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Importance of Technical and Fundamental Analysis in the Foreign Exchange Market

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Authors' contributions

This whole work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

This paper presents review of technical and fundamental analysis as influenced by global foreign exchange across all trading sessions in Meta bank trading server. The broker provide trading platforms suitable for potential investors where trading activities connect traders all over the globe for e-exchange of currencies over short or long time frames. The trading platform is characterized into chartist, line and bar which represent currency symbols and trends of price pattern across the globe. Technical and fundamental analysis was employed for currencies exchange. The major sessions (US, London, Asian and Pacific) therefore US and London sessions were taken into consideration as major impacts in trading activities. Results confirmed that most traders use both forecasting approaches while minority relies on both chartist technical analysis and fundamental analysis. Financial journalists put more emphasis on fundamental analysis as the key factor that overrides other training instruments. Two distinct traders are identified by research, intraday and inter-day traders. The overall impacts attached to fundamental and technical analysis vary across different trading sessions. Foreign exchange traders mentioned a series of psychological motives

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and consequences of the use of Chartism of market previous histories. The major concept that the research emphasized is on trading tools (MACD, Moving Average, Price Parthenms, Trend Line, Price Actions and Volitilies) for technical analysis and financial journalist forecast in support of fundamental analysis (news events). Therefore, it is recommended that traders should follow fundamental and technical analysis simultaneously to achieve successful trading carrier.

Keywords: Foreign exchange; fundamental analysis; bullish, bearish; technical analysis.

1. INTRODUCTION

A central question within the interchange market is how market participants and currency traders forecast future market developments. Interchange market participants are usually classified in line with two completely different forecast approaches; elementary and chartist [1]. In line with this distinction, fundamentalists are market participants that drive market trend with high volatility by analyzing the underlying economic conditions upon the fact that they assume changes in exchange rates. Chartists, in distinction, study solely the consolidation and gathering momentum in market price trends and believe that the history of previous knowledge provides indicators for future exchange rates. Chartists use technical analysis, i.e. the analysis of past change per unit movements to guide forecasts and mercantilism selections within the interchange market [1,2]. Chartism includes the visual hunt for continual patterns of knowledge across time frames.

Recent research is aimed at formulating another economical markets approach and to supply additional complete answer on how expectations in money markets are shaped, and differentiated between arbitrageurs, i.e. rational smart-money investors, and noise traders. Noise is outlined as processes resulting in shadow data, i.e. market mechanisms that blur observations of the market [2].

Arbitrageurs and noise traders, however, do not transcend the classes of fundamentalists and chartists because the basis for forecasts and selections by arbitrageurs may be seen [3]. Technical associate analysis may be seen as an example for noise mercantilism since its ways build 'on noise or "popular models" and not on information' [4]. The fundamental distinction between chartists and fundamentalists has served as a basis for an indication of the existence of heterogeneous market expectations within the interchange market [4]. Significantly within the short term, efforts to see future exchange rates on the premise of economic

'fundamentals' have had very little success [5,6]. Observed that models that are supported with a theory of economic fundamentals alone do not supply enough explanations of short changes in movements [7]. Also, [4,7] noted that normal economic science analysis, for instance, of growth rates or of trade numbers, cannot predict most short charge per unit changes. For instance, the worth of the dollar in 1984/1985 dramatically departed from what elementary expectations alone would counsel. In response to the proof that fundamentals alone do not fulfill to elucidate changes in behavior, theoretical models that think about the interaction of chartist and fundamentalist expectations are developed [7].

Despite the growing awareness of non-fundamental factors within the expectations and selections of interchange participants, there is a shortage of empirical knowledge on the employment of technical analysis in money markets. A tiny low variety of previous empirical studies on this subject realized that the relative importance of elementary and technical trading strategies within the interchange market depends on the mercantilism time frame horizon assumed. Chartism is employed principally for short forecasts within the London interchange market [1,4,7], a finding confirmed [8]. Further findings observed that conjointly within the German interchange market, Chartism is employed extensively [8]. Previous studies have conjointly shown that the relative importance of chartist and elementary analysis within the market is subject to a method of amendment. For instance,

[4,9] show that within the amount from 1978 to 1988, interchange forecast services surveyed by Euro money magazine demonstrated a notable shift within the reasonably foretelling techniques used. Whereas throughout 1983–1985, the share of forecast services using technical analysis reached a most, this proportion then diminished slightly within the 3 consequent years.

