

PREDICTIONS OF CORNER-KICKS IN FOOTBALL OUTCOMES IN NIGERIA: A HARD COIN

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ABSTRACT

Football predictions are now in vogue among young generations of the world population. It is a short-term investment (investment and outcome is concluded within seven days) with a very high volatile rate of return but it is not attracting same high research interests from finance and investment experts. This research is carried out to bridge this lack of interest gap. The objective of this research is to unravel the circumstances that make corner-kicks prediction a hard-coin to crack using finished match statistics and observable match statistics during live matches. The research was carried out in three phases. The first was a survey of one hundred and fifty predictors on factors they use to forecast corner kicks. The second phase is use of surveyed key corner kick factors on already finished match statistics to predict corner-kicks. The third phase involved live observations of matches' statistics that lead to corner kicks. Live and finished match statistics of 2020/2021 Football season was selected for analyses from six advanced European leagues. The technique of analysis employed was simple percentages based on frequency of successful predictions. It was found that predictive accuracy of bettors that ventured into corner-kick market options was less than 19.46%. This massive predictive failure was found to be forecasters' knowledge lack of the diversities of variables that affect football corner-kicks. The research discovered one overlapping and other diverse variables that prompt Corner-kick outcomes. This research will reduce massive corner-kicks' predictive failures currently witnessed by forecasters and for those that stake in football matches.

Keywords: Corner-Kicks Prediction, Football Market Options, Football Predictive failures, Causes of Corner-kicks.

INTRODUCTION

The prediction of football outcomes continues to be a growing source of national and international income among the younger population. There are numerous market options available to bookmakers, promoters, gamblers, and forecasters, who select based on the potential for significant income. One major market frequently targeted early by promoters and marketers is corner-kick betting options. In the betting promotion

industry, no one sells unprofitable products. Consequently, despite the high odds assigned to corner kicks, many forecasters avoid investing in unproductive or non-gainful items, no matter how attractive they may appear. As the saying goes, "all that glitters is not gold," and in prediction markets, it's generally more profitable to invest in riskier fields known by knowledgeable participants. In the betting industry, higher risk is typically associated with higher odds.

Betting companies and promoters allocate substantial odds to corner-kick markets, making them a highly attractive option for gamblers, forecasters, and other pundits. High odds in betting selections directly correlate with potential gains from bet placements. This explains the significant stake and interest in match corner-kick betting options, which are gaining a growing following in the betting arena. While very high odds are a significant area of interest to predictors and forecasters, to the marketers and owners of betting companies, they represent a challenging proposition. In other words, corner kicks are enticing to gamblers and predictors due to their high odds and potential for substantial income gains, whereas marketers find them attractive because of their high incidence of failed predictions. Due to this high failure rate in predictions, corner kicks are often displayed early in market options by promoters and betting companies compared to other options like fouls, ball possessions, and shots. The rationale behind attaching relatively high odds to corner kicks and displaying them early is to enhance their allure despite their propensity for failed predictions. One objective of this research is to explore and explain why corner-kick predictions are so challenging.

Match prediction is akin to a coin toss, with two probable outcomes. A biased coin will tend to fall on one side 99.9% of the time, giving an advantage to gambling owners and marketers who know which side is biased. The betting (prediction) business necessitates having an information edge before placing bets. Informed gamblers and forecasters will seek out as much available information as possible before making decisions. Relevant information is crucial as the football industry becomes an increasingly significant source of income and expenditure for younger

generations. While there is a wealth of football data globally, the challenge lies in bettors' ability to process such data effectively for profitable betting purposes. According to Wheatcroft (2020), pre-match data are termed "past match statistics," while predictions based on the analysis of potential match events are referred to as "forecasted match statistics." Therefore, "observed match statistics" relate to events witnessed during matches. Often, forecasters struggle to effectively combine the vast available data for informative and profitable betting purposes. This research aims to uncover the factors that make corner-kick predictions difficult to crack. It also seeks to identify observed match actions that lead to corner kicks. Additionally, the research will diagnose which corner-kick market options are easier for forecasters to profit from and which are more challenging. Finally, it will assess the current knowledge levels of forecasters in the sampling space regarding corner kicks compared to their success rates.

Related Works Review

Theories of football event outcome predictions have been developed using scientific and statistical variables and combinations. Strumblelj (2014) categorized three models for forecasting football event outcomes: Shin's Model, the normalization model, and regression models. Each of these models focuses on methods to determine probabilities from betting odds, enabling forecasters to predict likely outcomes of upcoming football events. Strumblelj (2014) explains that the normalization model uses basic probabilities, while Shin's model uses customized or self-constructed probability variables. The regression model consists of

two variants. The first variant, Logit, uses the first third of the data to estimate a model. The second variant, LogitR, updates the model in a rolling manner, incorporating all matches including the latest data.

