Analysis on the Uncertainties of Human Factors and the Corresponding Avoidance Measures in Predictive Reporting

Cunchang Wang
School of Journalism and Communication, Anhui University, Hefei 230000, China.

Abstract: Predictive activity is a way for human beings to pursue certainty of life, and predictive reporting is a version of predictive activity in the field of journalism and communication. It is worth noting that there are four kinds of roles that humans play in predictive reporting. They are the service object, the predictor, the predictive object and the receiver of the predictive results. The results of the predictive reporting are often affected by these four human factors, thus causing different degrees of uncertainty. This paper aims to explain the specific performance of human factors that cause the uncertainty of predictive results and the corresponding avoidance measures, in order to reduce the error of predictive reporting and pursue the certainty of human future.

Keywords: Predictive Reporting; Human Factors; Uncertainty

1. Predictive reporting

Predictive reporting refers to "an analytical report of news, events, an important issue or the future development prospect of an important field". Predictive reporting began in the United States in the 1930s, and it wasn't introduced into China until 1980s. Then, in the era of big data, predictive reporting is favored by more news organizations and journalists, who try to make predictive reporting brilliant with the technical support of big data.

Big data does provide a strong impetus for the development of predictive reporting. For example, the fivethirtyeight.com (hereinafter referred to as 538), a predictive website of America, is famous for its big data algorithms that successfully predicted the president of 2008 and 2012. However, the 538 failed to predict the US president of 2018, making it fell to the "altar". The academic community also began to reflect on the pros and cons of big data technology for predictive reporting.

From the perspective of domestic academic research, the author searched for "predictive reporting" as the theme on CNKI, and found 178 Chinese papers. What was worse, there was only one paper published in 2017 and 2018, none in 2019, and also only one in 2020. It can be seen that predictive reporting has been relatively unpopular in Chinese academia in recent years. Specifically, the homogenization phenomenon of the predictive reporting study is serious. Most of papers focus on the assist of big data and ways of doing accurate predictive reporting. In terms of content, the characteristics and status quo of predictive reporting are mostly stated. In addition, there are different views on future development of predictive reporting. On the one hand, some scholars believe that predictive reporting can be completely accurate; on the other hand, some scholars think that there is a big difference between predictive news and news as "the report of recent facts" (Lu Dingyi), which is doomed to not become the subject of news reports and cannot develop well in the long run.

Discussing how to do a good prediction reporting, besides starting from the background of big data, Zhang Shiyong noticed the "human error", and explained it as the error caused by the human reasons of the reporter. However, he ignored the other three human factors: the service object, the predictive object and the receiver of the predictive results. Therefore, it is impossible to completely avoid human error only from the perspective of the reporter.

2. Definition of human factors in predictive reporting

From the attributes and functions of "human beings" in predictive reporting, the author divides them into four identities:

predictive service object, predictor, predictive object and the receiver of predictive results, and collectively call them as human factors. Obviously, the opposite of human factors are objective factors or objective conditions. The predictive results of predictive reporting need to comprehensively consider the human factors and objective factors in the development of things predicted. The development of science and technology makes people have a more and more grasp of objective factors, and become more dependent on them, so they will ignore the influence of human factors on predictive reporting, leading to predictive errors. Therefore, it is necessary to study and elaborate on these four human factors.

Firstly, human beings are the service objects of predictive activities. Predictive activities have done since ancient times in China, such as fortune-telling, divination, weather prediction and so on. Human beings carry out the predictive activities with the desire of curiosity, satisfying their curiosity and risk avoidance. But the predictive activities were not standardized and scientific until the "Future Science" was created in the United States in the 1940s, and the concept of "Risk Society" proposed by German sociologist Ulrich Beck further increased the importance of human society to predictive activities, and also further provided academic theoretical support for it. Dewey thought people lived in a dangerous world, then had to seek for security. People have subjective initiative for risk avoidance, through the acknowledgement of law of the objective world, enhancement of the level of the development of science and technology to predict risk, and then taking effective defense measures to avoid risk, to achieve the purpose of resist and avoid risk.