This research tries to increase the results of previous findings on the importance of Chartism and fundamentalism among interchange traders

in London and [8,9] to a replacement geographic location. This paper shows the 1st interchange traders kind currency forecasts in numerous European mercantilism locations, i.e. in U.S, London, Asian, and Pacific. Since the information for this analysis was gathered at the same time in numerous sessions, an instantaneous analysis of native variations in forecast strategies employed in completely different geographic locations of the interchange market is feasible. In this point of view, the primary study that determines the importance of various varieties of actors within the market, money journalists, attribute to Chartism and Protestantism for the trends in market. Finally, for the primary time frames, additional and completely differentiated compartmentalization of perpetual traders supported their foretelling designs that take different forecast preferences and trading strategies on many foretelling horizons under consideration is established [10]. A cluster analysis of traders' forecast approaches on numerous sessions goes on the far side for the easy categorization of elementary and chartist traders and permits for an outline of two distinct traders designs across time frames, 'chartist, ascending', 'fundamental, ascending', 'constant chartist', and 'inverse middle' [11,12].

2. METHODS

The results conferred during this research supported by conducted experiment on broker trading platform during active exchange hours (Sunday 22GMT to Friday 23GMT) sessions. Trading instruments like MACD, Moving Average and candle stick pattern recognition were employed to forecast currency trend directions and money maker news company i.e. Forex factory and commodity index were used for financial journalist forecast on their database [13].

Trading instruments that support technical and fundamental analysis in the study are listed below;

- i. MACD (Moving Average Convergence and Divergence)
- ii. Moving Average
- iii. Candle stick pattern recognition
- iv. Company News

2.1 MACD (Moving average convergence and divergence)

It is characterized with slow moving average and fast moving average for monitoring price changes across time frames. It detects price actions when trends unfold and reviews market peak to peak price to the point of reversal.

2.2 Moving Average

It is an instrument for forecasting market price range and it can review price major trend along time frames on trading platform. This prepares trader to identify current trends irrespective of time frame used to support technical impact on market price as it advances. The setup properties used in this experimental research is 33 exponential moving average High, Low and Close price and work excellently across all time frames [13,14].

2.3 Relative Strength Index

RSI is a popular indicator that measures trend strength as trend unfolds. When RSI cross above line 30, then trader can open order, this means market is oversold. When RSI cross line 70, this measure overbought zone, therefore sell order can be placed in justice with candlestick reversal pattern [14].

2.4 Candle Stick Pattern Recognition

This gives recognitions on price formation which is instrumental to market price decision making, for instance consolidation and momentum price over period of time gives trade signal by reviewing potential trend direction, [14,15] this can be broken down into three categories as shown on Table 1.

- a. Reversal patterns
- b. Trend confirmation
- c. Entry and Exit points

Table 1. Candle pattern recognition

Pattern types	Pattern names
Reverse Pattern	Head and Shoulder, Double Top, Double Bottom, Consolidation, Momentum, Rail-track
Trend confirmation Pattern	Bull Engulfing, Bear Engulfing and Flag
Entry/Exit Pattern	Inverted Hammer, Grave Stone Doji, Hanging Man, Pairing, Shooting Stars, Morning star, Evening Star
Ranging	Ascending triangle, Descending Triangle and Channel

2.5 Time Frames

Intraday traders depend on 5Min, 15Min, 1hr and 4hr market watch for monitoring market trends while inter-day trade traders depend on 1hr, 4hr, weekly and monthly time frames to support technical and fundamental analysis.

