The Role of Statistics in Elections Through Quick Count

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Abstract. The problem in this research is the existence of public opinion about the election results based on the results of surveys and quick counts conducted by survey institutions. It is often the case that the results of survey institutions differ not only in terms of the percentage of numbers, but also in terms of the winnings of different candidates. This raises public unrest. This study aims to determine the role of statistics in general elections through quick counts. The method used in this study uses the library research method. Data collection uses secondary data in the form of research results such as scientific reading books, scientific journals, and research reports. The data analysis technique takes three stages, namely; organize, synthesize and identify controversial issues. The results of this study show that statistics play a role in the quick count as a predictor of election results. Statistics has provided simple techniques in classifying data and in presenting data more easily. This research concludes that Statistical data and methods play a major role, so that their implementation is subject to scientific principles and can be rationally accounted for. Science remains to the fore and objectivity of quick calculations can help the public to obtain comparative information so that all electoral processes and determinations can be monitored.

INTRODUCTION

Statistics is one of the branches of knowledge that is widely studied by scientists from almost all fields of science such as medicine, engineering, management, social, and all fields that include human knowledge. Statistics is a method or science that studies a process in planning, collecting, analyzing, and presenting data (SR Pudjiastuti, 2022). Without realizing it, in our daily life, statistics are widely used. Although in simple things such as in homework, office, or other places. Statistics are widely applied in various disciplines, both natural sciences (eg astronomy and biology as well as social sciences (including sociology and psychology), as well as in the field of science and technology. business, economics, and industry. Statistics are also used in government for various purposes, one of which is a population census, statistics are also needed for data management to make it easier to manage population data. For example, to calculate and analyze the population, education research, welfare index, and finance. also in recording natural resources, classifying regions, recording the number of schools, etc. (John, Dewi PT, and Renatha, 2019).

Amelia Haryanti's research (2019) entitled "The role of the general election commission to increase the role of women in political participation in 2019". This study aims to provide an understanding and description of the obstacles and strategies of the election commission in increasing women's political participation.

One of the tangible manifestations of this statistical science is by knowing and collecting data on the population aged 7-12 years, the government can determine the needs of elementary school children. Scientists also have to show valid statistics and levels of effectiveness before each drug can be prescribed (Isharyanto, 2014). It is seen that statistics are the background in every medical research. In the future, statistics are also very necessary for data management on a large scale. Other statistical applications that are now popular are polling procedures (for example, conducted before the general election), as well as quick counts (quick counts of election results) or quick counts. which is useful for monitoring the voting process, data collection on the results of vote counting is carried out by hundreds or even thousands of volunteers through direct monitoring during voting and vote counting in all existing polling stations. Monitors record information, including the results of the existing vote count, and report these results to the center voice data collection (server) via mobile phone. Moreover, the amount of data on this global scale. statistics or statistics is increasingly popular among the public. This has happened since the survey and quick count related to regional head elections (pilkada). Statistics is in the spotlight because on February 15, 2017 elections were held simultaneously in 7 provinces, 76 regencies and 18 cities and registration of candidate pairs began on

September 19-21 September 2016. One of the foundations for the Pilkada is Law No. 8 of 2015 concerning Amendments to Law no. 1 of 2015 concerning the Stipulation of Government Regulations in Lieu of Law Number 1 of 2014 concerning the Election of Governors, Regents, and Mayors to become Laws. Article 5 (1) of the Law states that elections are held in two stages, namely the preparation stage and the implementation stage. In paragraph (2) it is explained that the preparation stage includes program and budget planning; preparation of election administration regulations; implementation planning which includes the determination of procedures and schedule for the stages of the implementation of the election; establishment of PPK, PPS, and KPPS; establishment of Regency/Municipal Panwas, Sub-district Panwas, PPL, and TPS Supervisors; notification and registration of election observers; submission of lists of potential voters; and updating and compiling voter lists (Ivan Aditya, 2016). Meanwhile, the implementation stage includes the announcement of the registration of pairs of candidates for governor and deputy governor, pairs of candidates for regent and candidates for deputy regents, as well as pairs of candidates for mayor and candidate for deputy mayor. Many problems occurred in the previous pilkada, for example the problem of prospective voters who have domiciles in more than one place even though they already have

