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## **Correlation Analysis Between the TRP and IPL Cricket Matches**

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### **ABSTRACT**

The study aims at examining the correlation between the total number of cricket matches played from year to year from 2008-2021 and TRP (television Rating Point) . The number of matches played is considered as an indicator of the popularity of cricket, while TRP ratings were used to measure the viewership of cricket matches. The study used here is a statistical method correlations analysis which determines the relations between two variables .

After calculating the correlation coefficient between TRP ratings and the number of matches played in IPL from 2008 -2021, it was found that there is a weak positive correlation between the two variables. This means that as the number of matches played in IPL increases, the TRP ratings also tend to increase slightly. However, the correlation is not strong, which suggests that other factors may also be contributing to the TRP ratings of IPL .

The findings show that there has been increase in total number of matches from 2008-2013 but from 2014 -2022 there hasn't been much difference or fluctuations in the number of matches played but there TRP ratings have been fluctuating over the years .However ,the correlation analysis show that the fluctuations in TRP ratings have positive correlation with the total number of matches played .

Finally, the study shows that there exists weak positive correlation between the number of matches played and TRP ratings over the years. The findings show that the number of matches played may contribute to increase in the TRP ratings. Nevertheless, other elements, including as the type of matches and the popularity of the groups, may also have an influence on TRP ratings.

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**Key words:** correlation analysis, TRP, total number of words, statistical method.

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### **INTRODUCTION**

Correlation analysis is a statistical tool which is used to know the association between two or more variables. In this study, the correlation analysis was used to examine the relationship between TRP ratings and IPL cricket matches as well as the total number of matches played from year to year.

TRP ratings, a viewing indicator, are used to gauge how popular a specific program or event is. TRP ratings were employed in this study to gauge the popularity of IPL cricket games.

Total number of matches played is another variable used in the above study .It was used to examine the popularity of the game over the years. It is one of the important indicator measuring the popularity of cricket and is often used to measure the growth of the sport.

The correlation analysis that was done to investigate the relationship between TRP ratings and IPL cricket matches as well as the overall number of matches played from year to year is what connects the keywords. Overall, the paper emphasizes the need of using quantifiable methodologies, including correlation analysis to study the relationship between elements. The focus also demonstrates that key indicators of cricket matches' popularity are TRP ratings and the overall number of matches played.

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### **LITERATURE REVIEW**

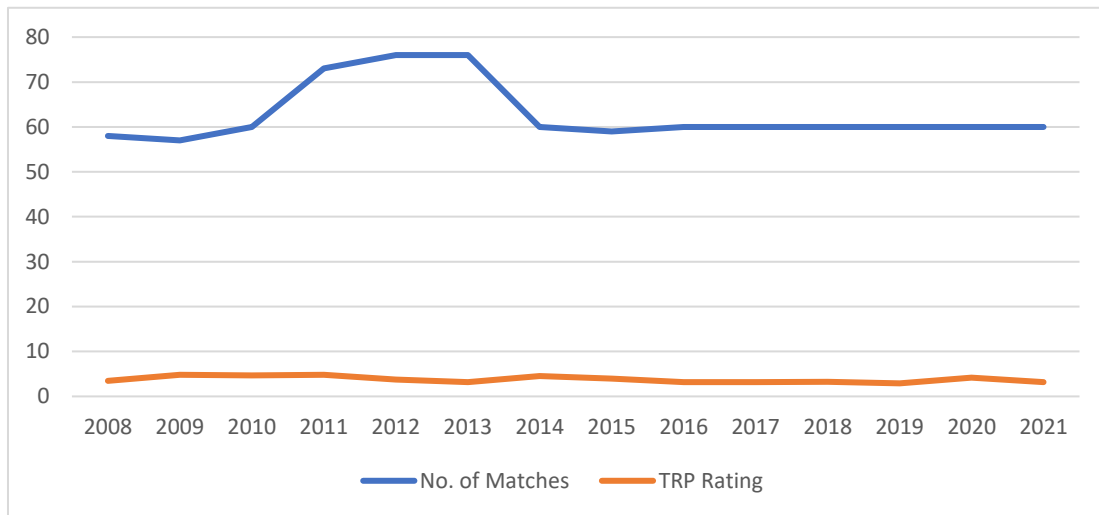
- ❖ Hritika Sharma and Suneel Ghani " The Comparative study of Television and the Digital Sports that is Broadcasted in India" (2020) which analyses the television and sports broadcasting in India and also examines how it has effected the viewership and financial success of the sports league in India.
- ❖ The literature which is on the influence of the streaming on the sports broadcasting and how it has changed the model of traditional broadcasting is clearly reviewed in "The Impact of Streaming on broadcasting of the sport: an Overview which is of the Research" by Tana Gergely and Gabriel Thomas(2020).