The commercialization of global sporting activities has spurred a high level of interest in the design and research of match prediction models. Stefani (1977) pioneered the scientific method of football prediction with the 'Least Squared Model'. Since then, numerous advanced football prediction models have emerged, although many do not cater to the needs of laymen. Most predictors lack the advanced scientific knowledge necessary to understand Bayesian models of forecasting proposed by Nazim et al. (2017). This lack of knowledge among the majority of predictors in the betting industry was corroborated in the research findings of Mollick and Nanda (2015), who contrasted expert judgment with that of non-specialist laypeople.

In the betting arena, the prevailing question concerns the extent to which the abundance of advanced expert forecasting models confers a winning advantage to experts over laypeople. The answer to this question, according to Anderson et al. (2005), is "NO". However, Anderson et al. (2009) later found that betting performance varies by 'tasks', with some market options considered easier than others. Difficult tasks typically carry very high odds, indicating greater risk, while easy tasks carry very low odds in the betting industry. Many betting pundits and forecasters tend to overlook the value of odds assigned and instead focus on whether a match is perceived as easy or difficult to predict based on factors such as the quality of the teams' players, absence of key players, league table positions,

opponents' standings, and past performances of the teams' coaches.

Occasionally, laypeople may accurately predict match outcomes through sheer luck, despite their positions on the bookmaker's coupon. Anything that affects humans and events can equally impact the outcome of a football match, but this researcher is particularly concerned with the odds assigned to corner kicks, easy wins, and difficult ventures in the available market options on corner kicks.

The odds assigned to a market option not only indicate the ease or difficulty of accurately predicting the match outcome but also indicate the potential winnings a bettor stands to make compared to the bookmaker if the bettor loses. In line with Wheatcroft's assertions (2020), the winning probability of home and away teams assigned with respective odds of 10.50 and 1.24 are calculated as follows: $1/10.50 = 0.095$ probability for the home team and $1/1.24 = 0.806$ probability for the away team. From this illustration, it's evident that easy tasks have a very high probability of being correct but offer relatively low gains. The gains associated with odds are calculated by multiplying the given odds with the monetary bet on the market option. For instance, if a bettor stakes \$100 on the away team winning, the bettor's potential winnings would be \$124 (\$100 bet + \$24 winnings). The more a bettor increases their expected gain probability, the greater the likelihood of a selection in their combinations failing, whereas lower profit expectations increase the likelihood of correct outcome predictions. The accumulation of odds is enticing due to the high marginal propensity of adding one more selection. However, additional selections also increase the risk of failure while simultaneously

increasing the expected return from a successful prediction.

According to Wheatcroft (2020), the differences between the sum of odds and 1 show the profitability of the Marketers/Bookmakers margin. It is computed thus:

$$\Pi = (\sum 1/O_i) - 1$$

where Π = Profit margin

$$(\sum 1/O_i) = \text{Sum of Odds as assigned}$$

The wider the gap between very high Odds attached to a team which many bettors are adverse to and easy tasks with very low odds that are attached to opponent's team which many bettors will easily go into, the more difficulty it will be for the bettor to make more profit and the more likely for the Marketer make less losses. Peradventure the Predictor chooses very high Odds, the more likelihood he is bound to fail and the more profitable to the Bookmaker. Example of Team A with winning Odd of 10.50 and Team B with winning Odd of 1.24, using the equation will be;

$$(\sum(1/10.50+1/1.24)-1 = 0.901-1 = (0.099)$$

Expected loss to the Bookmaker.

Corner Kicks market options across Bookmakers and Promoters are usually assigned with high Odds being an indicative that the propensities to wrong predictions are very high. In other words, big Odds usually attached to Corner kicks betting options means that the levels of riskiness therein are very high. This research aims to ascertaining

the nexus of these very luring Odds with propensities of increase in earnings by Bettors.

Boido et al (2023) studied top-flight European football teams and stock returns in to their market reactions to sporting events associated with a coach change and acquisition of football players. The study inadvertently or obviously made no inclusion of the Fans' (Bettors) emotional attachments that drives stock price reaction to these specific occurrences, contributing to behavioural finance and asset allocation decisions. Top-flight European football teams have craved large fan followers and Odds assigned to them in every match has become subject of analysis by many bettors/financial attached fans.

Dominic (2015) studied the expected values and variances in bookmaker payouts. In the research a lay out was established computation Odds and their expected limits. The outlay of Dominic (2015) findings is that the bigger, the odds assigned to a betting option, the smaller the profit of the Bookmaker and the higher the returns of the Bettor theoretically. However, in reality since the bigger the Odds attached to a betting option, the more luring it becomes with high attractive betting frequency with very high probability of failure resulting to very high profit to the Bookmaker though a small right prediction will tend to diminish the expected high profitability of the Bookmaker. These two edged probabilities lay the riskiness of prediction business.