a National Identity Card. Ballot issues and vote counting; problems with the District Election Committee (PPK), the Voting Committee (PPS) and the Voting Organizing Group (KPPS) as well as witnesses who are less neutral. Another issue that is no less important in influencing public opinion about the results of the local elections is the results of surveys and quick counts conducted by survey institutions. It is often the case that the results of survey institutions differ not only in terms of the percentage of numbers, but also in terms of the winnings of different candidates. This raises public unrest. Quick count is a scientific process, mainly based on statistical science, to get voting results quickly. Quick counts in Indonesia were started in 2004 by the Institute for Training, Research, Information, Economics and Social Affairs (LP3ES) in collaboration with The National Democratic Institute for International Affairs (NDI) in the Legislative Election 5 April 2004. They got a difference of 0.9 percent compared to the results KPU official. In the first round of the presidential election on July 5, 2004, the difference in their calculations improved by a difference of 0.5 percent. After the success of LP3ES-NDI in predicting election results using the quick count method, various survey institutions also used it for general elections and regional elections. Survey institutions that can publish quick count results are regulated by General Election Commission (KPU) Regulation No. 23 of 2013 concerning the

implementation of surveys and quick counts of general election results. Article 22 states that survey and quick count institutions are declared registered if they register with KPU, Provincial KPU and Regency/Municipal KPU by submitting requirements such as a statement letter regarding the neutrality of the survey institution, actually conducting interviews during the survey or opinion poll, using research methods. scientific research, and reporting on data collection methodologies. To see how accurate the quick count method is, we can look at the infographic compiled by tirto.id since the 2012 DKI Jakarta election. We can see that credible survey institutions are able to display quick count results that match the KPU's real count results. Quick counts as a predictor of election results have been popular in Indonesia and have grown rapidly in the last 15 years. Various institutions have been established to provide fast calculation services. Among these institutions, they also have the function of conducting public opinion surveys on political issues, political consultations, to candidate winning services in accurate methods to monitor election developments. There are efforts to maintain order and cleanliness in the holding of elections. Statistical data and methods play a major role, so that their implementation is subject to scientific principles and can be rationally accounted for. Quick counts should thus be distinguished from public opinion surveys. Because, in quick

calculations, data collectivization is not carried out by asking individual questions, nor is it asking questions with alternative answers offered. In elections, as a means of predicting vote acquisition, the quick calculation method does not involve collecting information from each polling station, but rather is obtained from a random sample of polling stations. Results are immediately compiled and are usually fairly accurate because they involve only "a very small margin of error." How did it happen? How can collect data randomly (randomly) can produce results that show convincing predictions? Again this is the victory of science, the victory of statistics. But once the statistics are wrapped in politics, all kinds of accusations will emerge: data accuracy, partiality, getting paid, and so on. A good operator of quick calculations will always adhere to scientific principles in statistical methods and data. As Harry Emerson Fosdick (1878-1969) said, good democracy rests on to the belief that "there are extraordinary possibilities that emerge from the common people." Among these possibilities is the public vote in political preferences. Quick calculations are used to monitor sound as an arithmetic reality. Quick calculations are important to strengthen electoral democracy. It not only shows the active participation of the public outside the official election management institutions, but also becomes one of the important instruments so that elections with integrity and fairness can

be maintained. Let's look at some electoral practices related to the existence of this quick count.

To regulate statistical activities, the government has issued Law No. 16 of 1997 concerning Statistics, which took effect on September 26, 1997, so that this date is celebrated as National Statistics Day. Article 1 (1) explains that statistics are data obtained by means of collection, processing, presentation, and analysis as well as a system that regulates the interrelationships between elements in the administration of statistics. Whereas in paragraph (4) it is explained that statistical activities are actions that include efforts to provide and disseminate data, efforts to develop statistical science, and efforts that lead to the development of the National Statistical System. Article 14 states that in the context of developing the National Statistical System, the public is obliged to notify BPS of the synopsis of statistical activities that have been completed. The synopsis contains the title, statistical activity area, population object, number of respondents, implementation time, statistical methods; name and address of the organizer and abstract. The synopsis notification can be submitted by post, data communication network or other delivery methods deemed easy for the organizer of statistical activities. Article 20 states that the organizers of statistical activities are obliged to provide equal opportunities to the public to know and benefit from the available statistics,

in accordance with the provisions of the prevailing laws and regulations. If this Article 20 is intentionally and without valid reason, it can be punished with imprisonment for a maximum of 1 year or a fine of a maximum of Rp. 25 million (Article 36). The polemic about the quick count results in yesterday's local election conducted by several survey institutions might be quelled if the above laws are implemented properly. Survey agencies need to explain to the public and report to BPS about the number of samples, the timing of implementation and the statistical methods used. In the 2017 simultaneous regional elections, the contribution of statistics needs to be optimized at the preparation and implementation stages of the regional elections. At the same time reorganizing survey institutions in conducting surveys and quick counts.

