Business Finance II – 40592 - Spring 2016
Book Review – Flash Boys: A Wall Street Revolt

Participants' Names & ERP:

Mirza Hassaan Begg	09656
Muhammad Danish Aftab	10103
Sumayyah Waheed	10061
Ziaullah Butt	

Book Title	**Flash Boys: A Wall street revolt**
Author(s)	**Michael Lewis**
Publisher &Publishing Year	**W. W. Norton & Company, 2014**

Author:

Micheal Lewis is non-fiction book writer and financial journalist. He is a graduate of Princeton University and did his masters from London School of economics. Prior to working a journalist he worked as bond's salesman with Saloman Brothers in London. His notable work includes Liar's Poker (1989), Moneyball (2003) and The Big Short (2010).

Moreover Micheal Lewis has worked for The New York Times Magazine, Bloomberg, The New Republic and Vanity Fair. He is also a visiting fellow at University of California, Berkeley.

Synopsis of the book:

This book is about how US investment companies are utilizing data communication speed to trade stocks and in return earning high profits at the expense of small investors. The writer explains the practice used by these companies which is termed as high-frequency trading (HFT). Moreover the writer explains the role innovative algorithms, and latest hardware (including fibre optic cables, network switches, servers, and accessories) play in manipulation of the market. The book list few of the examples related to losses the investor made and increased skepticism of ethically sound broker on market neutrality.

The book mainly narrates the story of Bradley Katsuyama, one time employee of Royal Bank of Canada (RBC) and the founder of Investor exchange (IEX) and some of his colleagues at RBC. They left some of their extremely well paying jobs at Wall Street, to establish IEX, a transparent market, designed to create a trustworthy place for investors to trade at. The design of IEX, both hardware and algorithm is to encourage honest trade and risk taking among the investors. IEX's biggest aim was to restore the trust of traders in the market, especially after May 2010, Flash Crash of the US Stock market.

In the introduction of the book Michael talks about the news of arrest of Sergey Aleynikov, a High Frequency Trading programmer at Goldman Sachs. Sergey was charged with stealing of computer codes from Goldman Sachs, which could be used to "manipulate the markets in unfair ways". This arrest had intrigued Michael, who then started a journey to discover what was meant by HFT and how were these computer codes so important to Goldman. In a later chapter he has discussed how what Aleynikov stole was irrelevant to his new job and the major reason for Goldman to involve FBI was its own scepticism. In the same chapter the book has also highlighted that even though

programmers have a very significant role in the US Stock exchanges since 2002, they are generally unaware of the overall dynamics of the market and are often much less paid in comparison to the traders. Goldman Sachs exploited the ignorance of the legal system regarding HFT trading and used it in the trial to convict Aleynikov.

The book starts with a construction of 300 million dollar investment by Spread network through straightest possible route between Chicago and New York City just to save 5 millisecond and earning 2 billion dollars within few years by selling it to HFT and investment companies. Here the importance of speed is discussed and how a few milliseconds provide edge to various traders in the market.

Two of the chapters deal with Bradley founding IEX with his ex-colleague at RBC and narrates issues faced by the team during its set up. The simplest idea behind the set up of IEX was to provide a level playing to small investors and prevent HFT companies from taking advantage of the trading system. At some point, Goldman realized that they couldn't compete with other HFT companies in terms of speed and were quickly losing market share. The need arose to start trading on a system which was fairer and rewarded accordingly and thus IEX succeeded in what intended to do.

Key Learning:

This book has broadened our knowledge on the working of stock exchanges in the U.S. and the role played by investment companies. Our perception was quite different from what we learned from this book. Most of the knowledge that we gained was new to us. We learned how the technology is changing the market, and how the companies (both small and large) were utilizing it to earn the profit. Key learning is given below:-

- We learned how electronic trading replaced the orthodox system of aggressive and screaming brokers, slamming telephones and the traditional stock ticker trading procedure, also the way the technology has changed the stock market. The stock brokers are continually updating their systems, both hardware and software to increase their latency speed. The technology is often very complex and the traders rarely have a detailed perspective about its working.

