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NUTRITION INFORMATION AND AUDIT SUBMISSION PORTAL FOR THE BARANGAYS OF A CERTAIN MUNICIPALITY IN LAGUNA

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ABSTRACT

This research underscores the pressing need for establishing a nutrition information and audit submission portal for barangays of a certain municipality in Laguna, to rectify deficiencies in local nutritional assessment and supervision. This system empowers the community to make informed decisions and implement targeted interventions by providing a well-organized framework. The primary objective is to enhance health outcomes by examining current methods for gathering nutritional data, assessing the impact of manual data entry on the Operational Timbang Plus (OTP) system, devising strategies for effectively disseminating accurate nutritional information to citizens and officials, and implementing a uniform audit system to evaluate nutrition programs and monitor health trends in barangays. The research used quantitative research methodology, data were collected and analyzed through thematic analysis and weighted mean calculation. Non-probability purposive sampling was employed, involving interviews and questionnaires distributed across the city and barangays. The study findings highlight challenges with the OTP system, particularly regarding data accuracy due to human input errors. There is an evident need to establish a standardized audit system to enhance data quality and decision-making in nutrition initiatives. Utilizing technological solutions such as web-based systems or mobile apps can improve data collection efficiency.

Keywords: *Nutrition Information, Audit System, Portal Submission, Operation Timpbang Plus, Local Government Unit*

INTRODUCTION

Nature and Scope of the Problem Investigated

The incorporation of community health and nutrition was crucial for promoting the overall well-being of local populations. This research emphasized the necessity of establishing a robust portal system for nutrition audit, recognizing its pivotal role in addressing nutritional deficiencies. A key challenge identified was the absence of a structured information and audit system at the barangay level, impeding accurate assessment and monitoring of nutritional status. This limitation hindered barangay officials' ability to make informed decisions, implement targeted initiatives, and allocate resources effectively to tackle nutritional issues. To overcome this challenge, establishing a structured framework was deemed essential to equip officials and authorities with the necessary resources for informed decision-making on nutrition interventions, policies, and programs.

This systematic approach not only addressed existing shortcomings but also laid the groundwork for continuous assessment. By eliminating the lack of comprehensive data structure, it enabled efficient evaluation of ongoing nutrition initiatives and pinpointed areas requiring improvement. Regular assessments, based on accurate and up-to-date information, allowed for adaptable approaches to meet evolving community needs.

Furthermore, the study prioritized community empowerment alongside system development. It employed a collaborative methodology involving barangay officials, health experts, and community members in data collection and analysis, fostering a sense of ownership and ensuring the sustainability of the implemented system. Anticipated outcomes include establishing a basis for enhancing nutrition policies at the barangay and municipal levels, aligning with the overarching goal of improving public health and community well-being.

In essence, the implementation of the portal system addressed not only the lack of local nutrition data but also took proactive steps towards promoting a healthier and more resilient community. It aimed to facilitate informed decision-making and targeted interventions tailored to the specific dietary needs of the local population.

Research Objectives

1. Evaluate the present methods used for collecting nutritional data in relation to its accuracy, accessibility, and effectiveness.
2. Determine the assessment level of the nutritional-related data of residents in a certain municipality in Laguna

3. Identify how citizens and barangay officials can get more accurate and up-to-date nutritional information to build programs and initiatives in the field of nutrition.

Research Framework

The establishment of a comprehensive conceptual framework was crucial in creating the portal system, serving as the foundational structure for the study's objectives (Figure 1). This framework aimed to offer a thorough understanding of the interconnected components and crucial elements necessary for developing and implementing an efficient information and audit system. It was built upon established principles and considered the specific circumstances of the municipality's barangays. By effectively navigating the complex terrain of community nutrition, this strategy yielded a focused and substantial outcome. In delineating the essential aspects of the study, this conceptual framework provided the groundwork for the development of the innovative system, facilitating a comprehensive and tailored approach to addressing the nutritional challenges encountered.

