Exit Polls of 2014 *Lok Sabha* Elections - The Accuracy of Poll Predictions in Indian Elections

Asha K.

Abstract

Opinion polls and exit polls during election season in India has become a regular feature and they are controversial too. Over a period, exit polls have evolved as a more trusted form of getting to know the pulse of the voters. The 2014 Lok Sabha elections in India witnessed many media houses conducting exit polls. This write up reveals the degree of accuracy about the predictions made by media houses in their exit polls.

Key Words: *Exit polls, voters, NDA, UPA, Allies, Modi, Bayesian, LS polls 2014*

AuthorResearch:**Asha**Scholar**K.,** Department of Communication and Journalism, Manasagangotri, University of Mysore, Mysore- 570 006. email: asha_65@hotmail.com

Introduction

India, being the largest democratic nation of the world, always gets excited over elections and it was no different in 2014.The outcome of exit polls gave fodder for the media houses, in particular to television channels, to debate and discuss extensively the prospects of the main political parties and prime candidates in the fray. In India, it is a tough challenge to do poll predictions as majority of elections is multi-cornered fights. In addition, plurality in language, religion, disparities in income, corrupting voters by political parties as well as candidates and many more factors make it difficult to predict the outcome. In the run up to the elections held over April and May in 2014, there was extensive coverage of poll campaigns of various political parties and its leaders. There were no dearth for experts' views in print, television and the Internet based media.

Prime political parties and candidates did their best to reach out to the voters. At times, the media, by and large, gave an impression that it was focussing more on one particular party and its prime candidate – the BJP and Narendra Modi. It was justifiable to a large extent because the BJP and in particular its prime ministerial candidate were hyper active in campaigning. The campaign of its rival Congress party and its leaders looked pale compared to the campaign blitz

of the BJP. And naturally the BJP hogged more limelight in the media. The investment made by both the Congress and the BJP for staying alive in the media was huge.

Political pundits were consistent in predicting that the National Democratic Alliance (NDA) lead by the BJP would get the maximum seats of the seatstotal. 543The *Lok*Modi*Sabha*-lead campaign for the BJP or NDA would ensure him the prime ministerial seat was the common opinion. However, the detractors of the BJP and in particular Modi were not ready to buy this projection or propaganda. This was mainly because the BJP is known for creating media hype regarding its poll fortunes. It had done in the previous LS elections. The best example was 'India Shining' campaign by the BJP in 2004. Eventually, the party did not shine and badly lost the elections. In 2009 also the BJP could not live up to its tall claims of coming to power.

OBJECTIVES

1. To study whether the exit polls predicted the election results right;

2. To analyze the methods followed by certain prime agencies in conducting exit polls;

3. To examine whether the exit polls lead to any surprises;

4. To study the level of criticism, controversy and errors following the outcome of exit poll;

METHODOLOGY

Content analysis method was adopted to analyze the survey findings of exit poll surveys conducted by the research agencies and media organizations in the 2014 *Lok Sabha* elections in India. Content analysis is a technique that provides opportunity to study the content published or broadcast in media in terms of news reports and news analysis. The content analysis method helps in the analysis of the methodology adopted by the researchers of exit polls and the technique used to analyze the data. The study explores the different methods adopted by the researchers of exit polls to understand the degree of accuracy in their predictions. Exit polls is all about making predictions in the elections based on the opinion collected from voters post voting. The content analysis helps in understanding the method of study, sample design and techniques of analysis in exit polls published in the mainstream media.

Meaning of Exit, Entrance, Post Poll & Opinion Poll

There are various ways of feeling the pulse of voters or study the reasons as to why they prefer or reject a particular candidate or a party. All the four types of surveys have different purposes and approach. An exit poll of an election is gathering of votes polled after voter comes out of the actual polling station or meeting the voters in their residence after the polling is over. The information collected at the polling station from the individual voters is analysed presuming that the voters have given accurate information about their vote to the field investigators of the research agencies. Exit poll is diagonally opposite of opinion poll. If the voters are asked to whom they intend to vote, then it is called the opinion poll. If the poll is conducted before the voters cast their vote, it is called an entrance poll.

