Impact of Information Technology on Stock Markets

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INTRODUCTION

The emerging Indian market is forcing companies to segment buyers not only on traditional lines of demography and behavioral aspects but also on the basis of decision criteria. Some new segmentation parameters could be product awareness, brand awareness, value awareness, and delivery process and technology and information orientation. The information sensitive Indian buyer is today moving in the direction of increased expectation from products and services, value addition, reliability and response time. He is also more conscious of the performance and cost ration. This shift in the decision criteria, compiled with heightened awareness, will throw up new challenges for the market. This article is intended to present the impact of the information technology on market efficiency. Also, the adverse effects of the IT on stock markets are discussed.

Rapid innovation technology, especially in the field of information and communication and the liberalization of economies the world over have made corporate operations more complex. Today marketing has to deal with an entirely new set of challenges. In this present era of crumbling economic barriers and information explosion, the customer reigns supreme. He can source his products and services from any where in the world. His expectations in terms of product quality, price, ready delivery and value for money has gone up. Marketing has moved from competition to collaborative reconfiguration. The challenge before market is to meet the customer's expectations while making healthy profits and ensuring sustainable long term growth. The focus today is not on meeting the consumer's expectations but on exceeding them.

Information technology has profoundly changed and democratized securities markets. Growth in technology and communications has impacted every aspect of our business in some form or the other. Also, for the individual, the information technology has changed the conditions for market access. Today, for a large number of individual investors entry to the stock market can be done on their own, using new technology. The effects of information technology are enduring and have changed the way in which business is carried out in securities markets. Varieties of new financial instruments have flourished with the help of technological advances.

MARKET EFFICIENCY AND IMPORTANCE OF INFORMATION

When money is invested in the stock market, it is done with the anticipation of generating positive returns on the capital invested. The information available to the investor will be analyzed and processed for making decisions on the investments timely and thus making profits. Many investors try not only to make a profitable return but also to outperform, or beat, the market. If the information is not complete and not available to all the investors then only few investors having more information will be able to reap the benefits. Investors will be able to get reasonable returns in an efficient market. Efficiency of the market refers to informational efficiency i.e. how fast the information spreads in the market. In the age of information technology (IT), however, markets all over the world are gaining greater efficiency. IT allows for a more effective, faster means to disseminate information and electronic trading allows for prices to adjust more quickly to news entering the market. This brings the market to a reasonably equilibrium state.

Initially, market efficiency was formulated by Eugene Fama in 1970 in the form of efficient market hypothesis (EMH). He identified three classifications, which are aimed at reflecting the degree to which it can be applied to markets. Strong efficiency version, which states that all information in a market, whether public or private, is accounted for in a stock price. Even insider information would not give any advantage to the investor. Semi-strong efficiency - implies that all public information is calculated into a stock's current share price. Weak efficiency - claims that all past prices of a stock are reflected in today's stock price. For the market to be strongly efficient, it has to be large and liquid. Information has to be widely available in terms of accessibility and cost and released to investors at more or less the same time.

There is a significant effect of recent technological advances on the performance and efficiency of securities markets in India. The technological advancement has made it easier for new firms to go public and raise capital. The ease of going public also encourages other financial intermediaries that are crucial to the creation of new firms, such

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as the venture capitalists. Without the availability of accurate information, investors are unable to determine the price of securities and this may result in unwise investment decisions. Investors might avoid securities markets altogether and simply invest in cash. Indeed, the available empirical evidence indicates that the quality of financial information, as measured by accounting standards, is an important determinant of stock market development. In the absence of a broad base of investors with access to information, markets would stagnate, as only a few specialists with superior knowledge would be willing to hold securities.

ADVANTAGES OF INFORMATION TECHNOLOGY

During the days of floor based trading, investors had to totally depend on brokers and they were not aware of the price fluctuations as they transact the securities. There was lot of scope for investors getting cheated. Further the transaction costs were more as brokers used to charge around 3% of the transaction. With information technology, online trading was introduced and the entire system has become very transparent. Transaction costs have become much cheaper.

There are distinct advantages of the information technology.

First, technology allows information to be disseminated to a broad base of investors in real time and at low cost, thus expanding the universe of investors with access to information. Increased participation benefits the financial system by increasing the capital available for investment.