- The book has effectively introduced the concept of front running and high frequency trading. HFT is algorithmic trading characterized by high speeds, high turnover rates, and high order-to-trade ratios that leverages high-frequency financial data and electronic trading tools. These high frequency traders utilise various techniques like flash orders to tease out market information from the investors. The High frequency trader takes undue advantage of ordinary investors by rigging the market as HFT traders front run orders placed by investors. The investors would pay the brokers to buy shares, while the HFT companies would also pay the brokers to exploit the information. The HFT companies utilizing fast connection speed and trade information, change market supply/demand mechanism. The resulting price change causes small investors to fall prey and thus making loss. These companies buy as well as sell shares. However, they sell above the current market price whereas in the case of buying, the price is below that of the market. The sole purpose of this trading is to earn a good profit. Another source of profit for HFT companies is to earn by providing liquidity to some exchanges. HFT firms role is to be market makers by creating bid-ask spreads, churning mostly low priced, high volume stocks many times in a single day. Moreover HFT companies look for find price discrepancies between stocks on different exchanges, these rapid transactions which no one notice, HFT companies capitalize on these minor fluctuations. HFT

firms also earn by trying to increase the price of a stock using a series of trades with the aim of attracting other HFT companies to trade in that stock.

- Many large investors maintain Dark pools, which are private exchanges for trading stocks; founding theory behind dark pools was better pricing and liquidity. But these dark pools due to their opaqueness allow banks to manoeuvre stock prices and earn high volumes of sales and profit.

- The rules and regulations are available in form of Reg NMS, but some of the smartest people in the industry are able to manipulate these rules to obtain sweeping profits. The regulators inadvertently approve HFT companies practice because they are unable to understand HFT firm involvement in market volatility. HFT companies hold share for very small duration without risking anything. We also learned SEC made rules which were for the benefit of investor and to prevent market crashes. The unintended consequences of the regulation were the market ability to identify gaps which they utilized for making profit.

- A major trick used to gain speed is collocation, utilised by all the HFTs. They locate their workstations inside the stock exchange, near to its matching search engines. There are thirteen public and approximately forty three private exchanges in United Sates and these exchanges are willing partners to this practice to make money. They charges fees which encourage HFT companies to take advantage of co-location of servers, sharing information on stock orders and data feeds at higher speeds for HFT firms.

- There is no limitation to earning at Wall Street provided one has the right motivation and is effectual entrepreneurial in thinking out of the box solution which were within the confines of the rules set up by regulatory body, in this case SEC. Spivey laid optic fibre cable through mountain terrain which was inaccessible and difficult, SEC continued to revise rules which protected the investor from volatility and unexpected losses but the brokerage houses used electronic trading as defined by the rules to earn profit at some investor expense without risking anything of their own.

- In a world of money making and manipulation, this book is a story of good guys who were willing to jeopardise their careers to bring stability to the system and restore the essence of stock exchange as a trading ground with equal odds.

- In the end the optimism shown by Sergey Alleynikov even after his arrest is remarkable and presents a lesson for all of us.

Application:

The Pakistani Market is still in the process of development and has not yet reached the maturity. However, with the rapid advancement in technology, and the growth of liquidity, we can expect the market to expand in volume and liquidity. This might bring in High Frequency Traders and front runners in the picture, who would want to obtain any competitive speed advantage. This book shares some valuable lessons that can be further expanded and implemented in the system, to maintain stability and transparency of the market.

Regulations can be made for brokers to use same type of hardware and implementation of transparent firmware on this system can be ensured. Co-location in any of the stock market can be

made illegal. Steps like looping of optical fibre and incorporation of delays in software can be used to remove any speed edge that a broker in a particular city may receive. Audit of IT system can also ensure front running is not practised.