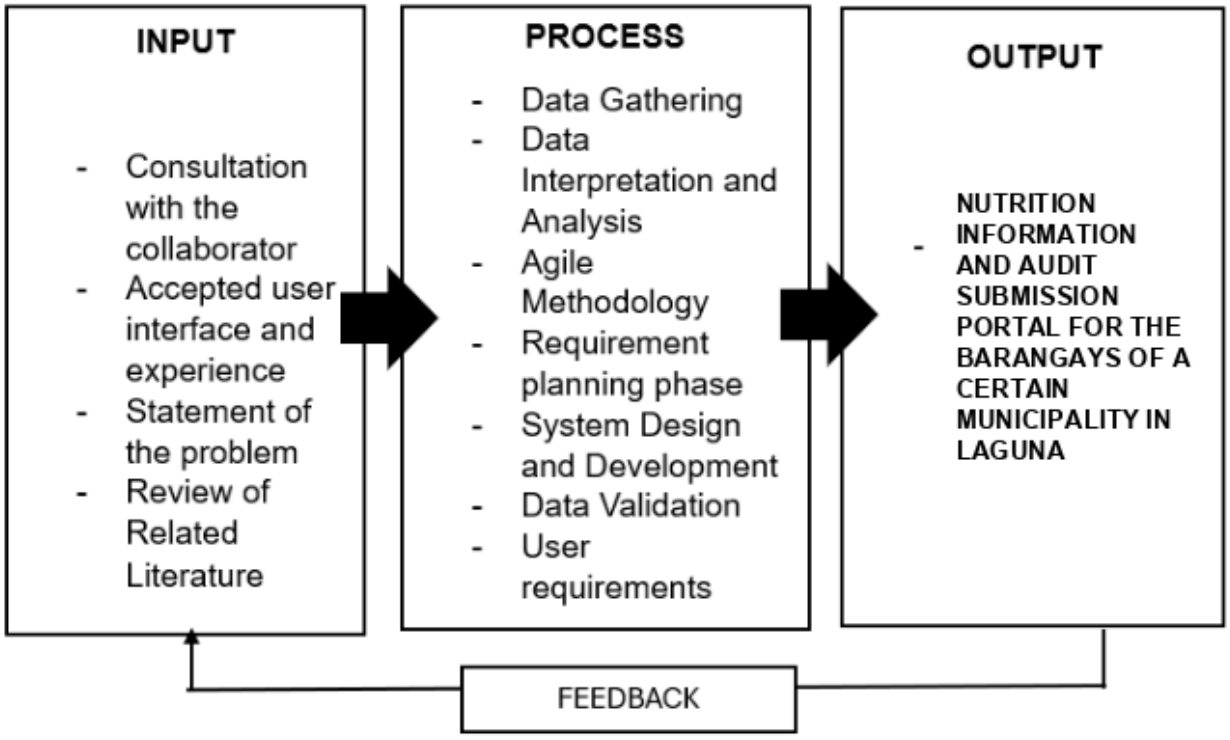

Figure 1: Research Framework

Scope and Limitation

The proposed nutrition information and audit submission portal for barangays aimed to modernize the conventional data input techniques, with a specific emphasis on enhancing the Operation Timbang Plus program. The system incorporated an easy user

interface that facilitated smooth data entry, guaranteeing precision and effectiveness. The system integrated a centralized database capable of storing, categorizing, and retrieving nutrition-related information, thus optimizing the data management process. The inclusion of real-time reporting capabilities allowed for the prompt monitoring of metrics and trends related to the Operation Timbang Plus program. This greatly assisted local officials in making decisions based on solid facts. Nevertheless, it was crucial to recognize certain limitations. The efficacy of the system may have relied on the presence of technological infrastructure, such as dependable internet connectivity and accessibility to digital devices, within the barangays. Furthermore, the efficiency of the system may have been impacted by the degree of technological proficiency of barangay personnel, thus requiring thorough training initiatives. To ensure the protection of sensitive information, it was imperative to address privacy and security issues by implementing strong data protection procedures. Moreover, the study was limited to the Operation Timbang Plus program, and it did not include a thorough evaluation of other nutritional factors. The system needed to be adaptive and scalable to enable future expansions or changes in the scope of nutrition-related efforts within the municipality. The research was limited to the development of an information and auditing system portal submission for the barangays o. The auditing process was restricted to the admin side, enabling assessment of the files submitted by the barangay nutrition scholars. On the other hand, any other aspects in the nutrition field outside the scope of Operation Timbang Plus were not addressed by the researchers as they fell outside the study's coverage.