Second, human beings are the initiator of predictive activities, that is, the predictor. In the age of underdeveloped technology, most of the predictions made were empirical. Such as "swallows fly low to rain" and other people rely on the generation of experience accumulated proverb to predict the weather. Even at the moment when the big data technology is relatively mature, the empirical predictive reporting still have a place, and the empirical factors certainly cannot be completely replaced by the big data in the predictive activities. Empirical judgment and prediction method is always one of the basic methods of prediction. No matter what kind of predictive reporting, most people will choose to believe that those with more experience in relevant field, which can also be called "celebrity effect". However, the empirical prediction will be affected by the psychology, emotion, knowledge structure and personal quality of the forecaster, and the predictive results will produce subjective one-sidedness.

Thirdly, when the predicted object involves people, the error of the predictive results may be bigger. In the 2016 US election, 538 always believed that Clinton was very likely to win with big superiority. But the final result proved that the big data technology 538 relied on was unreliable. When the war between Russia and Ukraine broke out on February 24, 2022, many domestic experts and scholars made wrong predictions. Several famous international strategy analysts apologized to their fans after the outbreak of the war. Russia could indeed solve problems without war, so it seemed that Putin's unpredictable personal logic is the biggest factor causing expert’s wrong prediction.

Fourthly, people have a selective bias as information receivers. Nowadays, many people actually have fixed channels to receive information. They do not try to form their own judgment; they choose to trust the media they know. In this sense, people are still the passive receivers of information. Moreover, emotional factors often play a large role in people's choices. On August 2, President Pelosi made a visit to Taiwan, and the patriotic sentiment of the Chinese people was extremely high. The People's Daily and other media posted that China firmly supports the principle of one China, but as a result, people felt disappointed.

3. Uncertainty avoidance of human factors in predictive reporting

Predictive reporting is a speculation about the future, so the content of the report is not known objective facts. The predictive results in advance need time to prove its truth or wrongness. There may be many other emergencies and uncertain factors happening during waiting period, so it makes a sense that a certain range of predictive error should be allowed. In order to minimize the error, the uncertainties caused by human factors can be avoided by some feasible methods.

3.1 Grasp and obey the objective laws to reduce the influence of human factors

Predictive reporting requires the predictors to start from the objective facts, study the objective laws, and deduce the predictive results based on comprehensive factors. The main big data analysis of the 538 website is actually recognized by the journalism, and the two US presidents forecasts of 16 years ago show that 538's approach is feasible. 538 website on November 9, 2016 posted analysis in

the process of the poll data using error, in the reflection of statistical noise interference factor. The poll showed that Clinton will be elected President with greater probability. However, the question design of the questionnaire often has an emotional tendency of the investigator, and the differences in the way of asking the questions will also affect the final results. In addition, the provocation of the candidate's speech is also a big factor. Trump said he would build a wall to keep illegal Mexican immigrants and get Mexicans to pay for it, winning favor from some Republican officials and US border officials. Trump also used Twitter to get closer to the American people, which was called "Twitter governance" by netizens and made him be more popular than the superior political theorists.

Therefore, predictors should try to abandon stereotypes and emotional bias, and consider the complexity and variability of predictive objects from multiple perspectives. The questionnaire design of polling institutions is normal, but people's opinions are not unchanged. Quantifying people's wishes at that time does not accurately reflect the final public opinions, but may cover up the process of the formation of opinions, and has great reference significance for the final result. The collection results of information, opinions and attitudes will cause a certain degree of deviation. How to weigh human factors requires the accumulation of the experience of the predictors, the respect of the law of the things' development, and the insight of the underlying logic behind all events. Predictors also need to master a certain knowledge of psychology to grasp the emotional position of the prediction object, so as to reduce the error of human factors on the predictive results.