RESEARCH METHODS

The method used in this research is library research. In this study, the knowledge, ideas, or findings contained in the literature are examined so as to provide theoretical and scientific information (Pudjiastuti, 2019). The data collected and analyzed is secondary data in the form of research results such as scientific reading books, scientific journals, research reports, internet sites and others that are relevant. Standard instruments are made through standardized and qualified, and accurate instrument development procedures.

(Pudjiastuti, 2019). Furthermore, data analysis techniques in research include three stages, first, organize, namely organizing some of the literature that will be used. The literature used is first reviewed to suit the problem. At this stage the writer searches for ideas, objectives, and conclusions from several literatures starting from reading abstracts, introductions, research methods, discussing and classifying literature based on certain categories. Second, synthesis is to unite the results of the organization of the literature into a summary so that it becomes a unified whole, by looking for interrelationships between the literature. Third, identify controversial issues in the literature (SR Pudjiastuti, 2022). The controversial issue in question is an issue that is considered very important to be discussed or analyzed, in order to get an interesting article to read.

DISCUSSION
The Role of Statistics

Statistics education is required to be able to produce statisticians who are competent and able to agilely follow changes that continue to occur. This is important to note considering that data changes continue to occur rapidly, while accurate information is urgently needed, even in real time. The data revolution that is happening today has fundamentally affected our lives. This can be both an opportunity and a challenge. We can use this as an opportunity for growth,

development and employment. However, this is also a challenge for statisticians, especially those related to policies that require statistics, including social statistics. Today's modern society relies heavily on a solid foundation of statistical data in order to function properly. Statisticians have a central role in making accurate policies and decisions quickly. the quality of processing data into statistical information is of high value at the same time in a fast time. statistics has an important role and is very instrumental. Statistics is a tool that on the one hand can facilitate, but on the other hand can be harmful if not understood by the user.

Quick Count

Quick count (English: Quick count) is a method of verifying general election results by calculating the percentage of election results at the polling stations (TPS) that are sampled. Quick count is a quick calculation of election results by using a sample vote counting place (TPS). With Quick count, the results of the vote count can be known two to three hours after the vote count at the polling station is closed. This speed can be obtained because the Quick count does not count the votes from all TPS, only TPS samples are enough. If the sampling is done correctly, the recording procedure is carried out correctly, even though it only uses TPS samples, the results of the Quick count are almost the same as the results of the General Election.

This statement is in accordance with the results of Risangaji Febriyanto's (2020) research entitled "Analysis of the effect of the Quick count result announcement event." The results of this study indicate that there is no difference in the average abnormal return in the period of the Quick count result announcement event. Likewise, the results of (Rachel, Muvia's, 2020) research entitled "The effect of the 2019 Presidential election Quick count results on stock abnormal returns on the Indonesian LQ'45 index." in the shares that make up LQ'45 Indonesia. However, the results of (Ida Susilowati's, 2019) research entitled "Counter-Attack Post the 2019 Presidential Election vote count towards real count". The results of the study stated that the 2019 presidential election vote count, each party claimed to have won the election. Jokowi's camp showed its victory with the results of the Quick count, while Prabowo's camp showed its victory with real count results. Which they do themselves.

According to Article 1 Point 10 of KPU Regulation No. 23 of 2013, Quick count of election results is an activity of counting votes quickly using information technology, or based on certain methodologies. Quick counts provide an overview and high accuracy, because quick counts calculate election results directly from the target polling stations, not based on the perceptions or confessions of respondents. In addition, quick counts can apply probability sampling techniques, so that

the results are much more accurate and can reflect the population accurately (Kismiantini, 2007).

In Indonesia, the quick count was first conducted by the Institute for Economic and Social Research, Education, and Information (LP3ES) to find out the results of the 1997 general election. (Handini Ardiyanti,2013) which unfortunately was not published due to security conditions. In the 1999 election, LP3ES again performed a quick count and was spectacularly able to predict the election results in Java Island and NTB Province. Then entering 2004, LP3ES collaborated with the National Democratic Institute for International Affairs (NDI) to conduct a quick count of elections and was extraordinary in predicting the winner of the election, including the order of the election winners.

According to (Sumargo, 2015), the success of an election quick count is determined by several factors, namely: (1) the requirements that must be possessed by the quick count organizing institution, starting from access to polling stations; credibility and independence, volunteer network; and data communication device support; (2) The training received by all elements in the mechanism of data collection, data collection methods, and data processing. (3) Quality Control includes validating the results of data acquisition, both the validity of the data received and the validity of the data collection procedures.