When it comes to post poll survey, according to the Centre for the Study of Developing Societies (CSDS) of New Delhi, it is a state of art method of survey which it has developed. In this method, voters are interviewed after the polling is completed at their residences and not at the polling booths or on the street. It is done in a relaxed environment. It is an exercise to read the pulse of voters and also to go beyond that – as to why a particular candidate/party became the preference.

In the recent years, newspapers and television houses are opting for exit polls. May be because the opinion polls have gone horribly wrong in the past and at the same time, the exit polls have been nearer to the reality conducted by certain agencies.

The surveys are conducted mainly to kill the curiosity of readers/ viewers. In case of TV stations, the telecast of exit polls or general survey results increase the Television Rating Point (TRP) tremendously and thus also brings in revenue through advertisements. Duration of the telecast of the results turns into prime time. The early indication of the results before the actual results are announced also lead to betting with punters becoming hyper active. Share markets too respond to the poll predictions.

There were instances when the media organisations which were controlled financially by politicians or political parties, tweaking the survey results to woo undecided voters or to create euphoria for the party/candidate of their choice. But this tendency was checked to a considerable extent during the LS 2014 season because the outcome of the surveys was announced only after the

final phase of voting. This is being done as per the directions issued by the Election Commission of India.

Another purpose of exit poll (or the survey) is to find or to get a rough indication to the degree of election fraud. The Venezuelan recall referendum in 2004 and the Ukrainian presidential election 2004 are the recent examples of the poll fraud. Marcel van Dam, a Dutch sociologist and former politician, is credited with having designed the exit poll. It was first conducted during the Dutch legislative elections in 1967. It is not that exit polls are fool-proof. There will be margin of error. The example for showing the error is the 1992 United Kingdom general elections. Two exit polls were conducted and both had predicted a hung parliament. But the actual results made way for the Conservative Party to become the ruling party. However, the party did not have good majority. Investigations revealed that the methodology was unscientific. Differential response rates, inadequate demographic data and poor choice of sampling points were among the reasons for the exit polls to off the mark. In the US, the National Election Pool comprising ABC, AP, CBS, CNN, Fox News and NBC conduct a joint exit poll. In the US, exit polls have faced with criticism and the prime reason was that the results were in public domain before the voting. Such announcements could influence both positively and negatively on the voting pattern and finally the results.

In India too announcement of exit poll results much before the final phase of voting had come under criticism. The resistance had come mainly from political parties itself. The allegations were that surveys were not scientific. They were branded as partisan in nature and collection of fictitious data to favour a party or an individual. However, over a period, conducting the survey has become more scientific and thus credibility has improved to certain extent. Media houses and research organisations have become cautious enough not to lose their reputation by doing a hotchpotch job or churning out data to suit someone's requirement.

Sai Prasad

ANALYSIS and DISCUSSION

It was during the 2014 LS elections that India saw agencies conducting the surveys becoming more cautious. Credibility topped the agenda of the agencies as viewers/readers had developed cynicism over exit polls because consistently the results were wrong.

In 2014, the Election Commission of India barred media houses from announcing exit poll results till the poll results were announced. However, this decision of the EC was not acceptable to the media organizations as they found it illogical. Later the EC withdraw its decision and allowed the

announcement of the exit poll results after 6.30 pm on May 12, 2014 the last day for voting for the LS elections. And, all TV channels religiously followed this instruction.

It is at this juncture, the exit polls/post poll surveys conducted by certain agencies for the media houses became interesting and crucial. The TV channels which had commissioned the surveys were Times Now, CNN-IBN, Headlines Today, ABP News, News24 and India TV among others. Each English TV channel had tied up with a different agency and the results were different. (See the chart 1)

In run up to the 2014 polls, News Express, a TV channel, had released the footages of a sting operation named Operation Prime Minister which alleged that a number of polling agencies were into malpractices. It said the numbers were being fudged to project Modi as the front-runner and this was done to influence undecided voters. The allegations were against Ipsos, a global market research company and Centre for Voting Opinion & Trends in Election Research (CVoter), a polling agency, which had contractual agreement with the India Today group, which is into publication business. Finally, the agreement had to be suspended.