Avery and Chevalier (1999) were able to find that Bettors do not act irrationally (Identifying Investor Sentiment from Price Paths: The

Case of Football Betting) in their choice of betting options and stakes based on the Odds assigned. They conclude that Bettors do act rationally based on the information within their reach, many a time confused by the Promoters' information released variously prior to the Football event. Bettors' sentiments that influence their choices among others include Level of Odds assigned to a particular team, Expert opinions (Promoters' or Bookmakers' information release), Bettor's affinity to Club, A bias toward prestigious teams and ground of Event.

Summers (2008) in his research 'Beating the Book: Are There Patterns in NFL Betting Lines?', was able to find that Odds makers set the numbers almost a week in advance of the games, and they may change these numbers throughout the week as new information becomes available regarding the teams. These changes according to him may leave trails for predictable patterns in the betting lines over the course of the preceding week that bettors could exploit to improve their expected returns. The study in essence established that changes in the Odds within the week before the event can predictably be exploited by Bettors. This assertion will only be true if many of these changes are based on factual information. The confusions surrounding the realities of Odds' changes makes it dicey to relay so much on such changes in betting decisions.

METHODOLOGY

Research Process: The research process adopted for the unraveling of the most accurate predictive model for Corner kicks were three prone approaches. The first was a survey of one hundred and fifty Predictors on factors they use to predict Corner kicks. The

spread of the surveyed Bettors covers Southern States of Nigeria with very high number of betting Outlets and online Participants sampled on their willingness to partake in the survey. The second phase involves use of feedbacks from the survey's key Corner kick factors application on already finished Match statistics to predict Corner-kicks. In the second phase, the assumed key corner-kick predictive variables ascertained from the survey were tested on already finished matches. Finished match statistics of 2020/2021 Football season was selected for analyzes from six advanced European leagues. made up of; English Premier League, Italy Seria A, Spanish Laliga, Germany Bundesliga, French Lique 1, Netherland Endvisie while observable live statistics of same leagues for 2021/2022 season were taken. The third phase involved live observations of matches' events that led to Corner kicks of same advanced six European leagues. Thirty research assistants were assigned to undertake the live survey match events that led to Corner-kicks. Two research assistants were engaged to a match, though at different viewing centers in order to reduce high incidences of omissions. First three rounds of matches were viewed and analyzed from the selected six European advanced leagues.

Key survey three best predictors of Corner Kicks are; 1. Average Corner kicks to date, 2. Goal attempts minus shots at target to date, 3. Attacking strengths of Teams attributed to date. The reason for making a selection of ten per batch is to accumulate a reasonable volume of odds that will make for a meaningful return on investment. Prediction is not an obsession game but investment venture with intended high level of returns or at worst to breakeven per total investment within a maturity period. The maturity period

of football betting is Seven days at maximum. The outcomes of the three key factor tests are shown in Appendix C.

The third prone is the deployment of research assistants on real live matches to document observable event statistics that led to award of Corner kicks in live matches viewed through television, for 2021/2022 football season of the six first tear leagues of English Premier League, Italy Serie A, Spanish Laliga, Germany Bundesliga, French Lique 1, and Netherland Endvisie. The results are as shown in Appendix D

RESULTS AND DISCUSSIONS OF OUTCOMES

The demographic distribution of the participants in the first phase of the survey which aims at extracting the key variable factors employed in forecasting Corner-kicks outcomes in a football match events is shown in Table 1.

Table 1: Demographic Distribution of surveyed Forecasters

Variable	Category	Number	Total
Gender	Male	146	
	Female	4	150
Age Group	19 -21	30	
	22-30	57	
	31-39	45	

	40 & above	18	150
Level of Education	Secondary School Certificate	45	
	OND/BSc/HND	90	
	Masters & Above	15	150
Zones in Nigeria	South-West	51	
	South-East	46	
	South-South	40	
	North Central	13	
			150

Source: Research Survey outcome.

The demographic distribution of surveyed forecasters were not predetermined by the researcher but represents the outcomes of participants in the survey. The result of the survey elicited three major variables factors use in prediction of corner-kick as follows; Average Corner-kicks, Goal attempts and Attacking strengths of teams.

Average Corner kicks to date are obtained by dividing previous Corner Kick outcomes by the number of matches played to date. It is a common knowledge that established trends are likely to repeat and many a time, deviations to established trends are within 5% plus or minus. Anything more than 5% is considered as upsets in established trend sequence, Average previous Corner kick performance to date is presumed as a good factor to predict real life football Corner Kicks. The survey came with this preference or near similar descriptions of the preferences amounted to 55% within the 97.84 % class of respondents which is very overwhelming.