Review of Pertinent Literature

The notion of an information system comprises the many tools, technologies, and procedures that businesses utilize to successfully manage and utilize data. These systems play a crucial role in the contemporary digital era, as they serve as the foundation for not only gathering and retaining data but also converting it into significant insights.

In the study conducted by Skagne and Dalipi (2022), entitled “Understanding the Importance of Information Systems Implementation in Organization’s Effectiveness: A Comparative Study on Two Swedish Organizations,” the purpose of information systems (IS) is to enhance the dissemination of information inside an organization, across all hierarchical levels. This facilitates the timely and accurate delivery of data to the intended recipient, in the appropriate format, resulting in a favorable and advantageous impact on the business. Hence, it is important to examine their intended objectives and the extent to which they impact the efficacy of the organization, specifically. The introduction of a new information system (IS) has a more significant influence on an organization's effectiveness in comparison to the updating and addition of features to an existing older system.

As mentioned by Markgraf (2019) in an article entitled “Importance of Information Systems in an Organization,” the significance of information systems lies in their ability to handle data derived from firm inputs, thus generating valuable information that facilitates effective management of operations. In order to enhance the efficacy of the information system, two approaches may be adopted: augmenting the existing data to enhance its accuracy or exploring novel applications of the available information. The article discusses two strategies aimed at increasing the effectiveness of information systems: the first

involves enhancing current data to boost its accuracy, while the second involves discovering new ways to utilize the information that is already accessible. These techniques are relevant to the conduct of the study, as they pertain to the optimization and usage of nutritional data within the barangays for improved management and decision-making. Furthermore, it serves to strengthen the notion that the implementation of a nutrition information and audit system has the potential to enhance the administration of nutrition-related data within these local bodies.

The implementation of every system is accompanied by an inherent propensity for failure, posing a significant challenge. It is important for those responsible for managing the system to possess a comprehensive understanding of their anticipated roles and responsibilities. The need must be explicitly and concisely articulated in written form, and subsequently, it should be efficiently conveyed to the relevant stakeholders via training. In order to achieve exemplary performance in system management, it is essential to secure the active involvement of not only engineers, designers, and managers, but also all staff members (Pain, 2023). In summary, the book elucidates the significance of effective administration of the proposed portal submission system. This entails effectively conveying explicit expectations to all individuals, delivering thorough training, and fostering active engagement from all staff members to avert system deterioration and sustain optimum performance in the long run.

Deane & Kraus (2021), want to challenge the prevailing idea that security specialists bear exclusive responsibility for upholding the security of systems and data in their scholarly investigation. This commonly held misunderstanding is often seen among those who are not affiliated with the security business. It is strongly advised that firms create unambiguous security roles and responsibilities within their policy governing the information security system. It is essential that these criteria be congruent with those delineated in other corporate regulations to maintain uniformity and facilitate efficient cooperation. Ensuring transparency, comprehension, and adherence to these duties and responsibilities is crucial for staff members at all levels within the company and across all business areas. Additionally, it is important for external entities, such as suppliers and contractors, to possess knowledge of these designated roles and corresponding obligations.