The irony was that the promoters of News Express,

Group, itself came under criticism as it was alleged to have involved in money laundering cases and were facing investigations. It came to light that the channel was backed by a ruling party which was not doing well as per the opinion polls. Later the India Today group and various other media groups carried the findings of the CVoter.

Agencies adopt different types of survey methodologies. Following explains the methodology followed by certain media houses/agencies;

As per the details hosted by NDTV, a prominent commercial broadcasting television network, on its website, the methodology adopted by it is as follows. It had conducted both Polling Booth Surveys and Post Poll Household Surveys in association with Hansa Research, a global market research agency.

1.   Polling Booth Exit Polls: The sample size was 63,740 selected randomly in polling booths across the country. A randomised selection of voters was asked as to which party they voted for once they were out of polling booths.

2.   Post Poll Exit Polls: The sample size was 91,712 voters.

The elections were held in a phased manner and the exit polls were conducted on the day of elections. Every fifth voter was interviewed to indicate the candidate/party for which he/she had voted. The exit polls were conducted over select 265 LS constituencies across 19 major states. The proportion of constituencies covered was higher in states where major political changes had taken place. For example, in undivided Andhra Pradesh, Tamil Nadu, West Bengal, and New Delhi among others the selection of constituencies was more. Parliamentary constituencies chosen for the exit polls were representative of the socio-political regions within the state.

On an average there are eight assembly constituencies in a parliament segment. Three assembly constituencies (AC) were randomly selected and in all 795 assembly constituencies (AC) were considered for collecting the output across the country. This included 3,150 randomly selected polling booths.

For each booth two interviewers were assigned for one hour. Later they were moved to another booth. The information they elicited from the respondents were stored in tablet computers. The voter indicated their preference of candidate and the party symbol displayed on the screen. But their choice was not exposed to the interviewers.

The agency also conducted Post Poll Survey with voters randomly selected from the electoral rolls after the conclusion of the elections. The interviews were conducted over 1 to 8 days after the polling. The sampling was done over 330 LS constituencies across 19 states. The states selected were those selected for the exit polls.

In each parliamentary constituency (PC) three assembly constituencies were randomly selected. A total of 990 ACs were sampled and the polling booths involved were 3,224. The total interviewers were 92,000. There were no differences between the method followed to collecting and storing the data between the exit and post poll surveys.

The voters' list was the base for selecting the voters randomly. The interviews' outcome was recorded on tablet computers. The candidate along with the party symbol was selected by each voter to show his/her choice. All data was weighed to reflect the constituency profile on gender and religion/caste.

Findings

In all, six surveys were conducted by prime agencies and the NDA was in the broad range of 257-340 seats. The average was calculated on the basis of the range given for each party and political front. Eventually, the NDA scored 336 and thus topped the score card of the Lok Sabha elections and the UPA won 59 seats. So, the actual results did not go beyond the surveys' polls average of 340 seats for the NDA.

1.   Pre-election polls sample size in 2 phases – 90,339

2.   Pre-election update polls sample size – 14,772

3.   Pre-election telephone re-contact sample size – 18,324 (This was done during the poll duration)

4.   Post-election exit polls sample size – 63,740

5.   Post-election post poll- 91,712

6.   Total interviews over the polling schedule – 2,78,837

Other highlights

1.   Interviews were conducted in homes and not in public places

2.   The questions were well thought of and no random questions were asked by the interviewers

3.   Data collection process was through simulated ballot box for recording the choice of the voter .

4.   The exit poll results of NDTV-Hansa when announced on May 14, 2014, it said that the sample size was 1.55 lakh with a two per cent margin of error.