Quick counts are carried out using research methods that are correct, valid, ethical, open to accountability, neutral in the sense of prioritizing the truth of scientific values. This quick count is an ordinary sampling activity, just like surveys that are often conducted to examine certain study objects, the difference is only in the smallest unit taken in the sample (Eriyanto, 2006). If the survey unit is the smallest village/kelurahan, the quick count is TPS. The reasons for time and cost make the sampling process often carried out in both servey and quick counts (Sirait Hasudungan; 2006). Technically, the quick count carried out by survey institutions, in this case LSI (2015), is carried out by (1) Determining the number of TPS to be observed (2) Selection of TPS to be observed (3) Data management (observation, recording, and data analysis) (4) Publication of quick count results. If observed from the stages above, the selection of TPS to be observed and data management are very crucial in implementing the quick count of election results as a form of field research. Quick counts are carried out using research methods that are correct, valid, ethical, open to accountability, neutral in the sense of prioritizing the truth of scientific values.

In general, there are 2 types of sampling known in statistics, namely: (1) Stratified random sampling. Stratification sampling is a sampling technique with sampling units that are grouped into several strata (groups). The

advantage of using the stratified sample method is the ease of analysis that can be presented either as a whole, per stratum, or strata comparison. (2) Cluster Sampling (Cluster Sampling). Is a probability sample with each sample unit (sampling unit) is a collection or cluster of elements. Element is defined as the object where the measurement is carried out. The sampling method for the cluster sample is done by dividing the population into several clusters, then from the cluster a sub-cluster will be randomly selected from which all elements will be taken. (Scheffer RL, Mendenhall W & Ott L. 1990).

The most important aspect of Quick count is sampling. If the TPS taken is not representative, it is certain that the Quick count prediction will fail in predicting the actual vote acquisition in the General Election. The unit of analysis (observation) Quick count is TPS. However, the initial calculation is based on the number of voters. Therefore, the determination of the number of polling stations begins with the calculation of the sample of voters. From the sample of voters it can only be predicted how many polling stations will be taken. Determination of sample size is related to how far we want the accuracy of a sample. Determining the sample size depends on the following 4 things; the diversity (variation) of the population, the desired sample error limit (sampling error), the confidence interval (convidence interval) and the number of populations. The speed and certainty of the

results of who wins in the general election is important for the public to know as soon as possible. KPU/KPUD will usually announce the election results a few days or even weeks later. During that process, political tensions will continue to be high. Quick count is useful to cool the political tension so that the public can start their daily life again.

Law Number 10 of 2008, the rights of the public in conducting surveys and quick counts are so limited that some citizens consider them to be limiting and inconsistent with the values contained in the Indonesian constitution. The Constitutional Court in its decision Number 9/PUU-VII/2009 considered that the restrictions on the announcement of the quick count in Article 245 paragraph (2) and paragraph (3) were not in line with the spirit of reform and the spirit of the 1945 Constitution of the Republic of Indonesia. became one of the considerations in the formulation of Law Number 8 of 2012 which incidentally revoked Law Number 10 of 2008 concerning General Elections. Changes were made in relation to the announcement of the quick count results, which were in accordance with the decision of the Constitutional Court No.9/PUU-VII/2009 which prohibits the limitation of the announcement of the quick count results on election day. Article 247 paragraph (5) of Law Number 8 of 2012 then states that the announcement of the quick count results may only be made no later than 2

hours after the completion of voting in the westernmost part of Indonesia.

Desired error rate (sampling error)

Because Quick count uses samples, there is always a sampling error. The larger the sample, the smaller the sampling error. On the other hand, the smaller the sample, the larger the sampling error. Because the sampling error indicates the degree of accuracy, the implementation of the Quick count must determine in advance what the desired error rate (sampling error) of the Quick count will be. Choice of sampling error, determines the degree of accuracy of the Quick count. The smaller the sampling error, the more accurate the Quick count results in improving the population (parameter values). Because the purpose of the election quick count is to predict the vote acquisition of the candidate, the sampling error used should be as small as possible. Only with a small sampling error, predictions can be made with more accuracy and precision. At least the sampling error used is a maximum of 1%. If possible use a smaller sampling error, for example 0.5%.ith the world of politics.

Trust Level

The level of confidence relates to how much the estimate or estimate from the sample applies to the population. The level of confidence is like two sides of a coin with sampling error. The sampling error rate estimates what the population value is, while the confidence level determines how much the estimate holds in the population. Since the purpose of the Election Quick count is to predict the vote acquisition of a candidate or party, the organizers of the Quick count should use the highest possible level of confidence, for example 90%, 95% and ((%. The confidence level often used in Quick counts is 99%. The 99% confidence level means that the probability of the sample result being equal to the population is 99%, and the probability of being wrong is 1%.

