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Analysis of the Role of Validation and Verification of Socio-Economic and Household Data on the Quality of the Results of the 2026 National Socio-Economic Survey (SUSENAS) at the Central Statistics Agency of Mandailing Natal Regency

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ABSTRACT

This study aims to analyze the role of validation and verification of socioeconomic and household data on the quality of the 2026 National Socioeconomic Survey (SUSENAS) results at the Central Bureau of Statistics of Mandailing Natal Regency. The study used a qualitative approach with a case study design. Data were obtained through in-depth interviews with key informants involved in the SUSENAS implementation, observations of the quality control process, and a review of guideline documents and survey implementation reports. Data analysis was conducted through data reduction, data presentation, and thematic conclusion drawing using triangulation techniques to ensure the validity of the findings. The results show that validation acts as an initial screening mechanism to ensure the completeness, consistency, and logical fairness of data through automated systems and manual checks. Meanwhile, verification serves as a confirmation stage through rechecking and clarification of key variables. Both processes contribute significantly to improving the accuracy, consistency, reliability, and credibility of the SUSENAS results. The effectiveness of validation and verification is influenced by human resource competency, technological support, internal coordination, and the geographic conditions of the work area. This study confirms that strengthening quality control mechanisms is a strategic factor in ensuring the quality of socioeconomic statistics at the regional level.

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INTRODUCTION

The National Socio-Economic Survey (SUSENAS) is a strategic survey conducted by the Central Statistics Agency (BPS) as the primary source of data on the welfare of the Indonesian people. The resulting data is used to measure various important indicators such as poverty levels, household expenditure, education, health, and other socioeconomic conditions. Because it serves as the basis for public policy formulation, the quality of SUSENAS data must be guaranteed to ensure precise and accurate evidence-based policy decisions.

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Survey methodology literature confirms that the quality of survey results is significantly influenced by error control, from data collection to processing (Cornesse et al., 2020).

Throughout the survey cycle, data validation and verification are essential components of data quality management. Validation aims to ensure the consistency, completeness, and reasonableness of respondents' responses, while verification confirms the accuracy of the data through cross-checking or comparison with other sources. Research on data quality management shows that the systematic implementation of validation and verification procedures can improve the reliability and accuracy of survey analysis results (Nguyen et al., 2025). Furthermore, standardization in data collection and verification processes has been shown to improve the consistency and reproducibility of large-scale social survey results (Chen et al., 2025). Therefore, the quality of survey output is determined not only by the sample design but also by the effectiveness of data monitoring and quality control before publication (Bernhard-Harrer, 2025).

As part of the initial survey, a review of methodological documents and publications on regional welfare from the Central Statistics Agency (BPS) in Mandailing Natal Regency was conducted. The results showed that strategic regional indicators such as poverty rates, per capita expenditure, and access to education are heavily dependent on SUSENAS data, while empirical studies on the direct impact of validation and verification processes on the quality of SUSENAS results at the district level are still limited. Previous research also shows that corrections through data source verification can significantly impact indicator estimates (Chen et al., 2025), reinforcing the importance of evaluating quality control processes at the regional implementation level.

Based on this description, it is clear that validation and verification are not merely administrative steps but strategic components in ensuring the quality of socio-economic survey data. Given the importance of SUSENAS data as a basis for development planning and the limited research examining the relationship between validation and verification mechanisms and the quality of survey results at the district level, an in-depth analysis of the role of validation and verification of socioeconomic and household data on the quality of SUSENAS 2026 results at the Central Statistics Agency (BPS) of Mandailing Natal Regency is needed. This research is expected to provide theoretical contributions in strengthening survey data quality management as well as practical recommendations for improving the quality of official statistics at the regional level.

METHOD

This research uses a qualitative approach with a case study design to understand in-depth how the validation and verification processes for socioeconomic and household data are implemented and how these processes influence the quality of the results of the 2026 National Socioeconomic Survey (SUSENAS) (Sugiyono, 2020). A qualitative approach was chosen because this research does not aim to test statistical relationships between variables, but rather to explore the processes, mechanisms, and technical practices involved in data quality control at the implementation level. The case study focused on the Central Statistics Agency (BPS) of Mandailing Natal Regency as the research location, allowing for an in-depth contextual analysis of the validation and verification procedures applied in the 2026 SUSENAS.