CNN IBN-LOKNITI-CSDS

CNN IBN had tied up with *Lokniti*-CSDS for the post-poll survey of the elections. The Delhi-based political research centre, *Lokniti*, under the banner of Election Tracker, did the post poll survey and not exit poll as done by other channels/organisations. The Hindu newspaper published the CSDS survey results.

The exit poll is conducted on the day of polling. It is collecting information from voters as to whom they voted. In case of post-poll, which is developed by Comparative Democracy at the Centre for the Study of Developing Societies (CSDS) according to Dr Sandeep Shastri, political analyst working with CSDS, voters are interviewed after the polling. It need not be conducted in a hurried manner soon after the voting is done. It is not only collecting information as to whom voters voted for but also to find out as to why they preferred a particular party or a candidate. It is also an academic exercise regarding elections and voters are randomly selected from the electoral rolls, says Dr Shastri.

As per the *Lokniti* team, the methodology followed was collecting the opinion after the polling and before the results were announced. The survey was conducted in 26 states. Of the 543 LS constituencies, 306 were included for the survey. Within the LS constituencies, 347 assembly segments encompassing 1,388 polling stations were included.

1.   The constituencies were sampled using the Probability Proportionate to Size Method (PPS).
2.   Four polling stations within each of the assembly constituency were selected.
3.   The method used was the Systematic Random Sampling (SRS).
4.   The voters were selected from the electoral rolls prepared by the Election Commission.

5.   From each polling station –interaction was with 25 respondents in rural polling station and 30 respondents in urban polling booths.

6.   Of the 37,000 respondents selected randomly, 22,295 voters were successfully interviewed.

7.   Field investigators/staff interviewed the respondents to find out to whom they voted for and the reasons for their choice.

8.   A standard questionnaire was circulated to the respondents.

9.   At the same time, they were given a dummy ballot paper on which they were asked to indicate their choice of preference. The ballot papers were collected in a dummy ballot box.

10.   The voters interviewed remained anonymous. The interviews were conducted at the voters' residence.

11.   The interaction with the voters helped in understanding the political opinions within the context of broader social and economic factors.

12.   Grouping of the states were done using a statistical technique known as weighing. Each state was proportionately represented in the analysis.

The data collected were analysed by a research team of the CSDS consisting political scientists.

Today's *Chanakya* is a Delhi-based political research organisation and a registered trademark of RNB Research, a member of the American Marketing Association. It had carried out the exit poll on the day of polling in the respective states in each phase and post poll study in each phase. News24 TV channel had tied up with Today's *Chanakya* for using the exit poll outcome.

According to the organisation, the entire system of conducting

the poll is based on a 'seven layer spectrum model', designed especially for Indian elections. The survey covered 22 states, including Delhi and Union Territory of Chandigarh.

News24-Today's *Chanakya* exit poll had generated a lot of debate and raised many eyebrows with their predictions of election results in the past. With almost exact predictions, News24 exit polls had emerged as the most proven and credible exit poll.

For the Delhi assembly polls, News24 had predicted 29 seats for the BJP, 10 for the Congress and 31 for the AAP. The results were almost on the same lines – the BJP 32 (31+1- *Shiromani Akali Dal*), the Congress 8 and the AAP 28.

in theToday'scountry*ModiChanwith***akya***ave*the predicted a

BJP bagging 291 seats (+/- 14 seats). The Congress may reach as low as 57 seats (+/- 9 seats). It had predicted that the BJP would be in a position to form the government on its strength. It had projected 340 (+/-14) seats for the NDA, 70 (+/-9) for the UPA and 133 (+/- 11 seats) for others. The survey results by and large tallied with the final results.

Methodology of *Chanakya*

1. The exit day poll conducted on the day of polling during each phase.

2. It conducted post poll study too in each phase.

3. In all, 22 states were covered.

4. The Seven Layer Spectrum Model was followed for analysing the data. However, the organisation has not revealed what this spectrum model is.

