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 A mid-point progress review (with second assessor) 20% - document between 5000-6500 words + 30 minutes Presentation  
  
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| (use the content from the attached proposal) |  |  |
| Introduction incl. motivation, aims, objectives and objetives - 500 - 800 words words |  | 10% |
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| research gap - 300 - 500 words  (to be done) |  | 15% |
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|  |  |  |
| **The max word should be around 5000-6500 word.** |  |  |

**30Min Presentation:**

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# **Introduction**

The growth of information technology has significantly altered the way financial markets operate (Kissell, 2021). Trading system automation in financial markets is the final stage of de-personalizing activities traditionally performed by traders(Schmidt et al., 2010). Whilst Computers still do not make their own decisions about which instruments for trading or what trading criteria to use (Velu et al., 2020). Research has shown that they were able to determine when and how to execute trade orders based on the traders' parameters thanks to automated trading advancement (Manahov et al., 2015). They put the trader's approach into action by helping pick an appropriate time to complete an action (Schmidt et al., 2010). Computer based trading also has advantage for high-frequency trading, which allows for the fast execution of algorithmic processes(Kissell, 2021). The purpose of this research is to explore, via a produced novel algorithmic tool, how computer-based trading can help to negate the issues caused by the emotional state of traditional human traders, with the overall objective of increasing revenue and overall profits from high frequency trading. This tool is novel because it makes profit from the market consistently, because it can adapt to changing market conditions and it follows the current market trends, for as long as market moves the system can make profit.

**Research Background (problem or improvement area)**

There have been attempts to study how algorithmic trading could be the way out for emotional impacted traders.Algorithmic trading has gained popularity among both retail and institutional traders in the twenty-first century(El-Yaniv et al., 2001). Investors and traders can create automated trading systems that allow computers to execute and monitor deals based on defined entry, exit, and money management rules (Manahov et al., 2015). One of the most appealing aspects of automation is that it removes emotion from trading by automatically placing trades when certain conditions are met(Beason &Wahal, 2019).Typically, automated trading systems require software that is tied to a direct access broker, and any special rules must be developed in the platform's proprietary language. Simple to use mql5 programming language for Metatrader 4 (MT4) or aMetatrader 5(MT5) platform. MT4 or MT5 isa kind of software that primarily focuses on forex markets and is uniquely made for forex traders (El-Yaniv et al., 2001). Mql5 is MetaQutes language 5 is an unique high level object oriented programing language that permits users to create trading robots and technical indicators (Aloud &Fasli, 2016).

During the trading process, automated trading systems reduce the impact of emotions resulting from fear and greed of traders (Zucchi, 2021). Traders would not need to intervene with algorithmic trades because trades are executed automatically once the trade rules are met. Automated trading can help traders who are reluctant to "pull the trigger," as well as those who are prone to overtrading or buying and selling at every opportune moment (Yuferova, 2015).

Backtesting is another advantage of algorithmic trading (Velu et al., 2020). Backtesting enables a trader to obtain outcomes and measure profitability without risking any real money by simulating a trading strategy using past data. A successful backtest convinces traders that the strategy is fundamentally sound and will likely produce profits when executed in the real environment or live account (Velu et al., 2020). A well-conducted backtest that provides unsatisfactory results, on the other hand, will cause traders to change or reject the automated traditional strategy (Velu et al., 2020).

With automation getting in and out of a trade can happen within few seconds significantly impacting the result of the trade (Yuferova, 2015). All additional orders, including protective stop losses and profit targets, are automatically placed after a position is registered as a market or pending order (Yuferova, 2015). Markets move quickly, and it can be discouraging to see a trade hit its profit target or blast over a stop-loss level before the orders are even placed. This is avoidable by using an automated trading system (Aloud &Fasli, 2016).

As a result of the identification of these issues, the researcher proposes to investigate how emotions could be removed altogether from trading through the automation of traditional trading strategies. The proposed trading program is a novel combination of indicators programmed to execute trades when certain parameters for buy or sell signals are met (Casgrain&Jaimungal, 2018). The program, in backtest and forward test, will be able to generate profits at a speed and frequency that is impossible for a human trader(Velu et al., 2020). Back testing the program is experimenting profitability of the program using historical data, while forward testing referred to evaluating profitability performance using current data. Algorithmic trading is also referred to as automated trading systems(Bouchard et al., 2011).

# **Research Questions**

# Question 1 – Do human emotions have a negative impact on profitability of their trades in forex market?

# Question 2 – Has the automation of trading had an effect on profitability of trades?

# Question 3 – How effective are currently existing automation solutions at tackling the problem of profit loss due to human emotional states?

# Question 4 – Can this process be improved by the development of a novel trading algorithm?

# **Aim**

# The aim of this research will be:

# To develop a novel algorithmic solution for automated trading within forex market, a 3 trillion market using the mql5 programming language.