Second, technology also reduces the barriers to entry for providing financial services (e.g. market making and brokerage) and the resulting competition drives down transaction costs. In addition to facing lower commissions, institutional and retail investors – aggressively pursued by competing intermediaries - now enjoy unprecedented ease of trade execution via such innovations as online accounts. These changes are expanding market participation and facilitating dramatic increases in trading volume.

Third, the technology is indirectly improving the quality of investors' legal rights. In some areas, technology in conjunction with new regulations is leveling the playing field for individual investors.

Information technology led to dematerialization in the securities market.

Dematerialization is the process by which an investor can get physical certificates converted into electronic balances maintained in his account. It offers lot of advantages.

1. Immediate transfer of securities
2. No stamp duty on transfer of securities
3. Reduction in paperwork involved in transfer of securities
4. Elimination of risks associated with physical certificates such as bad delivery fake securities, etc.
5. Nomination facility
6. Reduction in transaction cost
7. Change in address recorded with Depository Participant (DP) gets registered electronically with all companies in which investor holds securities, eliminating the need to correspond with each of them separately
8. Convenient method of consolidation of folios/accounts
9. Transmission of securities is done by DP eliminating correspondence with companies
10. Holding investments in equity, debt instruments and Government securities in a single account

Technology enabled the cheap, real-time delivery of vast amounts of data to the financial markets. Any investor – institutional or retail – with an Internet connection now has 24-hour a day access to news, current and historical security prices, economic data, financial reporting data, analyst forecasts, investment advice, and the opinions of other investors (message boards, chat rooms). Further, web technology provides investors with continuous updates on the performance of their investment portfolios. The largest contribution of technology to market development is the reduction in trading costs, and the corresponding improvement in the liquidity of secondary markets. Advancing information and telecommunications technology lowers the barriers to entry for investors and the providers of financial services. Investor is able to capture much of the benefit as the technology has catalyzed competition in the brokerage industry. Online accounts allow convenient and inexpensive access to the markets.

The costs of gathering information and executing trades have become negligible. These changes allow a rapidly growing base of investors to participate in the financial system. In fact, in the years to come, transaction costs and the costs of providing information to investors are likely to become unimportant in assessing the quality of securities markets.

LIMITATIONS

Investor's protection has to be very strong for the market to be more efficient with the presence of good and widely available information. When the laws as regulations fail to protect investors, corporate insiders – whether managers or owners – tend to exploit them in both emerging and developed economies. The effect of technological advancement is to make information available faster, in greater quantity, and to more people, but it does not necessarily improve the quality of information. At times the growing abundance of information available to unsophisticated investors is likely to have created, in their minds, an illusion of knowledge.

There could be deterioration in the quality of information that firms supply to investors. This deterioration may slow down the improvements in security markets that technological progress brings about. Investor education and the regulation of information disclosure in particular may therefore play an important role in the development of securities markets. Firms could distort information they provide to investors in order to increase their stock prices. Because firms have virtual monopoly in the production of information about themselves, the quality of such information available to market participants deteriorate.

Improvements of information technology would have greater benefits for markets if accompanied by regulations that ensure the accuracy and quality of the information transmitted to investors. The corporate managers could distort corporate information provided to investors. Most managers prefer a high current stock price. A high current stock price makes it cheaper to pay employees with equity, to raise funds through share issues, and to make acquisitions. It also makes managers stock options more valuable. For a number of reasons, the need to maintain a high equity price has been growing with technology-induced changes in financial markets.

Unlike in the past times, when investors obtained delayed or second-hand information about companies, they now have access to news at almost the same time as the experts. But they are unlikely to be able to process and interpret this information correctly and thus end up in wrong investments. The data may be some times presented in a way specifically designed to mislead them.

CONCLUSION

The information technology and communication channels provide universal connectivity and ultimately it helps in increasing the efficiency and productivity in all sectors of the business. The system is in the process of bringing a major change in the world into a global village. Technology helps one to send and receive information any time, anywhere and make one to keep up the pace in this competitive world. Technology made the stock market a *transparent* system. Now with the application of technology, every investor has the access to latest and accurate information at reduced costs. Based on the experience, we can say that the technological advances cannot be applied as a panacea for all problems. The market should be well regulated and controlled. The technology should be applied while considering the other alternatives. Investors should make use of the technology keeping in mind the constraints.

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