5. Stratified sampling technique was primarily employed to make homogenous subgroups. In this method of sampling of population subpopulations within a population is also surveyed. Each smaller group were independently surveyed.

6. All possible sampling error was reduced to obtain a homogenous representative sample.

7. Data regarding age, sex, social class, household, work status, literacy level among others were collected.

8. Proper weights were assigned to ensure the data reflects the socio economic conditions of the state/region.

9. The margin of sampling error was +/- 3.6 percentage points with 95 pc confidence level.

10.

V K Bajaj, CEO of the Company had said, "We have been correct about 99 percent times. The company specialises in sample survey. We believe in quality of the samples and not just quantity". The sampling was done as per caste and religious configuration of a constituency. "We check and re-check the sample size to ensure that most parts of a constituency are covered. No community that can impact poll result is left out and we use multiple question method to catch the voter's preference," a spokesman had said. However, in general the organisers are not very forthcoming in explaining the exact methodology they adopted. The same team had got it right in the 2009 LS elections, the state elections held in Delhi in 2013 and Rajasthan, Madhya Pradesh and Chhattisgarh. At that time too a

representative of the organisation while declining to share specific details of the methodology followed, had just said that his organisation was into market research segment for the last two decades. A spokesman had said that the agency had correctly predicted the UK and US elections besides various state elections.

Unlike polling agencies like CVoter, AC Nielsen and CSDS whose electoral polls are exclusively commissioned and released by a media partners, Today's *Chanakya*'s numbers are often put out by the agency through press release or even on twitter Bajaj had said that face to face interviews, pen-and-paper questionnaires, and 'mystery shopping' a tool usually used in market research that involves not disclosing to the respondent that he/she is being interviewed for a poll. Vote share and seat share numbers disclosed and nothing else. It strictly complied with standards laid down by the market research industry body Esomar, he had said.

Mint, a business newspaper, on May 27, 2014, while analysing the poll results and the survey results of Today's *Chanakya,* had said that it was a triumph for the Bayesian method. It was written that it was for the first time the method was used in India. It was reported that in a Bayesian opinion poll, pollsters use prior knowledge of a population to construct a prior distribution of how the population will vote. Later, interviews are conducted among a random sample of the target population and update the distribution and finally use this to make the forecasts. The advantages, according to the report, are that the sample size required is smaller and pollsters make use of any prior information available. The survey method under the Bayesian model need not be even random. If pollsters can identify that the preferences of a particular set of people reflect that of a larger population, then can precisely target such people in the survey without losing accuracy. The downside with this method is that constructing prior distributions can sometimes be an art rather than a science. And, errors could have a cascading effect. As per the Wikipedia, Bayesian probability is one of the different interpretations of the concept of probability. It can be seen as an extension of propositional logic that enables reasoning with hypothesis. – ie. the propositions whose truth or falsity is uncertain. Bayesian probability belongs to the category of evidential probabilities – to evaluate the probability of a hypothesis, the Bayesian probability specifies some prior probability which is then updates in the light of new, relevant data or evidence. The interpretation provides a standard set of procedures and formulae to perform this calculation.

The term Bayesian refers to the 18th century mathematician and theologian Thomas Bayes. He provided the first mathematical treatment of a non-trivial problem of Bayesian inference. Mathematician Pierre-Simon Laplace pioneered and popularised Bayesian probability.

The polling agencies had also projected vote share of each party in states. But while some agencies were more accurate in projecting vote share nearer to the reality, some agencies failed to translate the vote share into seats. The vote share only shows the party's strength in a particular constituency or area. However, it is number of seats which decide the fate of a political party. Hence, more than vote share, it is seat projects which are taken seriously. While Hansa turned out to be better than any other agency in predicting vote share, Today's *Chanakya* could come nearer to the final results when it comes to seats projection as its seat share projections were correct in many northern states. Still, almost all agencies had predicted that vote share of the NDA would be more than the UPA and finally, it did come true. There are arguments that the success of an exit poll is rated going by the estimate of the vote share accurately.