# **Objectives**

* Synopsis of this research objectives are:
* 1 – To investigate whether the emotional state of traders has been identified as a problem within the financial sector.
* 2 – To investigate current solutions and developments in the use of algorithmic trading programs
* 3 – To investigate the effectiveness of those solutions.
* 4 – To develop a new solution based on the MQL5 programming language which can be used to combat the impact of human emotional states on trading profitability
* 5 – To investigate the effectiveness of the newly proposed solution.

# **Deliverables**

The project deliverables for this project is

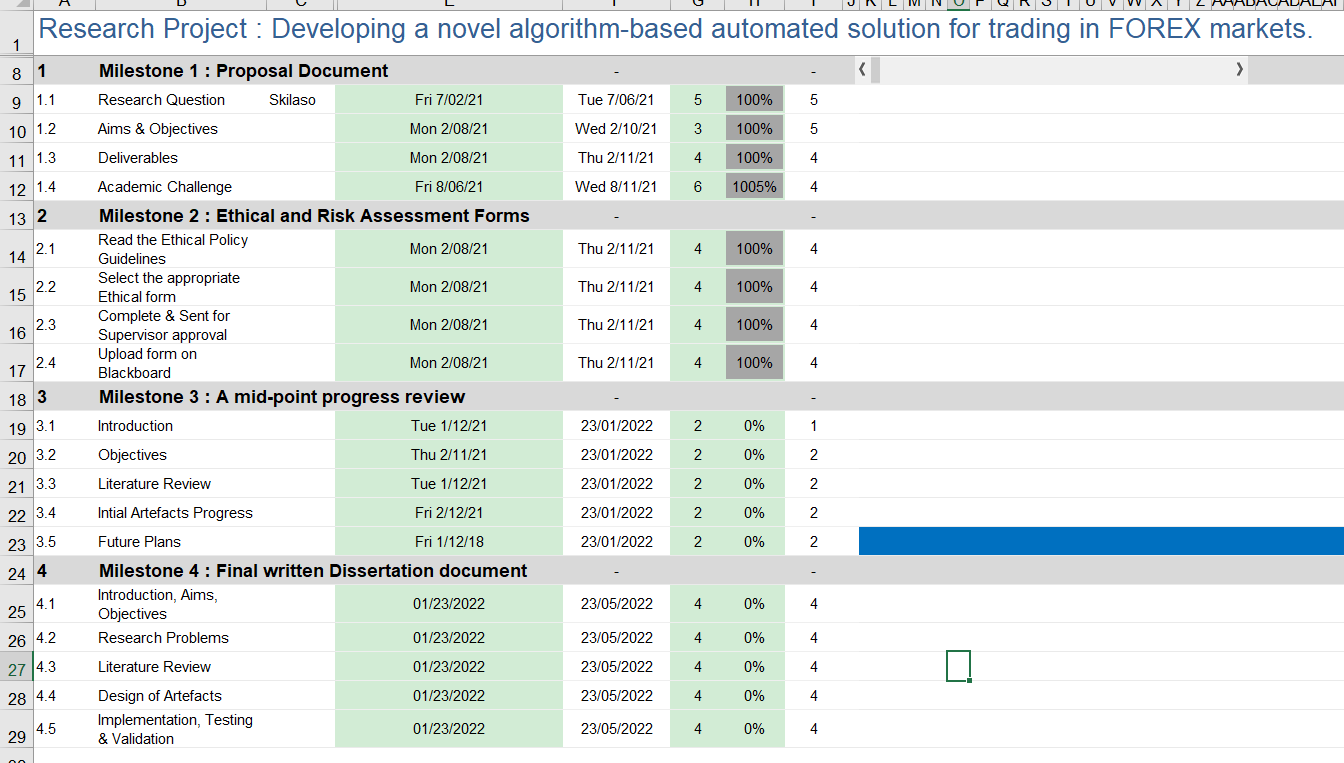
* A working algorithm that can simulate forex trading scenarios and see how our developed algorithm can help the emotions of a trader who may experience mixed emotions during trading.
* A comprehensive report will also be delivered. The report will feature all the data analysis, findings, and challenges encountered and how efficiently the software has effectively managed trades to ensure consistent profitable trades.
* Report in the form of a Literature Review which will evidence the need for this novel automated solution.

# **Academic Challenge**

Just like any other research project, there are challenges that one can experience include:

* Little to no mql5 coding knowledge or skill is a limiting factor which could introduce bugs in the the trading program, this challenge I will tackle by taking special mql5 programming courses and testing the program rigorously to ensure not bugs are in the codes.
* System crashes during backtesting and forward testing of the algorithmic system could result in inaccurate data analysis. This challenge is intented to be managed through the use of virtual computers (VPS).
* The time frame may also be a challenge.

# **Plan of Work (Timescale or project plan)**



# **Resources**

|  |  |
| --- | --- |
| **No** | **Resource** |
|  | Database program |
|  | Hardware |
|  | Internet |
|  | Custom made technical indicators used for automation |
|  | Mql5 program |
|  | Other costs and expenses |

Literature Review

Accoridng to Driver(2013) in his book entitled, in introduction to Forex trading highlights a number factors that are considrevble in highlighiting success ful trading within the Forex Market. Acoording to the author

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