As per the study of Komalasari, et al. (2018), one primary focus of study in human behavior was to identify faults that arose inside information systems, leading to their inefficacy. The rapid advancement of information systems and information technology emerged as a necessary competitive advantage for companies to succeed in the competitive landscape. The effective implementation of information systems and information technology could have been determined by its ability to enhance employee performance. The accuracy of an information system might have been influenced by several variables, including user behavior, training, and usability. These factors might have had the potential to introduce errors and bugs into the system. The enhancement of the system's overall efficacy might have been achieved by addressing possible inefficiencies that were connected to human actors. The ongoing investigation being undertaken by the researchers might have included the provision of a comprehensive users' handbook, which aimed to facilitate the proper use of the information system. The implementation of a proficient nutrition information system might have had the potential

to distinctly distinguish barangays in relation to the quality of service, efficiency, and results pertaining to public health. The proposed system aimed to be a user-friendly platform designed to enhance staff productivity and efficiency.

As mentioned by the study of Batoon, et al., (2022), the documentation of healthcare activities mostly relied on paper-based systems, resulting in a multitude of issues. The process of manually documenting patient information was characterized by time consumption and susceptibility to mistakes, resulting in inefficiencies in the retrieval and administration of health data. Moreover, the potential for data redundancy exacerbated the issue. The decentralized form of paper records presented challenges in effectively mapping health concerns across various geographical locations, such as barangays, and in promptly accessing an individual's medical history. With the continuous growth in patient data volume, the manual system had significant challenges in terms of maintenance.

According to the research study entitled “Data Security and Privacy Protection for Cloud Storage: A Survey,” the increasing prevalence of innovative phenomena such as the Internet of Things (IoT), smart cities, digital transformation inside organizations, and the global digital economy has generated a heightened need for effective data storage solutions. Cloud storage systems have become more essential in contemporary times, as governments, corporations, and people are actively engaged in the process of transferring their data to cloud-based platforms. Nevertheless, the huge increase in data volume presents both lucrative opportunities for wealth generation and serious concerns, including but not limited to unlawful access, data leaks, and breaches of privacy (Yang et al, 2020). In order to ensure the preservation and security of all healthcare unit data, it was essential for the Barangay Nutrition Information System to possess the advantages of convenient accessibility, scalability, and cost-effectiveness. The researchers ensured that the system would not only be efficient but also secure.

According to Tao, et al, (2020), the use of big data analysis significantly transformed decision-making procedures in several industries, as it enabled the conversion of vast datasets into valuable and informative insights. Previous research in the field of the food industry mostly focused on the analysis of data obtained from equipment. However, current advancements shed light on the significance of digital text data. The objective of this study was to provide a comprehensive comprehension of text data sources, computational methodologies, and their applications within the food sector. The system demonstrated the capability to rapidly analyze large volumes of textual data and extract valuable information about dietary trends and customer preferences via the use of advanced methods such as text classification and sentiment analysis. The provided information had the potential to enhance supply chain management, facilitate the creation of novel goods, and enhance the monitoring of food safety. By conducting an analysis of nutrition data, barangays could enhance their decision-making process on health interventions and planning, enabling them to make better-educated choices. The incorporation of analytical tools into the Barangay Nutrition Information System could also help evaluate resident input, local news stories, and other pertinent text-based sources related to nutrition.

In the study conducted by Garcia et al, (2021) despite the well-documented associations between diet and health, there continued to be a persistent issue of poor

nutrition among Filipino homes. The development of the Virtual Dietitian (VD) system was undertaken as a reaction to tackle the public health risk. The beta review yielded significant information about user experience, which informed the improvements made to the final version of VD. By incorporating expert feedback, the accuracy, usefulness, and validity of VD could be ensured in later stages, hence offering a possible solution to the current nutrition dilemma in Filipino families.

As per Moghaddasi (2019), the provision of high-quality food and nutrition in hospital settings has been shown to enhance patient care and increase overall quality of life. Undoubtedly, the task of catering to the diverse dietary needs of patients in a hospital setting posed challenges to achieving optimal nutrition. The integration of a nutrition information system inside the Hospital Information System (HIS) could facilitate hospitals in achieving their objective of providing superior healthcare services to enhance patient well-being. The present system had the capability to manage patient data pertaining to their medical condition through effective communication with their Electronic Medical Record (EMR). The Nutrition Information System played a significant role, particularly within hospital settings, with the potential for expansion to the Barangay level. This statement underscored the significance of delivering superior food and nutrition services within healthcare environments, as it had the potential to improve patient care and overall quality of life. The present idea could be modified to emphasize the potential advantages of guaranteeing nutrition services of superior quality at the barangay level in order to enhance the overall welfare of the inhabitants.