- ❖ In the year 2009 the study " The Television Ratings that is for the National Sports Games and the Role of Competitive Imbalance" by Rodrick Fort & Jason Winfield looks into the effect of the competitive balance on that is on the popularity of the sports league and how it will affect the television ratings for the games in the league of national football..
- ❖ Sung young and Hoon lee’s study in the year 2017 of the Effect of the Match Fixing on the attendance in the stadium and the TRP in the Professional sport” which examines the effects of the match fixing on the Tv ratings that is in the sports an its affect on the appeal of the certain sports.
- ❖ In the Joshua W article "The Sports and Games on Television that is Advertising the Revenue" from the year 2014 which explores the effect of sports on the television advertising revenue and how it will change depending on the sport and also the season.

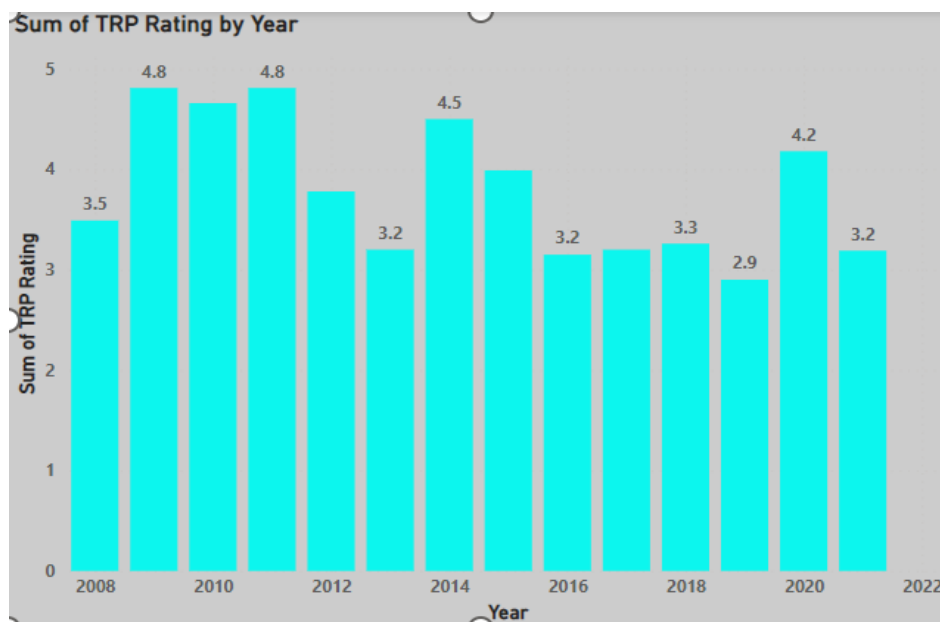
**RESEARCH METHODOLOGY**

The data used in above study is secondary data ,which is taken from google search. The following methodology is used to conduct correlation analysis and hypothesis testing from the collected secondary data.\_Correlation analysis done to know the to investigate the relationship between TRP ratings and IPL cricket matches as well as the overall number of matches played from year to year.