Conclusion

The exit polls of various agencies had predicted that the BJP lead NDA may come to power. The surveys had put the NDA's seats on an average of 257-340 seats. The NDA would cross the half way mark of 272. The Congress lead UPA would be witnessing its poorest performance though it may stand second in the results tally chart was the prediction. The final results proved both right. While the methodology adopted by various agencies differed, the common prediction was that the BJP, under the leadership of Narendra Modi, would do far better than any other party and thus come to power. Times Now projected that the UPA would get as high as 148 seats, the rest of the agencies, be it TV or a research agency, did not project the UPA crossing the 100 mark. In case of the NDA, Times Now's projection was 249 seats, while the rest of the agencies, except Today's *Chankaya* did not give more than 300. Finally, the projection of the Today's *Chanakya* came nearer to the truth.

The sample size and methodology adopted by each agency was different. Though Today's *Chanakya* performed impressively when it comes to converting the vote share into seats, it's outcome when it comes to vote share in many states was not nearer to the actual results. Hansa's vote share prediction was much more accurate than any other agency. More than the quantity of sample size, the quality of sample size mattered much to feel the pulse of voters. The Bayesian method may be a good scientific method for analysing the poll predictions, it is not a fool-proof method and this was proved in the LS polls when it comes to projecting the voting percentage. Pollsters, by and large, are yet to expertise in projecting vote share and converting the vote share into seats.There was not much

controversy about the outcome of the exit polls though some agencies could not do a professional job. Except one incident, there were no complaints regarding rigging.

The credibility of exit polls is increasing, Unlike in the past, in the LS 2014 elections, the exit polls proved more right than wrong as in the past. For media houses, conducting exit polls has become essential as it has become part and parcel of election history. Charles Fredrick Mosteller, a globally acclaimed statistician, had come out with certain methods to convert vote share into seats. He had come out with eight methods to measure the accuracy of a pre-election poll.

However, so far there is no fool-proof method.

While one Mostelller method is to calculate the difference in percentage points between the winner's predicted and the actual proportion of the total vote cast, another is the difference in percentage points between the winner's predicted and actual proportions of the votes received by the first two top candidates. The difference of the oriented difference between predicted and actual percentage result for the two top candidates also forms the Mosteller method. In the 2014 elections, the NDA could get 38 pc of the vote total votes polled, while the UPA managed to get 22.8 pc. When the Mosteller 2 method was applied, the results of NDTV Hans stood first, while India Today Cicero emerged as the poorest. (Chart 3 & 4)

Table-1

Majority of the exit polls indicated that the NDA lead by the BJP would be way ahead of other parties in the 2014 LS elections. Here is the outcome of the exit polls.

Political Party/Research Agency of Exit Poll	NDA	BJP	UPA	Congress	Left	Others
CNN-IBN-CSDS Lokniti	272-282	230-242	92-102	72-82	14-20	111-143
Times Now Org	249	210	148	105	17	146
Chanakya	340	291	70	57	12	133
NDTV-Hansa Research	279	235	103	79	NA	161
ABP-Nielson	281	249	97	73	24	141
India TV-C Voter	289	250	101	78	20	98
Acutal Results	336	283	59	44	10	148*