2.6 Forex News Companies

Capitalist and money makers give forecast on daily basis in support of fundamental analysis to forecast trading events for traders [15]. They usually follow news speculations to make decisions for the benefit of making profits taking advantage of news events. The research captured Forex factory as the major news publisher available for traders' consumption. News impact is categorized into 3 perspectives as shown in Table 2.

3. RESULTS

3.1 Technical Analysis

Impact of Technical analysis on global market price depends on trading instruments, price actions, entry/exit price, and most active trading session. London and US sessions were captured using Japanese candlestick patterns, RSI, MACD and Moving average to experiment trading activities. Fig. 1 shows intraday technical outlooks of Great Britain Pound versus US dollars (GU) pairs on 5min time frame on FX-Open platform [16].

Fig. 1a and Fig 1b show overbought level of GU on technical outlooks which were supported by RSI and price projection. It is expected to place entry below swing low using pending order or stake shot at RSI overbought zone. Possible target will be 35-50pips under consolidation.

Fig. 2 and Fig. 3 below show impact of news supported by journal's forecast on the

fundamental analysis results as it overrides all technical trading tools and GU reacted to the news event dated November 15 around 16GMT server time thus influenced global market with high volatility. The major news release focused on US dollars on import prices, capacity utilization rate and industrial production [16].

3.2 Fundamental Analysis

According to OANDA (<http://www.oanda.com/corp>) FX Trade says; "Fundamental analysis is the interpretation of statistical reports and economic indicators. Things like changes in interest rates, employment reports, and the latest inflation indicators all fall into the realm of fundamental analysis" This means traders have potential to respect economic indicators which can direct price action in the market. This economic indicator depends on exchange rate which has great effect on trading activities. Traders Endeavour to check economic calendars on central Bank websites and oblique to brokers alerts.

FX Net Broker company fundamental expert analysis briefing stated that; "A lack of market moving news today has kept the Asian session quiet, and most currencies were trapped in ranges. Markets will now look ahead of data from the United States later today on a consumer confidence survey by the Conference Board. EURUSD traded a small 10-point range between \$1.3728 and \$1.3741 "[16]. News opens of London session and setup new price with higher volatility. On Fig. 3 Forex factory domain has shown 3:15pm 16:30G.M.T. Industrial Production m/m, the previous data released was 0.7% while the new release data quoted -0.1%. The high impact should cause U.S. Dollars to weaken but the price action failure will lead to price reversal on the current trend [17]. Price shift away from using ranged by braking support at the expense of high impact news.

Table 2. News, events natures

News tips	Color identification	Confirmation
High Impact	Red	High volatility
Medium Impact	Orange	Medium Volatility
Low Impact	Yellow	Low Volatility

3.3 News Scope

Considering U.S. currency during news events, If actual released is greater than previous released data on U.S. dollars, therefore U.S. dollars will be strong (a case study of Great Britain Pound versus U. S. Dollars (GU) trading scope). The resultant effect will move price upwards (Bull), Case 1 .There are some exceptions where GU will fail on data release in a reverse mode. Taking note of technical constraints, major resistance relating to past tracking history of that economic indicator and Chartistic history prompt to news release [18].

On the other way round, if the actual release is less than previous release, expected market reaction will be bearish on U.S therefore, Weakness will trigger selling pressure against Great Britain Pound only on exception that data release occurs in reverse order as a result of **case 1** stated above.

3.4 Fig. 4. Impact of Technical Outlook on Price Action

Technical outlooks on 15min time frame show response of technical impacts on pair currency (GPB/USD which leads to price reversal as a result of price momentum. Based on technical outlooks, the market history was analysed with technical indicators to give entry level by combining (MACD negative divergence , Moving Average break bellow 33 EMA close and Japanese candle patterns with bearish engulfing pattern) to confirm order entry point. These make potential traders to conceive idea on expected directional price movement with respect to technical support.

