The total term of protection for literary work is the author's life plus sixty years. For cinematographic films, records, photographs, posthumous publications, anonymous publication, works of government and international agencies the term is 60 years from the beginning of the calendar year following the year in which the work was published. For broadcasting, the term is 25 years from the beginning of the calendar year following the year in which the broadcast was made.

Computer programme in the Copyright Act has been defined as a set of instructions expressed in words, codes, schemes or any other form, including a machine-readable medium, capable of causing a computer to perform a particular task or achieve a particular result. It is obvious that algorithms, source codes and object codes are covered in this definition. It is advisable to file a small extract of the computer program at the time of registration rather than the full program. It is important to know that the part of the program that is not being filed, would remain a trade secret of the owner but would have to be kept well guarded by the owner. It may be noted that computer programs will become

important in the area of medicines when one talks about codification of DNA and gene sequencing. Generally, all copyrightable expressions embodied in a computer program, including screen displays, are protectable. However, unlike a computer program, which is a literary work, screen display is considered an artistic work and therefore cannot be registered through the same application as that covering the computer program. A separate application giving graphical representation of all copyrightable elements of the screen display is essential. In the digital era, copyright is assuming a new importance as many works transacted through networks such as databases, multi media work, music, information etc. are presently the subject matter of copyright.

#### **The Securities and Exchange Board of India ACT, 1992:**

An Act to provide for the establishment of a Board to protect the interests of investors in securities and to promote the development of, and to regulate, the securities market and for matters connected therewith or incidental there to This Act may be called the Securities and Exchange Board of India Act, 1992. It extends to the whole of India. It shall be deemed to have come into force on the 30th day of January, 1992.

**Chapter-VI:-** The Sixth chapter It includes comprehensive display of the most important conclusions found out by The researcher; the suitable recommendations may see fit in light with study finding which may help to improve the performance of stock exchanges.

The Research is common parlance refers to a search for the educate knowledge of Information Technology Management in Stock Exchange ASE & BSE. Research is scientific and systematic search for pertinent information on Stock Exchange. In fact, research is an art of scientific investigation. We all possess the vital instinct of inquisitiveness for, when the unknown confronts us, we wonder and our inquisitiveness makes us probe and attain full and fuller understanding of the unknown. This

inquisitiveness is the mother of all knowledge and the method, which man employs for obtaining the knowledge of whatever the unknown research is an academic activity and as such the term should be used in a technical sense. Research is, thus, an original contribution to the existing stock of knowledge making for its advancement. It is the pursuit of truth with the help of study, observation, comparison and experiment. In short, the search for knowledge through objective and systematic method of finding solution to a problem is research. The systematic approach concerning generalization and the formulation of a theory is also research. As such the term 'research' refers to the systematic method.

### **Objectives of Research:**

The purpose of this research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth in Stock Exchange which is hidden and which has not been discovered as yet after application of Information Technology. Though each research study has its own specific purpose, we may think of research objectives as falling into a number of following broad groupings:

- To gain familiarity with a phenomenon or to achieve new insights into the application of Information technology tools in Stock Exchange.
- To portray accurately the characteristics of a particular individual, situation or a group of investor.
- To determine the frequency with which Stock exchange regulates.
- To test a hypothesis of a causal relationship between variables i.e. ASE /BSE and investor.

### **Hypothesis:**

The study tested following hypotheses:

- That the management of Amman stock exchange (ASE) is better than Bombay stock exchange (BSE).
- That the information technology (IT) application to Bombay stock exchange (BSE) is better than Amman stock exchange (ASE).

**Chapter-VII:-** The seventh chapter includes the research findings through testing the hypothesis, after analysing the data which collected by qustainner.

In 1997, nearly 30 years after the establishment of Amman Financial Market (AFM), Jordan authorities realized that further improvements are needed in the Jordan capital market. Accordingly, AFM, which was entrusted with all duties of legislating, executing, and supervising, was replaced with three separate organizations to carry these duties independently, the Jordan Securities Commission (JSC), Amman Stock Exchange (ASE), and the Securities Depository Centre (SDC).

The ASE is currently one of the largest and fastest growing markets in the region and is open to local and foreign investors. It was established in 1976 and started operations in January 1978 with 66 listed firms and a total capitalization value of 286 million Jordan Dinars (JD). Currently, the exchange has 198 firms traded in two markets (first and second markets) with a total capitalization of more than JD 13 billion. Again summarized in to our knowledge, no studies have attempted to examine weak-form efficiency in the ASE at the sectoral level. In fact, most inquiries have investigated stock market efficiency using exclusively the general index. While this approach can provide a general idea on market performance, it fails to identify the specific sector(s) that may drive the market to be efficient or inefficient.