*Total LS Seats -543; NDA+UPA+Others = 36+59+148
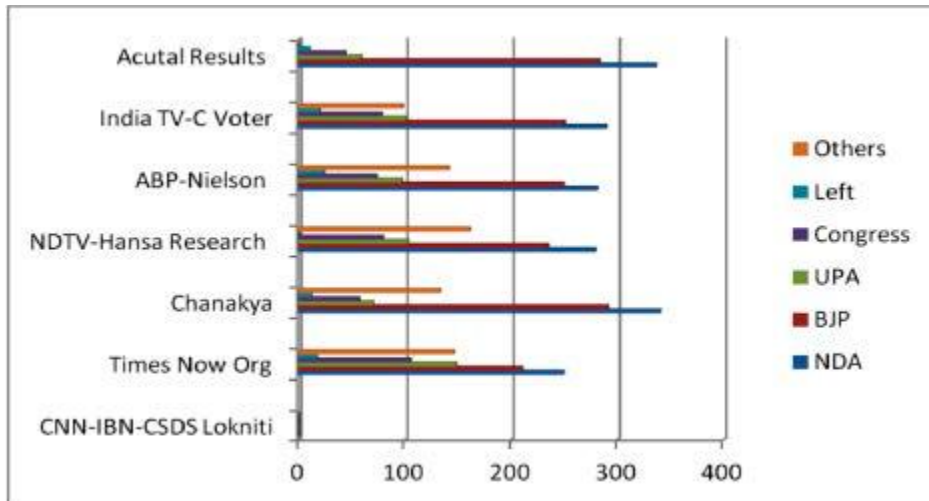
Figure 1 Graphic analysis of Exit Polls Results

Table – 2

Parties	Projected Vote Shares Seats			Actual Results	
	Research Organisations	Vote Share (%)	Seats	Vote Share (%)	Seats
BJP	Hans Research	38	53	42.3	71
	Today's Chanakya	34	70(+/-7)		
BSP	Hans Research	17	7	NA	0
	Today's Chanakya	22	3(+/-2)		
SP	Hans Research	21	13	22.2	5
	Today's Chanakya	23	4(+/-2)		
Congress	Hans Research	14	7	7.5	2
	Today's Chanakya	12	3 (+/-1)		

The exit poll results, vote share projections and the actual results in Uttar Pradesh show that while Hansa Research organisation did an impressive job while projecting the vote share of political parties, Today's Chanakya did well in converting the vote share into seats

(Note: Apna Dal won 2 seats)
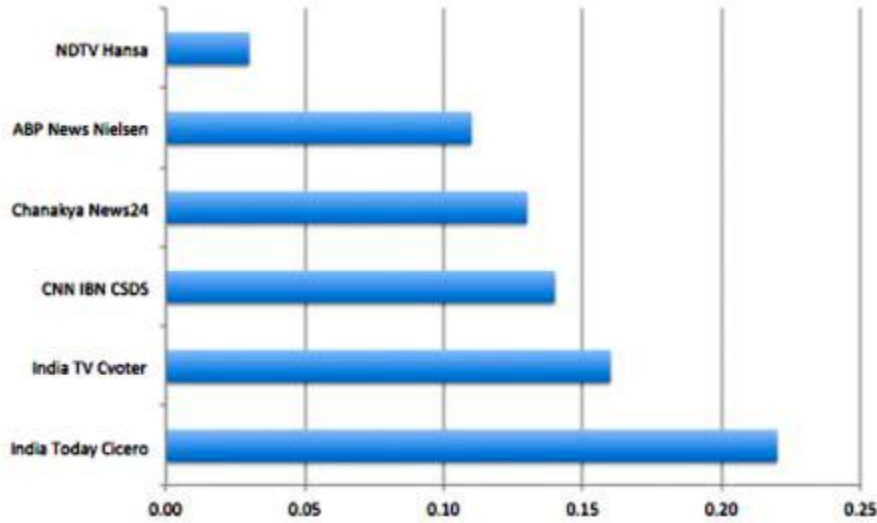
Figure 2 Graphic Analysis of Vote Shar (Source: chunauti.org)