METHODOLOGY

Research Design

This study used quantitative research because it generates numerical data and allows rigorous statistical analysis. Researchers used surveys and statistical methods to assess nutritional indicators and audit measures for accurate measurement and evidence-based decision-making. This quantitative method provided a deep insight of existing situations, improving system development and execution. The study stressed the need for descriptive and quantitative research to understand the barangay's nutrition information and audit methods. Descriptive study employing interviews and surveys highlighted key features for a customized solution. Quantitative research, which used numerical data and statistical analysis, strengthened the intended information and audit system by supporting evidence-based decision-making.

Research Locale

The research was conducted at the Municipal Health Office of one of the municipalities in the province of Laguna, Philippines. The selection of this location was based on several factors, including its zoning classification, the implementation of procedures throughout all Barangays, and the information technology index. The research included various data collection methods, such as surveys and interviews, which were conducted at the respondents' convenience.

Population and Sampling Design

Researchers used non-probability and purposeful sampling for this investigation. In non-probability sampling, individuals are not picked randomly or equally. Using purposeful sampling, the researcher selects participants based on study-relevant traits.

Research Instrument

The researchers used several instruments that were utilized to collect data for this study; questionnaires, and interviews. This study targeted nutrition officials in several barangays. The questionnaire assessed the systems used by the Municipality Barangay Nutrition Officers, with adjustments restricted to adding a data collection and auditing system. The questionnaire explained barangay resident data collection. The researcher distributed a closed-ended Likert scale questionnaire. Five answer possibilities were provided in the questionnaire. The satisfaction scale included "Strongly Disagree," "Disagree," "Neutral," "Agree," and "Strongly Agree." The researcher was able to discover information system techniques, technology strategies, management approaches, resources, and implementation timetables by interviewing respondents. The main data source. To learn about data collection and protocols in each barangay in the municipality, the City Nutrition Officers were provided a set of questions. The Nutrition Officer was chosen because of their entire responsibility for municipal nutrition operations.

Data Gathering Procedure

The Data Gathering Procedure began with a formal client letter. This professional and courteous letter began data collecting. The study's goals and data collection methods were explained in the letter. The letter also requested customer agreement and assistance in the study mission. Being a collaborative framework, stressing the client's participation in study achievement. This email set the tone for data collection and emphasized ethical issues and study procedure adherence.

Two primary instruments, the questionnaire and interview, were used to gather relevant information. To promote systematic investigation, barangay respondents were given the questionnaire. The purpose was to quantify dietary habits, information demands, and audit methodologies. After comprehensive questionnaire analysis, numerical insights were intended to help identify patterns and connections and construct a full system. Interviews were also conducted to gather data to better understand the nutrition and audit background. Through semi-structured interviews with key actors, including local authorities, the study sought to understand cultural difficulties, issues, and aspirations related to nutrition information and audit processes. This interview data would augment the quantitative questionnaire findings' contextual knowledge. Using numerous varied but complementary data sources, the research intended to provide a thorough and well-informed foundation for the proposed system, ensuring its relevance and utility in the barangays.

RESULTS AND DISCUSSION

Objective 1. Evaluate the present methods used for collecting nutritional data in relation to its accuracy, accessibility, and effectiveness.