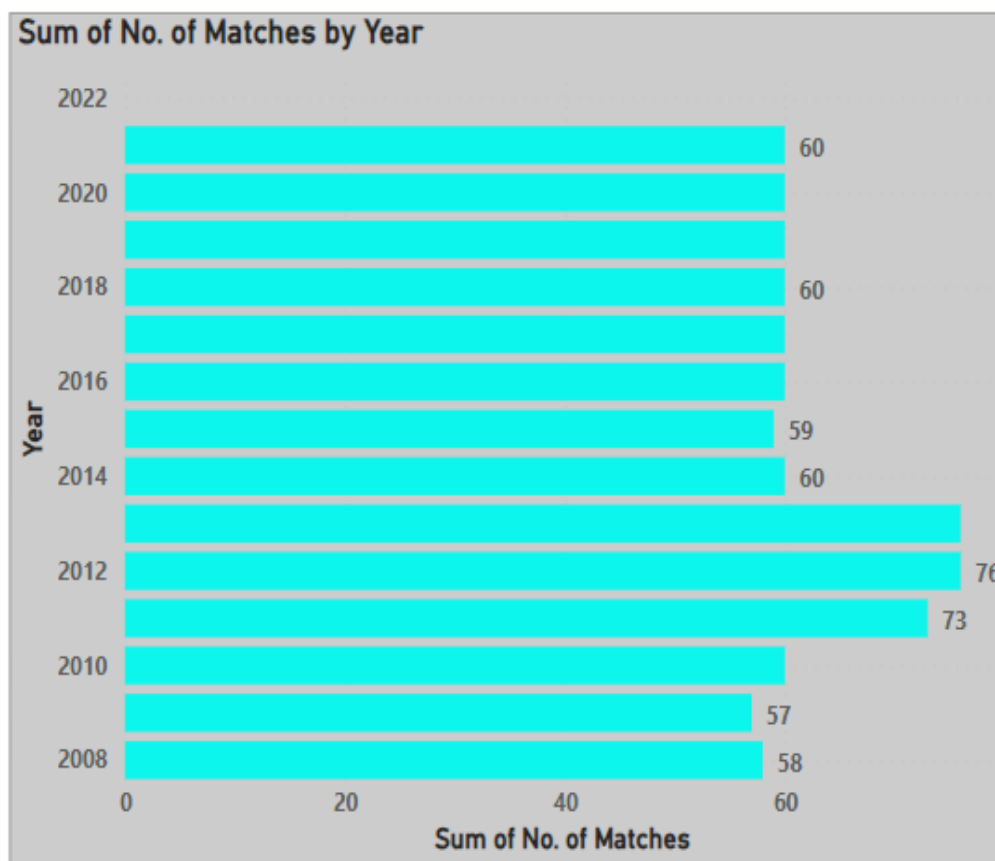
**DATA ANALYSIS**



Clustered column chart



Clustered bar chart:



#### Correlation analysis

By looking that is at the table we can say that the matches that have been played in the IPL that is consistent that is 60 matches is per season is played from the year 2010 but in the beginning seasons of the IPL the number of matches have been varying that is between the number 58 to 76. There is also fluctuation in the ratings of the TRP over the years like the TRP rating that is highest of 4.81 that is achieved in the year 2009 and also in the 2011 but the lowest TRP rating is achieved in the year 2019 and TRP rating for the year 2020 was 4.18 which is the second highest year TRP rating for the IPL or the history. The correlation value can range from -1 to 1, when the value is 0 it says that there is no correlation, if there is a positive value it indicates that there is a positive correlation, and a negative value indicates that there is negative correlation.

From the calculation that is of the correlation that is between the number of matches played and the ratings in the IPL from the year 2008 to 2011 the study tells us that there is a weak positive correlation that is between the variables which means that as the number of matches increases in the IPL the TRP will also increase but slightly. However, the correlation is not strong, which suggests that other factors may also be contributing to the TRP ratings of IPL.

It is very important to note that causation is not directly implied from the correlation there may be some other factor also that can affect the TRP of the IPL like the quality of the cricket the popularity of the players and also the teams and the match timings.

#### THE HYPOTHESIS TESTING

The Null Hypothesis: There is no significant correlation that is between the IPL matches and the TRP ratings.

The Alternate Hypothesis: there is significant correlation between the IPL matches and the TRP ratings.

#### DETERMINATION OF THE LEVEL OF SIGNIFICANCE:

The level of the significance is ( $\alpha$ ) which is probability of rejection of the null hypothesis when it is true. In most of the cases,  $\alpha$  always set at 0.05, which will mean that the rejection of the null hypothesis when it is true is 5%.

#### CALCULATION OF TEST STATISTIC

The test statistic for the testing of the null hypothesis on coefficient of the correlation is the t-statistic, which is mainly calculated with the use of following formula:

$$t = r * \text{square root of } (n - 2) / \text{square root of } (1 - r^2)$$

Where r is indicating the value of the correlation coefficient, and n is indicating the sample size.

By using the  $g$  correlation coefficient that is calculated earlier which is 0.01385 and from assuming that the sample size is 100, we get:

$$t = 0.01385 * \text{square root of } (100 - 2) / \text{square root of } (1 - 0.01385^2) \text{ which is equal to } 0.396.$$

#### **DETERMINING THE CRITICAL VALUE**

The value at which the null hypothesis is rejected is called as the critical value. Based on the level of significance and degrees of freedom, which equal  $n - 2$ , this value is calculated.

The critical value for  $\alpha = 0.05$  and  $df = 98$  (because  $n = 100$ ) is 1.984.

Decision making

We reject the null hypothesis if the test statistic's absolute value exceeds the crucial threshold. We fail to reject the null hypothesis if the test statistic's absolute value is less than or equal to the critical value.

We cannot reject the null hypothesis in this situation since the test calculated value (0.396) is lower than the crucial threshold (1.984). As a result, we draw the conclusion that there is no significant correlation between TRP and IPL cricket games.

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#### **CONCLUSION**

The analysis of the correlation between the total number of matches played and TRP ratings in IPL cricket using secondary data suggests there is a weak positive correlation. However, from the hypothesis testing that is also based on secondary data fails to reject the null hypothesis, which indicates that there is no significant correlation that is between the two variables.

#### ***Further scope***

Additional investigation should mainly focus on factors that are affecting the TRP ratings for the IPL cricket matches, like the preparation of the matches, playing groups, presentation of the player, and the telecasters' use of the time that is restricted and strategies of marketing.

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