The assessment of sectoral efficiency is particularly important as it allows potential investors to formulate decisions based on more specific information. When efficiency is not evidenced consistently in the sectoral indexes as in the general index, this can cast doubts on whether the ASE is truly weak-form efficient. In contrast to all existing published literature pertaining to emerging markets or specifically the ASE, this inquiry tests the random walk and weak-form efficiency hypotheses using the variance ratio and runs tests of the general and sectoral (industry, service, banks, and insurance) indexes.

The Bombay Stock Exchange is known as the oldest exchange in Asia. It traces its history to the 1850s, when stockbrokers would gather under banyan trees in front of Mumbai's Town Hall. The location of these meetings changed many times, as the number of brokers constantly increased. The group eventually moved to Dalal Street in 1874 and in 1875 became an official organization known as 'The Native Share & Stock Brokers Association'. In 1956, the BSE became the first stock exchange to be recognized by the Indian Government under the Securities Contracts Regulation Act.

The Bombay Stock Exchange developed the BSE Sensex in 1986, giving the BSE a means to measure overall performance of the exchange. In 2000 the BSE used this index to open its derivatives market, trading Sensex futures contracts. The development of Sensex options along with equity derivatives followed in 2001 and 2002, expanding the BSE's trading platform. Historically an open-cry floor trading exchange, the Bombay Stock Exchange switched to an electronic trading system in 1995. It took the exchange only fifty days to make this transition.

#### **Some of the important Limitation of ASE:**

- Information tool are used in ASE still they are not advance.
- Fully Dematerialisation of share are still not their
- Online trading is still in pipe line.
- Networking is not effective
- No of company listed are less in comparison BSE but their size of company is huge.
- External environment is not very effective.
- Financial Crises management system is not very effective.

#### **Some of the important Limitation of BSE:**

- Information management of traders and brokers is not effective.

- Segmentation of share market is not appropriate according to trade activities taken.
- No of listed company are huge comparisons to infrastructure.
- Online trading is effective but still need high speed transactions.
- E-Commerce tools for trading are not very effective in Indian context.
- Policy and government procedures are effective.

Effective finance disaster management system.

### **Recommendation:**

- Effective implementation of rules and regulations required.
- The computer literacy required.
- Specific regulation should be made for small investors for their survivor.
- Attractive policies should be made to encourage new investors.

Requirements to becoming a member and for Listing, process need some relaxation in method.

**Chapter-VIII:-** The eighth chapter include the suggestions to BSE and ASE to maintain the problems and difficulties .also reviewing the final conclusions of this study.

BSE is the older, more managed and high tech comparison to ASE, while investors are more in number comparison to ASE but ASE has big capital listed companies. Political instability is high in neighbour countries which directly effect the external environment of ASE. Recent financial crises affect more ASE than BSE due to Arab Gulf investors and these countries are highly affected due to global recession.

BSE is older than ASE over a century, BSE consider the oldest stock exchange in Asia. ASE is established in 1978, shares market in Jordan predate the stock exchange, here, we find a gap of hundred years between BSE and ASE, that is mean we have a gap of experience and legacy , the long history of BSE perform as a parameter because BSE life span crossed three centuries, during this period India witnessed many political situation from British rule, first world war, then most important the great recession in thirties of last century , we can say BSE is a record of economic scenario of that time at least for Asia chapter .

Second World War, India was still under British rule, gained its independence in 1947, the period after this date till now witnessed two era of social economy till 1990, then the liberalization of its market. The point after this brief history, that BSE gained the flexibility and experience to overcome any tough situation in future.

The life span of ASE is 32 years, its age very simple comparing with BSE. But ASE faced dramatic situations from the first Gulf war, then the economic crises in 1988 and devaluating the Jordanian currency Dinar, the economic reform after 1995 according to conditions and rules of World Bank was a new push to ASE, because WB conditions insisted to give the private sector more space and facility. The Jordanian governments stepped further by lunching the privatization policy, where the private sector operates within new areas were under public sector control.

After the 2000 ASE had well performance , because utilized all the new government regulations and polices for encouraging investment , it was the golden age of ASE till the mid of 2006 , when the main index of ASE crossed 8000 points, but when the global financial crises began , the ASE performance was steadily downward, because has no American or European investment . The real sinking start when crises start effecting the Gulf countries, whereas the

most foreign investment consisted by Gulf countries investors, when they starting withdraw their investment from ASE in huge amount.