In this objective, the researchers employed various research tools, such as interviews, and questionnaires to assess the prevailing systems and processes implemented in the barangays. The focus of the assessment revolved around evaluating accuracy, accessibility, and effectiveness. The researchers conducted interviews with city nutrition officers and carried out surveys among barangay nutrition officers in five (5) barangays in the municipality. Three city nutrition officials were subjected to interviews, while a total of ten barangay nutrition officers participated in the study. The aim was to investigate and identify the and identify the current system implemented in the Operational Timbang Plus process. The transcribed audio underwent thematic analysis to present the results comprehensively. Some of the results of the study are presented in the following paragraphs

1. Effects Based Data Accuracy - of Paper-Nutritional Recording.

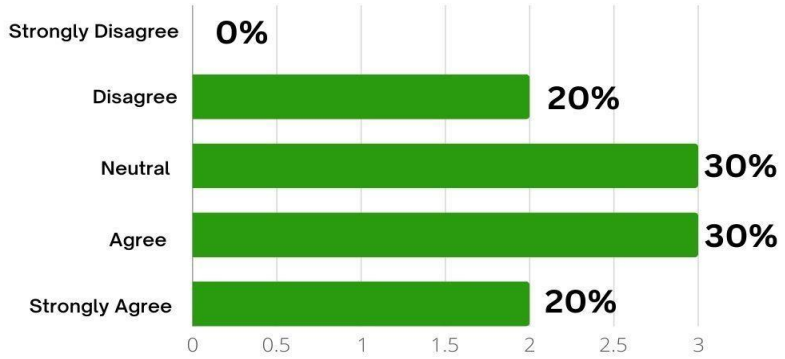

Figure 1. Accuracy of Data Amidst Human Errors (Questionnaire)

As shown in Figure 1, an equal number of respondents expressed agreement and neutrality when it came to the impact of manually recording nutritional data on paper. They believed that this method could lead to human mistakes or errors. In the questionnaire, a total of 3 out of 10 participants agreed with the statement, while another 3 respondents remained neutral. In addition, four (4) individuals also gave their responses, with two (2) expressing disagreement and two (2) strongly agreeing. It was interesting to observe that all the participants did not select the option "Strongly Disagree."

2. **Accessibility - Current Nutritional Data Collection Methods**

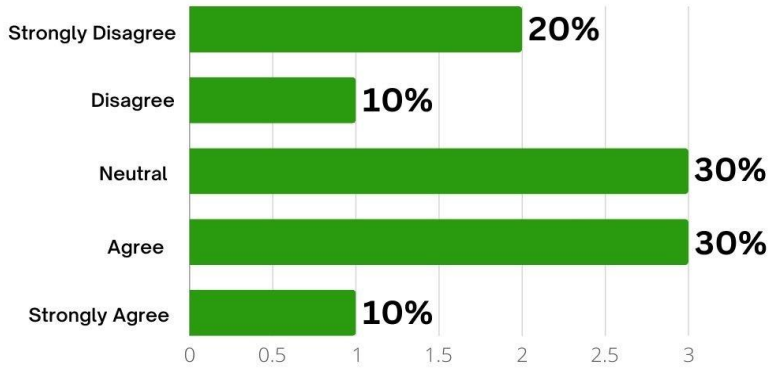

Figure 2. Preferences vs. Accessibility in Nutritional Data Collection (Questionnaire)

As shown in Figure 2, most participants expressed a "Neutral" or "Agree" response when rating the compatibility of the current methods for collecting nutritional data with their preferences. Two out of 10 respondents strongly disagreed, one out of 10 respondents disagreed, and finally, 1 out of 10 of the respondents strongly agreed that the accessibility for collecting nutritional data using the current method was in line with their preferences. The researchers calculated the weighted mean score to assess the level of agreement or disagreement among barangay nutrition scholars regarding the alignment of preferences with the current method for collecting nutrition-related data.

Objective 2. Determine the assessment level of the nutritional-related data of residents in a certain municipality in Laguna.

In pursuit of this objective, the researchers utilized various research tools, such as interviews and questionnaires, to evaluate the impact of manual entry of nutritional data on the OTP system and to propose potential enhancements. Interviews were conducted with three city nutrition officers, and surveys were administered to ten barangay nutrition officers across five barangays. The primary focus was to comprehensively assess how the manual entry of nutrition-related data in the municipality affected the OTP system. Thematic analysis was employed to derive meaningful insights from transcribed audio recordings, presenting the results in a comprehensive manner. Additionally, the responses gathered from the questionnaires were subjected to a weighted mean analysis to provide a quantitative measure of the participants' perspectives and contribute to a well-rounded understanding of the impact and potential improvements in the OTP system.