3.5 Major Scope Fig. 5

Place sell order when price candle close below SMA 33 yellow and Exit when RSI hit 30% and below on confirmation of hammer candlestick formed. Note that 30% RSI is overbought zone while 70% considered overbought zone. This strategy is suitable for (10-20)pips take Profit and 15pips Stop loss using 5min timeframe.

3.6 Major Scope Fig. 6

Place sell order when price candle close above SMA 33 yellow and Exit when RSI hit 30% and below on confirmation of hammer candlestick or Doji formed. Note that 30% RSI is overbought zone while 70% considered overbought zone. This strategy is suitable for (10-20) pips take

Profit and 15pips Stop loss using 5min timeframe.

4. DISCUSSIONS

As a result of MACD negative divergence and the occurrence of multiple tops that make great impact of price to reverse because both conditions oblige as the price ascending upward which means price does definitely reverse and gives new trend in bearish engulfing pattern. In reciprocal, trade requirement for MACD positive divergence with occurrence of multiple bottoms that will create bull engulfing pattern for uptrend initialization.

33 exponential moving average (High, Low, Close) is a unique strategy to monitor trends, it enables traders to follow trend as it advances by entering market with retracement low-low on uptrend and high-high on down trend [18]. Fig. 5 and 6 above illustrate graphical stage entry and exit of GU price action

Japanese Candle stick pattern review price information for traders to make decision by following chartistic trading rules. Major reversal pattern gives traders potential chance to prepare for new market direction. Trends pattern allow traders to follow price actions as it unfolds, moreso, trader follow winning paths of major current trends in either uptrend (Bullish candle stick patterns) or downtrend (bearish candle stick patterns). Execution trades is an height of sending request over meta trade client terminal to broker server of which an authentication is sent to meta bank on broker approval. Active position signifies status of concurrent orders (buy or sell) which will reside on trade tab and the trade history shows all completed (close) trades displayed in profits and loss trades.

News events is an economic indicator that allow traders to follow fundamental analysis forecast by Forex factory and other news companies in relation to actions even on countries economic activities. According to the findings, it shows that news is like a catalyst that speed up market price on immediate release because successful trader only take advantage of high impact news that spikes market price [18].

There are some exceptions where price fails as a result of political speech like conference, presidential speech, FOMC, chairman speech, crises and other breaking news. These can override other economic indicators and technical outlook of price action.



