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Opinion

Data Analytics and Football Industry on the Egyptian Premier League

Gomaa Othman M.[1*] & Mohamed Dawoud Al- shenawy[2]

[1]*Assistant Professor Faculty of Physical Education Zagazig University*

[2]*Sports Data Analyst and Football Pundit*

[*]**Correspondence to:** Dr. Gomaa Othman M., Assistant Professor Faculty of Physical Education Zagazig University.

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The Big "Data" Problem

During next few years, there will be a change and an increase in the functions of research and analysis in the sports field Football is one of the sports that will greatly develop in the analysis of players' performance. This growth is due to many current coaches recognizing the value of data analytics in helping their team. Applied toward anything from potential draft picks to fourth down prediction charts, data can quantify difficult decisions into simple, thoughtful processes.

Applying analytics in sports is complex. Being able to confidently predict events or outcomes requires taking many variables into account, thus producing complicated statistical outcomes and probabilities. Though data and statistical methods are available to predict who wins a football game with extraordinary accuracy, the complexity of the process leaves coaches scratching their heads.

How Do We Solve the Problem?

The result of this analysis confirmed this coordinator's "hunch" that although one punter could occasionally hit a very long punt, his counterpart was much more reliable. As an analyst, I found that the best way to

arrive at a solution is to either confirm these "hunches" that coaches have with solid data analysis or provide alternative ways of thinking to show different possible paths. The coach might feel like one person is better than the other, and to be able to provide statistical proof of confirmation could be game changing in building trust with the coaching staff and in the overall acceptance of data analytics in any football program.

In sum, better analysis involves better communication. To grow analytics in football, there needs to be better communication patterns to help the coaches understand and apply the insights found through data analytics initiatives to the specific problems for which the coaches are seeking solutions.

Football has recently seen an expanded use of data in an attempt to develop the game, and with the diversity of companies working in football data, become for each company has its own model that analyzes the data through it.

One of the most famous values in football data is Expected Goals xG, and the following table provides a comparison between the value of the expected goals for the penalty kick and its connection to reality by comparing the real numbers with the hypothetical numbers of two models working on the Egyptian Premier League. and they are KoraStat and Instat.

Table 1: *The statistic was conducted for five years from the 2016-2017 season until the 2020-2021 season and monitored the penalties kick which played during five seasons individually, the total values for the five seasons together, the number of penalties scored and the percentage of penalties scored.*

Season	Penalties	Penalties scored	Penalties scored %	Instat xG per Penalty	Total Instat xG for Penalties	Accuracy of Instat %	Korastat xG per Penalty	Total Korastat xG for Penalties	Accuracy of Korastat %
2020-2021	185	149	80.54%	0.75	138.75	93.12%	0.89	164.65	90.49%
2019-2020	157	112	71.33%	0.75	117.75	95.11%	0.89	139.73	80.15%
2018-2019	123	91	73.98%	0.75	92.25	98.64%	0.89	109.47	83.12%
2017-2018	94	68	72.34%	0.75	70.5	96.45%	0.89	83.66	81.28%
2016-2017	99	71	71.71%	0.75	74.25	95.62%	0.89	88.11	80.58%
Total	658	491	74.62%		493.5	99.49%		585.62	83.84%

The table [1] and figures [1-4] shows the value given by each company's model, the number of penalty kicks that are supposed to be scored according to the model, and the accuracy rate of each model in predicting each season individually and for the total of the five seasons compared to the realistic numbers.

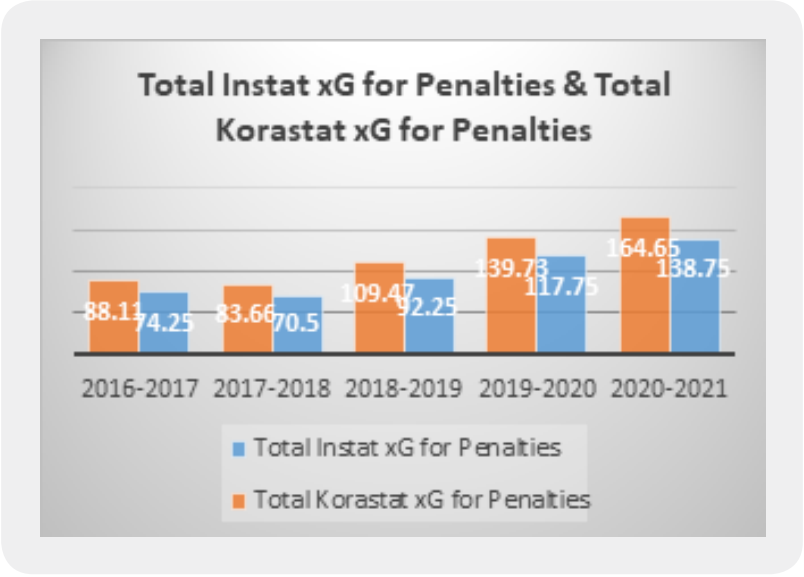

Figure 1: *Total Instat xG for Penalties & Total Korastats xG for Penalties in period 2016-2021*