3.2 Using scientific prediction methods and reporting techniques

Yan Yaojun believes that the current social prediction is "from the qualitative traditional scientific prediction to the modern prediction combining qualitative and quantitative". Empirical prediction requires a high personal knowledge level and analytical ability of the predictors, and it is often easily influenced by personal emotions. Scientific and objective prediction methods are carried out by quantitative data, using statistics, situation analysis and other methods. For example, before Nobel Prize is announced, many institutions or individuals will predict the winners. Candidates will not be announced. In addition, the Nobel Prize will not be directly awarded to those who have made the most outstanding contributions and achievements in the past year. Even so, "Thomson Reuters" (Thomson Reuters) institutions bases on the citation database, peer review and citation award, to find out the high reference research papers, and then according to the research experience and achievements of the scholar on the influence of the human society and the Nobel Prize winner in recent years to predict the Nobel laureate. Until 2016, the agency had successfully predicted 43 Nobel Prize winners.

In the face of the unknown, even with the technology auxiliary, the prediction results are still full of uncertainty, which requires the reporters of predictive reporting to master some writing skills. First, reporters can use more speculative words, such as "possible", "perhaps", "high probability", "general", "estimate" and so on. Second, use more quoted sentences and add their source. Diversity of reference is also important, and try not to use only a single paper or expert statement in the report, so as to increase the authority of the report and also reduce the prediction risk of media agencies and journalists. *Mini Doctor in the Vessels: How far is the nanoscale robot into reality?,* a predictive report posted on China News Weekly, cites Zhao Yiping (the Chinese institute of micron nanotechnology, the university of Georgia physics distinguished research professor), Tao wei (Harvard medical school assistant professor), He Qiang (Harbin industrial university professor), and articles on The Wall Street Journal and Nature to ensure the authority and professionalism of the content.

3.3 Abide by the news ethics and firm professional ethics

Some predictive reports are closely concerned with the development of human society, and the predictions of natural disasters, the economy, medical care, social dynamics, and international relations are likely to have an impact on national society and individual lives. Therefore, journalists should adhere to professional ethics, and should not deal with them for the sake of ending report work, nor should they violate objective facts to seek benefits and become the makers of rumors. Liu Yong believes that the prediction of earthquakes, typhoons and other disasters is easy to affect people's life and social stability; report should be prudent, and should strictly abide by news policies and legal requirements. Secondly, the collection and writing should be rigorous. The time, person and place in the report should be carefully checked, and some predictions that violate common sense shouldn't be reported, let alone make

political mistakes. Finally, if the prediction is wrong, the reporter should admit the mistakes and reflect, or use rolling reports to remedy and respond in time. In the above mentioned, many experts apologized for the error in predicting the war between Russia and Ukraine, and the 538 website also published an analysis and reflection on the error in election prediction. At present, rolling predictive reports are not uncommon in sports news and current news, which also provides a good solution to avoid prediction errors.

4. Conclusion

Human beings have been pursuing certainty all the time, but the future prediction can't reach 100% accuracy. We can only constantly accumulate experience, improve prediction methods to reduce the impact of uncertainties of human factors on predictive reporting. It is believed that in the future, with the continuous improvement of the big data technology, the continuous scientization of the prediction methods, and the predictors can better avoid the uncertainties brought by human factors, the error of the prediction results will reduce to the minimum and then make steady progress towards the certainty of future that we pursue.

References

[1] Cheng DC. An Introduction to Western News Writing. Beijing: Xinhua Publishing House; 2004.

[2] Zhang SY. Analysis on human error and its avoidance in predictive reporting. News Knowledge. 2010; 02: 65-66.

[3] Dewey J. The quest for certainty: a study for relation of knowledge and action. Shanghai: East China Normal University Press. 2019.

[4] Xu MM. (2018) Study on the predictive reporting of big data for the 2016 US presidential election. Ph.D. Thesis Anhui University, Anhui.

[5] Yan YJ. Basic principles of social prediction science. Beijing: Social Sciences Academic Press, 2005.

[6] Liu Y. Predictive reporting in social transformation. Journal of Anhui University (Philosophy and Social Sciences Edition). 2009; 33 (06):69-73.