# An introduction to the problem/opportunity statement regarding New Castle united FC

# Newcastle United football club was founded in the year 1893 after a merger of two older Tyne side clubs which are Newcastle East End and Newcastle West End. In 1983 it was elected to the football league and became an English professional club. It has been a member of the English Premier League in every season from its inception except three years. Having been a top tier in English premier league for a long time, it has gone for relegation in the second tier for only three years with the latest being in the year 2016. It has also won 4 champion leagues, 6 FA cup and a charity shield. Mike Ashely has been the owner of the club since the year 2007 to 2020. Under his leadership, the team performed poorly to the extent of undergoing two relegations. Currently, Newcastle has acquired a new owner which is the Saudi Arabia's Public Investment Fund, which is headed by the crown prince Mohammed Bin Salman. The New Owner has shares of 80%. Considering the change of leadership in Manchester City club brought a tremendous difference in performance for Manchester City i.e. winning championship title and Fa cups, the fans are excited about the new changes coming to the Newcastle United Football Club with hopes of transforming its performance too. This report focuses on how to improve the performance of the club under the leadership of the new owner basing on past performance of the players in the team.

# Theory to link problem/opportunity statement with business intelligence/data analytics system

Business intelligence and data analytics have become a crucial aspect of any academic field or business. It adequately gives insights and valuable information to business and other fields. 97% of business that has reached or passed a turnover of more than 100 million have used some business forms of analytics. This is according to Bloomberg Businessweek study of business in the year 2011. A Business Intelligence Dashboard hence becomes an important tool for a business. It provides an intuitive format that is easy to read and understand the trends and analytics in the business. The Business intelligence dashboard has as a set of interactive maps or charts that enables a user to visualize the business trends. There are many ways to forecast the business performance, and in this case, it is the performance of the club. A significant and most efficient way to do this is by implementing Key Performance Indicators (KPIs) which systemizes the forecasting process to evaluate business strategies of the club to meet its long term needs and aims. Key Performance Indicators provides an in-depth look at how KPIs can be most effectively used to assess and drive organizational performance (David, 2015). The most important things are that this process analyses the performance of the players on an individual level and determines their contribution to the team based on various Key performance indicators. This analysis starts by first focusing on: a) the cost of transfer of the player to the Newcastle football team, b) then after the cost of the transfer, has the player been of profit to the team? C) what value has he added to the team. The value and contribution added to the team is based on the following key indicators, the number of minutes played, the total points the team acquired through him, bonus, points per game, selected by percentage and the status of the player whether he is available or not available.

# Critical analysis and justification of developed dashboard (MS Excel Dashboard)

The Dashboard consists of the dataset of Newcastle football club concerning the performance of the player in the club. The dataset includes all the critical performance Indicators and features of the team's player and their overall performance since they joined the club. From the results gotten in the Dashboard, the first graph in the Dashboard shows the player and the cost of transfer and also the age, of the player in the team. This gives the picture of the level of return on investment. The second chart in the Dashboard, which is below the player vs cost graph, is the position vs cost chart. This chart shows the position which the player plays, be it forward, mid, or Defender. This gives us the total cost of the player in regards to his position. It also gives us the key performance of the position the player plays in. The key performance shown include the sum of price of the player selected, sum of total games played by the player and also the sum of Goals the team obtained through the player.

The next graph in line is the Attacker’s Statistic chart. The Attacker’s Statistic chart underscore the main point in the Dashboard as it shows a bar graph of the essential key performance indicator of the player in the attack category of the game. The markers or attributes that are categorized as offensive play or attack play are the key performance indicators that are used to get the player’s attack statistics. This offensive play attributes that players possess can be quantified through some of the following metrics for measuring key performance attributes. This is one of the most important key performance metrics that are considered to measure up the contribution of the player to the team in general sum of shots per goal (shot/g). This is the sum of specific shots kicks that player made in order to score. This is inclusive of shots on target and shots off target. The second one is the sum of SOT per goal (sot/g), The third attribute is the sum of cross per goal. This is the sum of crosses that the player gave to assist in scoring a goal. The fourth attribute is the sum of AccCross per Goal (AccCross/g). The Fifth attribute is the sum of Key Pass per goal (key pass/g). This is the sum of the key pass that the player gives in assisting in goal scoring. This includes the long passes and shot passes that were really essential or key essential in scoring goals. Then last but not least which is the sixth one is the dribble attributes of the player (AttDribb/g). This are the dribble attributes that helped in scoring goals through the selected player in the dashboard. There are other attributes involved, but this one were specifically selected as the ones that really assisted in Goal scoring. This are the key performance metrics or indicators that quantifies or actualize the players offensive play in the field, hence dabbed the attackers Statistics in this report analysis.