Fig. 1a. 15 minute technical outlooks



Fig. 1b. 5 Minute technical outlooks



Fig. 2. News trade event impact on GU currency

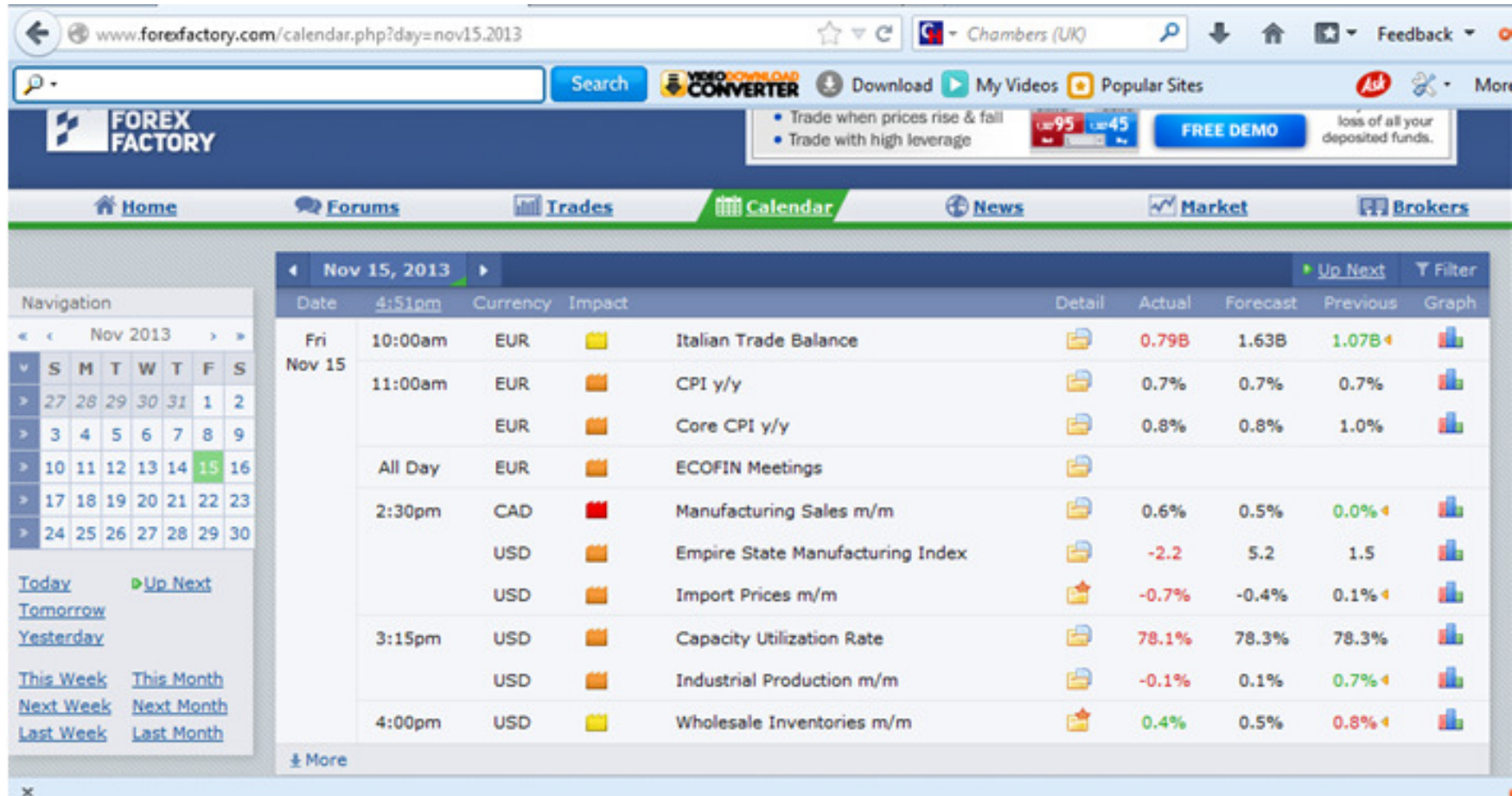


Fig. 3. Forex factory new timeline
 Source: Forex factory server on forex news

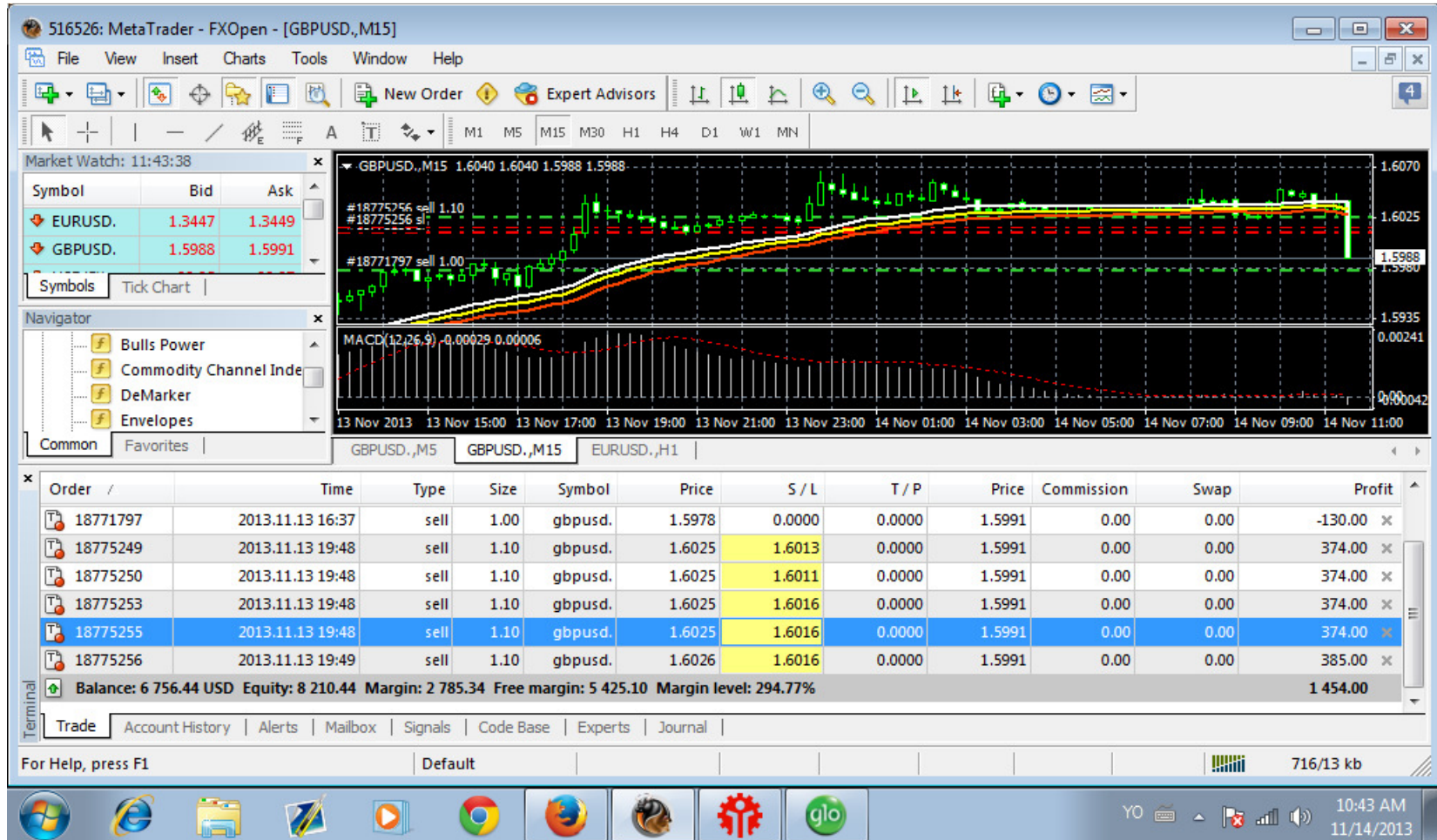


Fig. 4. Impact of Technical Outlook on Price Action



Fig. 5. Outlooks of 33 EMA with RSI indicator



Fig. 6. Outlooks of 33 EMA with RSI indicator

5. OBSERVATION

Combination of technical and fundamental analysis gives excellent trade results because market price is always right and obeys both on its reactions.

Inter-day traders make trade activities on long time(days, Weeks, Months) basis and dominate global market because they posed giant capital on long time investment while intraday traders complete all trading activities within a day and popularly known as market scalpers because of their little startup investment [19].

Currencies news companies' releases high, low and medium impact data therefore, allow traders to manipulate entry and exit with respect to open position. The most active and trending trading activities was discovered in two sessions (London and US) of which market price gain highest volatility especially US session [20].

6. CONCLUSION

Technical and fundamental analysis requires deep experience in trading successfully. Proper trade management, risk management and focus on major events that warrant order execution using accurate forecast. Analysis is principal factors that unleash profit for potential traders on currency exchange market. Trades history and major economic indicators is principal motive which all traders should look after on regular basis [21,22].

7. RECOMMENDATION

Importance of technical and fundamental analysis cannot be overemphasized for making trade decisions and limiting losses. Being perfect economic indicators to monitor, evaluate and forecast market price, therefore, it is a guide to support traders on capital management to strengthen investment margin. Technical and fundamental analysis is best employed in London and US trading sessions for both inter-day and intraday traders.

Traders should take precautions on premature trends and false signals based on sentimental news, overbought and oversold trading zones to avoid trade loss. Protecting accounts with the use of stop loss and take up profit on every trade execution is hereby recommended.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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