3. Assessing Manual Data Entry Impact on Operation Timbang Plus

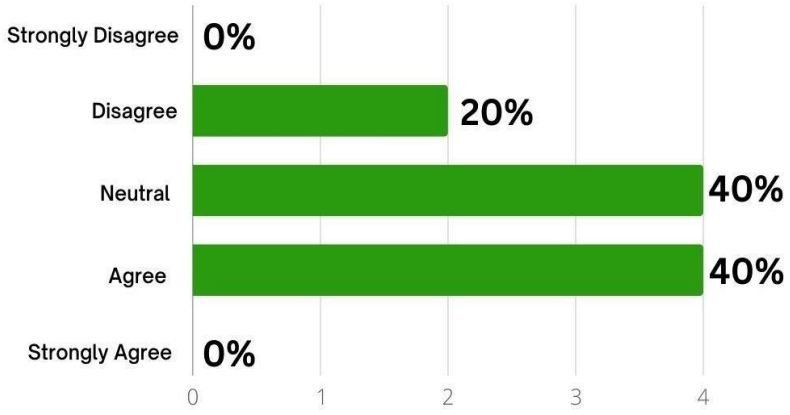

Figure 3. Effects of Manual Data Entry (Questionnaire)

As depicted in Figure 3, the majority of respondents provided responses falling within the "Neutral" and "Agree" categories when rating the impact of entering nutritionalrelated data by hand for Operation Timbang Plus. Specifically, 30% expressed agreement, while another 30% maintained a neutral stance. Contrarily, 20% of respondents disagreed with the impact on the OTP method of entering nutritional data. Notably, none of the respondents indicated "Strongly Disagree" or "Strongly Agree" with the given statement. To gauge the overall sentiment among barangay nutrition scholars, the researchers calculated the weighted mean, providing a quantitative measure to assess the collective agreement or disagreement regarding the impact on the OTP method of entering nutritional-related data by hand for the people

4. Exploring the Efficiency of a Website-Based Operation Timbang Plus System

All City Nutrition Officers in the municipality were in complete agreement that the implementation of a website-based system for Operation Timbang Plus (OTP) would greatly improve efficiency and effectiveness. Every officer expressed their support for implementing a website-based system for OTP, citing their own personal reasons. It was highlighted that implementing such a system would greatly improve data collection efficiency, provide instant updates on children's status, and reduce the chances of errors caused by manual input. The officers anticipated a decrease in errors compared to the traditional manual data inputting process and expected the Municipality Nutrition Department to have better data monitoring capabilities as an added benefit.

The respondents consistently emphasized the benefits of implementing a webbased system for Operation Timbang Plus (OTP), highlighting how it would improve the speed and accuracy of data collection. They emphasized the importance of minimizing errors caused by human factors, specifically focusing on the difficulties caused by

unreadable writing among Barangay Nutrition Scholars (BNS). Through the insights of the respondents, the researchers became aware of a significant problem with the manual OTP system. According to the majority of respondents, it seemed that developing a webbased system could tackle these challenges and provide a more efficient and precise method for collecting data.

Objective 3. Identify how citizens and barangay officials can get more accurate and up-to-date nutritional information to build programs and initiatives in the field of nutrition.

In this objective, the researchers employed various research tools, including interviews and questionnaires, to understand how citizens and barangay officials could obtain more precise and current nutritional data. This information would be used to develop programs and initiatives in the field of nutrition in the municipality. Interviews were conducted at the city nutrition office, with the participation of three available city nutrition officers. The survey questionnaire was administered by ten barangay nutrition officers across five barangays. The main objective was to thoroughly evaluate how citizens and barangay officials could access more precise and current nutritional information to develop programs and initiatives in the field of nutrition. An in-depth analysis was used to extract valuable insights from the transcribed audio recordings, presenting the findings in a thorough manner. Additionally, the responses collected from the questionnaires underwent a weighted mean analysis to offer a numerical measure of the participants' viewpoints and contribute to a comprehensive understanding of the impact and possible enhancements in the OTP system.