The next one is the Defender’s statics chart. This chart is rendered in a bar graph or column chart so to say, in order to show the levels or the proportion of the Defensive play that the selected player has. The Defensive play can be measured or quantified and visualized using the defensive play attributes. This are the key performance indicators in terms of measuring the Defensive statistics of a player. In this dashboard report, the defensive attributes that we have looked at include the following. The first of all is the sum of recoveries. This basically involves the recovery agility and ability that the player has in ensuring that they recover the goals they were scored or recover a lost ball from their opposing team. The second attribute is the sum of clearance. This basically entails the clearing of the ball in case of an endangering offense play by their opponents in other words it is clearing of the ball from the danger zone. The next attribute the is the sum of intercepts. This entails the ball interception in the case of a pass or a cross of the ball from the opposing team. In other words, is the interruption of the ball, preventing it from reaching the targeted opponent. Therefore, the sum of the player’s intercepts contributes largely to his defensive play statistics. The next attribute in the line Is the sum of tackles. Tackling is a football move that is essential in a player especially those playing the defense positions. The primary and most important purpose of a tackle is to disposes the opponent off the ball. Therefore, the sum of tackling’s the player participated in highly contribute the player’s defensive play statistics. Sum of Giveaways is the next attribute we are going to focus on. This entails the loosing of the ball to the other team. The loosing of the ball can be in many forms i.e. through the interceptions, fumble, or other inadvertent miscue that results in the opposition gaining possession of the ball. This sum of the giveaways also contributes to the defensive play statistics in both positive and negative way. If the sum of giveaways is more it contributes negatively but if it is less it contributes positively to the defensive statistics. The last attributes that is focused on this analysis is the Duel attribute (Sum of ADuel/g). The last figure in the dashboard includes the table which is shows the general information of the player. This include the age, sum of games played, sum of assists and sum of sum of goals of the player. All of this attributes combined give us the perfect picture, visualization and quantification of the defense Statistics. With the implementation of the slicers, we can easily manipulate the output of each chart in the graph. Also with the help of slicers, all the charts are connected in the sense that, a change in player’s name in the name slicer will cause all the other chats to update in real-time with the relevant data for that player. This, therefore, makes it easier for the team management to critically analyses which players added value to the team which one did not basing on which factors and how to mitigate or make correction in order to realize improvement in the future.

# Conclusion and recommendations for the successful implementation and use of a BI / DA solution in Newcastle United FC

There is a big Demand to interpret data in the process of decision making. This involves collecting the required data, segregating into structured and unstructured data and performing analysis techniques using compatible, suitable software, of which in this case is excel. Therefore, Data analysis is critical in business in terms of decision making. In the process of decision making, the decision-makers need first to understand problems faced by an organization and to examine data in meaningful ways. This is made possible by performing data analysis to the data first. Data analysis organizes, interprets, structures and presents the data into useful and meaningful information by providing context for the data. The graphs generated from the analysis are then deduced to communicate the rise and fall of the player’s performance and then gives the needed insights and measures to be undertaken to improve the player’s performance. The obtained enriched data is then entered into the Dashboard more attractively and innovatively as it is a multi-layered application built on data integration and business intelligence analysis. The Dashboard enables the business to monitor and manage performances while mitigating on negative trends, of sale and even fabricate it further into beautiful designs to showcase output in one platform without distractions.

From the discussion above, the problem statement Is that the team was performing poorly and there was need to come up with better ways to improve the team’s performance. Reflecting on this dashboard, there are major key performance indicators that are highlighted in order to visualize measure player’s abilities and how he performs in different positions. It also enables us to see what contribution the player has added to the team considering his transfer cost. Has he measured up to the expectations required of him? What return of investment has he given back to the team, and if not what measures can be undertaken to help him to improve the quality of the game. Therefore, this dashboard analysis has accomplished it purpose by giving the management a basis of evaluating players performance, observing the trends of the performance and come up with mitigation measure of negative trends observed in order to boost and improve future performance.