Goal Attempts minus shots at Targets to date: This variable is presumed to be a good Corner kick predictor. Net goal attempts are assumed to be the main direct variable that leads to Corner-kicks. The research survey feedback ranked it as the second most preferred strategies for predicting Corner Kicks. Preference level was established at 28% within the Class of 97.84% of respondents.

Attacking strengths of Teams: The researchers considers attacking energies exhibited teams in their previous matches as a good factor for predicting the number of Corner kicks and who wins in corner kicks between the two teams. This is because Corner kicks are presumed to be product of unsuccessful attacks. Successful attacks leads to goals while unsuccessful attacks results to Corner Kicks, tackles, throws and Offside. The survey indicates preferences for this factor at percentage level of 17% within the overwhelming class of 97.84% of respondents.

Survey Predictive Failure Rates, Reasons for Choice of Predictive Factors and Challenges: As a result of very high Odds arrogated to Corner Kicks and it's nearly prediction outcomes many forecasters are lured into the market option despite its inherent rates of failures as indicated by the survey feedbacks shown in Appendix B. Despite repetitive failure, higher number of bettors base their choice of betting market options on Odds assigned to the fields. Use of procured Expert tips shows more fourth-weekly (within four rounds of matches) winning stakes though very negligible few of 0.25% ventures into this predictive factor on Corner Kicks. The Survey shows that 1.91% of the respondents' wining rates cannot breakeven in their staking

bids on Corner Kicks prediction while the majority at a class of 97.84% cannot estimate with easy when and how to predict Corner kicks outcome successfully. This high level of uncertainty in the use of 'Expert Tips' worsens bettors' ability to make meaningful gain from their betting investments. It is amazing that failures are explained out as caused by changes in pre-fixed match outcomes.

Findings on the research trial of Survey's three best predictive Factors using finished Match Statistics: The Outcomes of the experiment as depicted in Appendix C showed failed predictive strengths of the three best predictive factors deployed into Corner kick. It was found that predictive accuracy of those who venture into corner-kick market options was less than 19.46%. This massive predictive failure was found to be Forecasters' knowledge lack of the diversities of variables that affect football Corner-Kicks.

The research discovers that number of times Ball is taken to opponent's Eighteen Yard, Goal Attempts and Blocks of Shots are the most potent variables that has number of Corner-kicks in a match while other diverse variables as shown in Appendix D affect Corner-kick outcomes in various degrees. Some of these variables are prompted by others, thus one action may beget another. Surprisingly, it is found that Corner-kick taking many a time results to another Corner-kicks. The surveyed bettors were discovered to have a very knowledge gap in these major variables catalyzing number of Corner kicks in match outcomes. Many bettors' decision hinges on Teams known performances and expected perception performances. All these explains the reason for massive predictive failure in Corner kick market options. This failure level is very huge thus indicating that

in real life investment, none of the Forecasters/Predictors will breakeven with their endeavours. This experiment explains the booming and increasing rate of betting industries. It also explain why very high odds are assigned to Corner Kicks market options. The gain rate by the betting Companies also signifies the early display of Corner kicks different fields in their market stalls. It tells the losing state of the bettors that venture into Corner kick predictions are extremely high.

CONCLUSIONS AND RECOMMENDATIONS

The successful predictive accuracy of less than 20% on Corner Kicks means that bettors on this market option cannot breakeven and cannot sustain to remain in the business for a prolonged time. This might be one of the reasons why football predictions is taken as gambling rather than forecasting business carried out by experts in the business sector. The gambling concept of football prediction assumption explains why it is all comers' short time business. Deeper comprehension of the prediction as expert business will change the investment nature of the business from very weekly short-time to seasonal long time venture. Lack of pre-event data such as touches at opponent goal box that will help to form predictive variables prior to the event is ban on the predictive capabilities of the venturing experts. In consistence of many football apples to keep regular updates of goal attempts, shots on targets and block shots do also contribute adversely to prediction of Corner-kicks.

- i. It is recommended based on the findings of this research that prediction of Corner-kicks should be ventured by people who has acquired

knowledge the causative variables that results to corner-kicks in football events.

- ii. It is also recommended for further research a confirmation of significant pre-event variable that should be used for prediction of Corner-kicks during football matches.

A further research is recommended for age and level of education demographic survey of football predictors and factors that elicit their luring interest in the betting business.

The Social implication of this study is to make apparent the reasons for increasing and booming number of betting companies in Nigeria and its luring effects on the young generations of the populace. The study showcases the need for only knowledgeable persons to be involved in the business of football forecasting and betting.

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