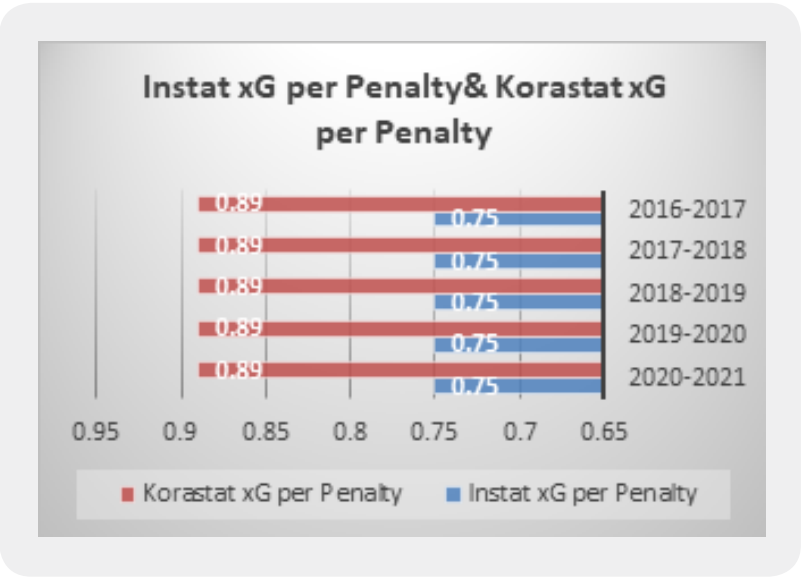

Figure 2: *Instat xG per Penalty& Korastat xG per Penalty in period 2016-2021*

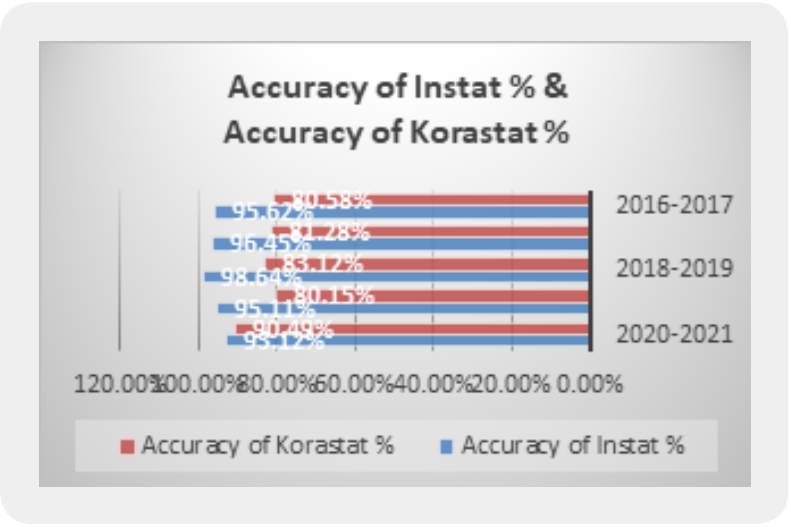

Figure 3: *Accuracy of Instat % & Accuracy of Korastat in period 2016-2021*

Figure 4: *Penalties & Penalties scored in period 2016-2021*

We note from the table that instat, which gives the penalty kick value of 0.75, is the closest to the accuracy, as its accuracy of expecrltation during five seasons reached 99.94% after it was expected that 493.5 penalty kicks were scored, while 491 penalty kicks were actually recorded.

On the other hand, the KoraStat model, which gives the penalty kick a value of 0.89, has an accuracy of expectation 83.84%, after it was expected to score 585.63 penalty kicks, while 491 penalty kicks were actually recorded.

Which shows that the value of scoring a penalty kick in the Egyptian League corresponds more to the model of the company Instat, which gives for each penalty kick a value of 0.75 as an expected goal.

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