CONCLUSION

The presence of quick counts in elections, especially those in collaboration with various mainstream media (television, etc.) has clearly provided information to the public, in the form of vote distribution through exit polls and estimation of election results through quick counts, as well as encouraging community involvement in supervising the implementation of elections. election, especially the recapitulation of vote counts conducted by the KPU as the election organizer. Thus, it is hoped that the election results can be predicted and narrow the fraud committed at the stage of recapitulation of vote counting at various levels of election administration. Implementation of the quick count (quick count) elections is an effort to preserve and develop science to bring more benefits to the community by distributing information freely and without limit.

REFERENCES

[1] Amelia Haryanti (2019) "Peran komisi pemilihan umum untuk meningkatkan peran perempuan dalam partisipasi politik tahun 2019" *Journal of Civics and Education Studies Vol.6 No.1 Maret 2019.*

[2] Eriyanto, (2006), Panduan Penyelenggaraan Quick count, Penerbit Lingkaran Survei Indonesia, Jakarta.

[3] Handini Ardiyanti, (2013). Quick count dan Permasalahannya. Majalah Info Singkat Vol.V Nomor 02/II/P3DI/Januari 2013. Jakarta: P3DI DPR RI.h.17.

[4] Ida Susilowati (2019) "*Counter-Attack Pasca* penghitungan suara Pilpres 2019 menuju *real count*" Journal.uinjkt.ac.id vol.3. No.4.

[5] Isharyanto Ciptowiyono, (2014). Statistik Berbalut Politik: Peran Quick Count Dalam Pemilu. Kompasiana.

[6] Kismiantini, (2007). Pengumpulan Data dengan Quick count dan Exit Poll, Yogyakarta: FMIPA Universitas Negeri Yogyakarta.h.10.

[7] Lingkaran Survey Indonesia (LSI & Jaringan Isu Publik (JIP), Perkiraan Hasil Akhir Pemilihan Gubernur dan Wakil Gubernur Provinsi DKI Jakarta. Diakses melalui http"//www.Isi.co.id/media/HASIL-QC-DKI 8 Agustus 2007-FINAL2.ppt pada tanggal 10 Agustus 2015.

[8] Majalah 1000 Guru, (2019). Hitung Cepat (Quick Count): Aplikasi Statistika Dalam Pemilu, Redaksi 1000 Guru.

[9] Ivan Aditya, (2016). Kontribusi Statistika Dalam Pilkada Serentak, krjogja.com

[10] Pudjiastuti; Sri Rahayu. (2019), Penelitian Pendidikan, Yogyakarta: Media Akademi.

[11] Pudjiastuti, Sri Rahayu. (2018) Implementation of The Mind Mapping Model With Scattergories Game in Improving Creativity and Learning Outcomes in National Education Materials. JhSS Journal of Humanities and Social Studies, e-ISSN:2598-120X | p-ISSN:2598-117X. Sinta-3. Vol. 2, Issue.2. Pages 22-24.

[12] Pudjiastuti, Sri Rahayu, Sri Rumiati. (2019) Development of the PKn Learning Attitude Assesment Model in Foreign Political Culture and Results of PKn Learning from Students of Depok City Vocational School (SMK Semesta Cimanggis). JhSS Journal of Humanities and Social Studies, e-ISSN:2598-120X | p-ISSN:2598-117X. Sinta-3. Vol. 3, No.1.

[13] Risangaji Febriyanto (2020) "Analisis pengaruh peristiwa pengumuman hasil *Quick count*" Universitas Widya Dharma Klaten.

[14] Pudjiastuti, Sri Rahayu, (2022), Statistika Pendidikan, Depok: Penerbit Gemala

[15] Pudjiastuti, Sri Rahayu, (2022). Teknik Analisis Data, Depok: Penerbit Gemala.

[16] Sumargo, Quick count, diakses melalui http://www.beritaiptek.com/zberita-beritaiptek-2006-07-12quick-count pada tanggal 10 Agustus 2015.

[17] Sirait, Hasudungan. (2006). Politik Pemilu Pilkada. Jakarta: Aliansi Jurnalis Independen (AJI). H.60.

[18] Scheffer RL, Mendenhall W & Ott L. (1990). Elementary Survey Sampling, Boston:PW S-Kent, h.22.

[19] Tim Penyusun, Naskah Akademis Perubahan UU No.10 tahun (2008), Jakarta BPHN. H.55.

[20] Yohanes, Dewi PT, dan Renatha, (2019), Peran Statistika di Masa Depan, Binus University.