Research data was obtained through in-depth interviews with key informants directly involved in the implementation and supervision of SUSENAS, such as statistics coordinators, field supervisors, and data processing officers. Additionally, observations of the data quality control process and document reviews of technical guidelines, survey implementation reports, and related publications were conducted. Informants were selected using purposive sampling, selecting informants with relevant knowledge and experience in the data validation and verification processes. Data analysis was conducted through the stages of data reduction, data presentation, and thematic conclusion drawing. Researchers identified patterns, the conformity of procedures with guidelines, and factors that supported and hindered the effectiveness of data validation and verification (Moleong, 2017). To ensure data validity, this study utilized source and method triangulation techniques, and conducted member checks with informants to ensure the accuracy of interpretation of interview results. With this approach, the study is expected to provide a comprehensive overview of the role of validation and verification in maintaining the quality of SUSENAS 2026 results at the district level and provide recommendations for improvement based on empirical findings.

RESULTS AND DISCUSSION

A. Overview of the 2026 SUSENAS Implementation at the Mandailing Natal Regency Statistics Agency (BPS)

The 2026 National Socioeconomic Survey (SUSENAS) at the Mandailing Natal Regency Statistics Agency (BPS) is part of a national survey conducted simultaneously throughout Indonesia. At the regency level, SUSENAS implementation is coordinated by the Head of the Regency BPS, involving statistics coordinators, field supervisors (PML), and field enumerators (PCL). This structure aims to ensure that the data collection process is carried out in accordance with nationally established technical guidelines and standard operating procedures.

In general, the 2026 SUSENAS implementation phase begins with preparatory activities, including recruitment and training of personnel, assignment of work areas, and familiarization with the questionnaire instrument. This is followed by the field enumeration phase, where officers visit sample households to conduct interviews using standardized survey instruments. During the implementation, the data collection process utilizes a technology-based system (Computer Assisted Personal Interviewing/CAPI) to minimize recording errors and increase data delivery efficiency.

After the enumeration phase is complete, the data entered into the system undergoes an initial check by field supervisors to ensure completeness and consistency. The data is then sent to the district BPS office for further editing and validation before being forwarded to the next stage of processing. This mechanism demonstrates that quality control begins from the time data is collected in the field through the initial processing stage.

In the context of Mandailing Natal Regency, the SUSENAS implementation faces geographical challenges and varying regional accessibility, which can potentially impact the data collection and verification process. Therefore, the role of field supervisors is crucial in ensuring that survey procedures are carried out according to guidelines. Furthermore, internal coordination between officers is also a determining factor in maintaining the timeliness and quality of survey results.

This overview demonstrates that the implementation of the 2026 SUSENAS at the district level is a systematic and multi-level process, involving various actors and quality control stages. Understanding the structure and mechanisms of this implementation provides an important foundation for further analyzing how the data validation and verification processes play a role in determining the quality of the final survey results.

B. Data Validation Process in the 2026 SUSENAS Implementation

The data validation process in the 2026 SUSENAS implementation at the Central Statistics Agency (BPS) of Mandailing Natal Regency is a crucial stage in maintaining the quality of information collected from sample households. Validation is carried out starting from the field enumeration stage through an application-based system (CAPI), which automatically detects inconsistencies, logical errors, and incomplete data. This system is designed to minimize human error and ensure that submitted data meets basic eligibility standards before further processing.

In addition to automated validation through the system, field supervisors (PML) also conduct manual checks on interview results inputted by enumerators (PCL). This check includes checking consistency between variables, the reasonableness of household expenditures, the appropriateness of the number of family members, and the logic of answers in the socioeconomic module. If inconsistencies are found, the supervisor can return the questionnaire to the enumerator for correction or further clarification with the respondent.

In the next stage, further validation is conducted at the district office level through editing and aggregate data monitoring. Data processing officers check the distribution patterns of responses, detect outliers, and identify potential systematic errors that may arise in specific areas. This process is crucial to ensure that the data is not only individually correct but also statistically consistent within the context of the entire sample.