On chunauti.org, it has been reported that under the Mosteller 2 method, the ranking is given to the exit polls based on how far they deviated from the vote share ratio in their own estimates. The NDTV Hansa poll performed the best, while the India Today Cicero poll did the poorest.Graph showing the deviation from the vote share ratio in their own estimates
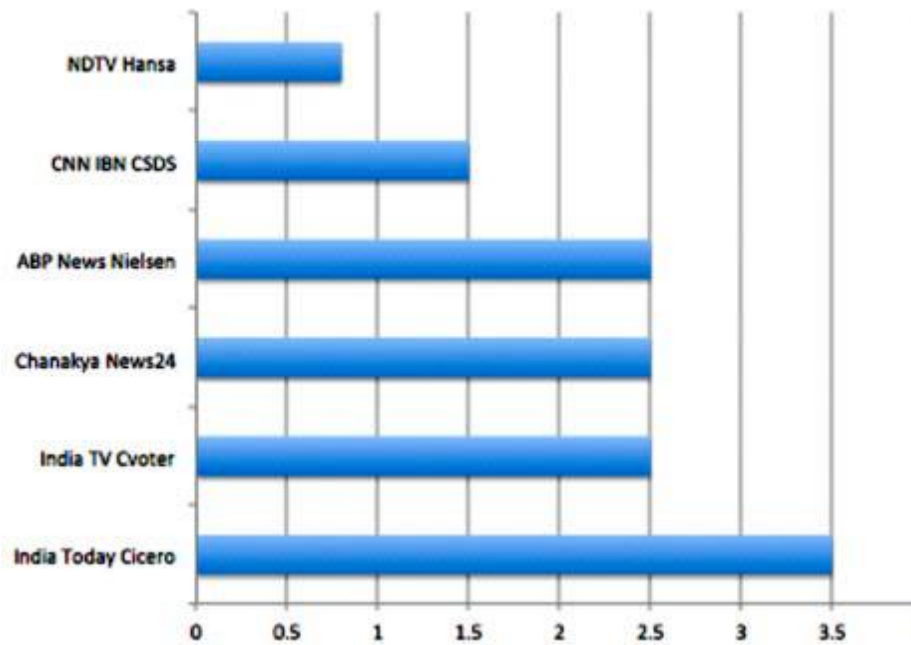

Figure 3 Graph Showing the Percentage of Deviation from the Vote Share Ratio in their Own Estimates
(*Source: chunauti.org*)

On chunauti.org it has been reported that using the Mosteller 5 method, it was found that NDTV Hansa did the best again with a deviation of only 0.8 percentage points from the actual vote share gap between the NDA and the UPA CNN IBN CSDS came second, and India Today Cicero was last once again.

REFERENCES

1.   www.deccanherald.com/election/content/406871/nda-get-279-cong-79.html CNN-IBN-Lokniti-CSDS election tracker ;www.lokniti.org/tracker-poll-2013.php; www.lokniti.org/pdf/post-poll-method-note-pdf - retrieved on Oct 3, 2014)

2.   www.ndtv.com/elections/article/elections-2014/lok-sabha-exit-and-post-poll-methodology   – retrieved on Oct 3, 2014

3.   news24online.com/news24-todays-chanakya-exit-poll-bjp-springs-a-surprise-inassam/   as visited on oct 7, 2014

4.   (News24online.com/news24-todays-chanakya-exit-poll-modi-wave-in-country-bjp-needs-no-nda-to-form-govt as visited on Oct 7, 2014)

5.   (www.todayschanakaya.com/images/loksabha-elections-2014/pdf- as visited on Oct 7, 2014)

6.   (www.hindustantimes.com/elections-beat/today-s-chanakya-exit-poll-hits-the-mark-again-   as visited on Oct 7, 2014)

7.   www.thehindu.com/opinion/blogs/blog-database/artcile/ as visited on Oct 7, 2014

8.   http://www.livemint.com/Opinion/fmsmq9XzQAnUq15rz2eoCN/Exit-polls-Triumph-of-the-Bayesian.html

9.   Wikipedia on the Bayesian method – retrieved on Oct 31, 2014

10.   Bayesian Analysis of Election Surveys and Forecasts: Learning from the State of Valencia Experience; Andrew Gelman, Department of Statistics, University of California, Berkeley – www.stat.columbia.edu/-gelman/research/published/ bernado.pdf)

11.   Chunauti.org – And the winner is….as visited on Nov 7, 2014 – the post was on May 23, 2014.