Based on interviews with research informants, validation effectiveness is significantly influenced by the competence of officers, their understanding of the survey instrument, and their thoroughness in double-checking. In some cases, time pressures for fieldwork can impact the depth of data checking, making intensive coordination and oversight crucial to the success of the validation process.

Overall, the data validation process for the 2026 SUSENAS survey at the district level demonstrates that quality control has been implemented in multiple layers, from automated systems to manual checks by officers. This validation serves as an initial filter to prevent data errors from progressing to the processing and publication stages, thus directly contributing to improving the accuracy and consistency of survey results.

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C. Data Verification Process and Quality Control Mechanism

In addition to the validation process, data verification is a crucial step in ensuring that the information collected accurately reflects the actual conditions of respondents. In the 2026 SUSENAS implementation at the Central Statistics Agency (BPS) of Mandailing Natal Regency, verification was conducted through a rechecking mechanism on a sample of enumerated households. This process was generally carried out by field supervisors (PML) who conducted random return visits to confirm several key variables, such as the number of household members, employment status, and main expenditure components.

Verification was also conducted through administrative oversight at the office, comparing the enumeration data with distribution patterns deemed reasonable based on previous survey experience. If significant irregularities were found, such as expenditure values that were too low or too high compared to regional characteristics, further investigation was conducted to ensure there were no recording or input errors. In some cases, re-clarification with enumerators or respondents was part of the verification procedure.

This quality control mechanism is hierarchical, starting with field supervisors and continuing through audits at the district level. Internal coordination between officers is a crucial factor in ensuring that every verification finding is followed up appropriately. Interviews revealed that verification serves not only to identify errors but also as a means of coaching enumerators to be more thorough in the interview process and in completing the questionnaire.

However, the effectiveness of verification is influenced by time constraints, the size of the work area, and the number of samples required within a given period. The geographical location of Mandailing Natal Regency, with its vast area and varying access, also poses challenges in conducting follow-up visits. Nevertheless, the verification procedure remains a crucial component of the SUSENAS quality control system, serving as the final confirmation stage before further data processing at the provincial and national levels.

Overall, the verification process in the 2026 SUSENAS demonstrates a systematic effort to ensure data validity and accuracy through rechecking and multi-layered oversight. This mechanism complements the previously implemented validation process, thus forming a quality control system that contributes to the quality of the final survey results.

D. The Role of Validation and Verification in the Quality of SUSENAS Results

Based on the findings of the validation and verification processes outlined previously, it can be analyzed that both mechanisms play a significant role in determining the quality of the 2026 SUSENAS results at the Central Statistics Agency (BPS) of Mandailing Natal Regency. Validation serves as an initial filter, ensuring that all incoming data meets standards of completeness, consistency, and logical reasonableness. Meanwhile, verification acts as a confirmation stage, reaffirming data accuracy through direct and administrative rechecks. The combination of the two forms a complementary quality control system.

From a data quality perspective, validation contributes to improving the accuracy and consistency dimensions. With automated and manual logic checks, the potential for input errors, incorrect entries, and inconsistencies between variables can be minimized before the data enters further processing. This is important because even small errors at the household level can impact aggregate estimates, such as average expenditure or poverty rates. Effective validation helps maintain the stability of data distribution, so that analysis results more closely reflect the real conditions of the community.

Meanwhile, verification plays a role in strengthening the validity and reliability of the data. Through revisiting and clarifying key variables, verification ensures that respondents' answers do not deviate from the actual situation. Interviews with informants revealed that several data corrections were made after the verification process, particularly to expenditure and employment status components. These corrections indicate that without verification, estimation bias could potentially influence the interpretation of regional welfare indicators.

Further analysis shows that validation and verification also have an indirect impact on the credibility of the SUSENAS results. Data that has undergone a multi-layered quality control process tends to be more trusted by stakeholders, both local governments and other institutions. In the context of Mandailing Natal Regency, where SUSENAS data is used as a basis for development planning and social program evaluation, data quality is a strategic factor in determining the accuracy of policy decisions.

However, the effectiveness of validation and verification depends heavily on the competence of human resources, the intensity of supervision, and the support of the technological systems used. If any of these components is suboptimal, the quality control function can be reduced in effectiveness. Therefore, validation and verification should not only be understood as technical procedures, but also as part of a data quality management system that requires continuous strengthening.

Overall, the research results indicate that validation and verification play a central role in maintaining the quality of the 2026 SUSENAS results. Both processes contribute to improving data accuracy, consistency, reliability, and credibility, thus supporting the availability of more reliable socioeconomic statistics at the district level.

E. Supporting and Inhibiting Factors in the Validation and Verification Process

Based on interviews and field observations, the effectiveness of the validation and verification process in the 2026 SUSENAS implementation at the Central Statistics Agency (BPS) of Mandailing Natal Regency was influenced by a number of supporting and inhibiting factors, both technical and non-technical. Identifying these factors is crucial to understanding the extent to which quality control mechanisms are operating optimally.

One of the main supporting factors is the competence and experience of field officers. Technical training prior to the survey provided a sufficient understanding of the instrument, variable concepts, and validation and verification procedures. Research informants stated that a good understanding of socioeconomic concepts and operational definitions of variables was helpful in detecting irregularities in respondent responses. Furthermore, the use of a technology-based system (CAPI) was a supporting factor because it provided automatic warnings for logical errors and incomplete data entry.

Another supporting factor was internal coordination and hierarchical supervision carried out by field supervisors and statistical coordinators. Intensive communication between enumerators and supervisors enabled the rapid resolution of data issues before processing. Managerial support from office leaders also played a role in ensuring that quality control processes were not neglected in order to meet completion deadlines.

However, this study also identified several inhibiting factors. Time constraints during survey implementation often pose a challenge to in-depth data examination, especially when the sample size is large and the work area is extensive. The geographical location of Mandailing Natal Regency, with its diverse transportation access, also impacts the effectiveness of field verification, particularly for repeat visits to respondents in remote areas. Furthermore, the high workload during the survey period can impact the accuracy of officers in rechecking data.

Another inhibiting factor is the potential limitations of respondents in providing accurate answers, particularly to questions related to household expenditures and income. Inaccurate answers can complicate the validation process and require additional clarification through verification. In certain situations, communication barriers and differing perceptions of survey questions can also impact the quality of the collected data.

Overall, the research findings indicate that the success of the validation and verification process is heavily influenced by a combination of human resource quality, technological support, supervisory management, and the geographic and social conditions of the region. Strengthening supporting factors and minimizing existing obstacles are strategic steps to improve the effectiveness of quality control and maintain the quality of SUSENAS results at the district level.

CONCLUSION

Based on research findings on the role of validation and verification of socioeconomic and household data on the quality of the 2026 SUSENAS results at the Central Statistics Agency (BPS) of Mandailing Natal Regency, it can be concluded that the validation and verification processes play a crucial role in ensuring survey data quality. Validation serves as an initial screening stage to ensure the completeness, consistency, and logical validity of data through automated systems and manual checks by supervisors. Meanwhile, verification serves as a confirmation stage through field rechecks and administrative clarification to ensure the validity of the collected information.

The combination of these two processes has been shown to contribute to improving data quality, particularly in terms of accuracy, consistency, reliability, and credibility of survey results. Corrections and clarifications made during the validation and verification processes can prevent bias in estimates of socioeconomic indicators, such as household expenditure and welfare. Therefore, the quality of SUSENAS results is determined not only by the sample design and survey instruments, but also by the effectiveness of the quality control mechanisms implemented at the district level.

This study also found that the effectiveness of validation and verification is influenced by the competence of staff, technological support, internal coordination, and the geographic location of the work area. Therefore, strengthening human resource capacity, optimizing technology-based monitoring systems, and enhancing multi-level oversight are strategic factors in maintaining and improving the quality of official statistical data.

Overall, this study confirms that validation and verification are integral components of a survey data quality management system. Consistent and structured implementation of these two processes will support the availability of more accurate and reliable SUSENAS data as a basis for formulating regional development policies.

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