Conclusions

Ever since Operation Timbang Plus (OTP) was introduced, the system has faced numerous difficulties in terms of data accuracy, accessibility, and overall effectiveness. These challenges have arisen due to a range of errors and issues. OTP played a vital role in identifying children who were underweight, wasted, stunted, or obese, as well as finding families with malnourished children. Although the OTP system has proven to be effective, there is still room for improvement, especially when it comes to collecting nutritional data.

The research conducted on the nutrition information and audit portal submission for the municipality, offered valuable insights into the previous state of nutrition management and the OTP program within the community. After conducting interviews, surveys, and reviewing literature, it became clear that the accuracy of nutritional data was being compromised by manual data entry errors. These errors included inaccurate inputs and unreadable records, which presented significant challenges. In addition, city and barangay nutrition officers have reached a unanimous agreement on the urgent need to implement a standardized audit system. This system will improve data accuracy, improve operations, and strengthen evidence-based decision-making in nutrition initiatives.

The findings highlighted the crucial significance of precise and easily obtainable nutritional data for successful program planning and decision-making. The challenges that

were identified have emphasized the need for technological solutions, like web-based systems or mobile applications, to improve data collection and make the OTP process more efficient. In addition, the research highlighted the importance of offering sufficient training and support to barangay nutrition scholars to ensure the successful implementation of the proposed Information and Audit system.

Finally, the research supported the idea of introducing a customized Information and Audit system to tackle the obstacles faced in nutrition management and improve the efficiency of the OTP program in the municipality. By harnessing the power of technology and ensuring accurate data, this system could completely transform the way nutrition management is done. It has the potential to enhance health outcomes and empower local communities to make informed choices about their nutritional well-being.

Recommendations

Implementation of a Tailored Information and Audit System.

Based on the findings, the researchers recommended the development and implementation of a full blown auditing system specifically tailored to the needs and context of the barangays of the municipality This system should have incorporated features such as user-friendly interfaces, standardized data entry protocols, and built-in quality control mechanisms to ensure accuracy and reliability of nutritional data.

Training for Barangay Nutrition Scholars in using the proposed system.

To facilitate a seamless transition to the proposed system, it was beneficial to offer thorough training sessions for Barangay Nutrition Scholars (BNS) on the optimal utilization of the proposed Barangay Nutrition Information and Audit System. These training sessions provided comprehensive coverage of the system, encompassing data entry, retrieval, analysis, and reporting functionalities. In addition, it was beneficial to create specialized training modules that effectively tackled the specific challenges that were discovered during the research. These challenges included dealing with difficult-to-read handwriting and ensuring the accuracy of the collected data. By equipping BNS with the essential skills and knowledge, they could have had a significant impact on guaranteeing the success and long-term viability of the system implementation, ultimately resulting in enhanced nutrition management **Continuous Monitoring and Evaluation.**

Establishing a framework for ongoing monitoring and evaluation of the implemented system was crucial in assessing its effectiveness and identifying areas for improvement. It would have been beneficial to implement regular feedback mechanisms, user surveys, and performance metrics to monitor the usability of the system, the quality of the data, and the overall impact on nutrition management initiatives.

For Future Researchers.

Future researchers should conduct longitudinal studies to assess the long-term impact and effectiveness of the implemented portal submission system.

Longitudinal research would allow for the observation of trends and changes over time, providing valuable insights into the system's sustainability and its contribution to improved nutrition management outcomes in the municipality. Additionally, future studies could explore the scalability of the system to other barangays or municipalities, as well as its adaptability to different contexts and settings. By conducting longitudinal research and exploring scalability, future researchers can further advance the researcher's understanding of nutrition management systems and contribute to ongoing efforts to improve community health and well-being.

Compliance with Ethical Standards

The researchers complied with the basic standards of research ethics and also followed the Data Privacy Act in the collection and process of data gathered.

REFERENCES

Batoon, J. A., Benitez, A. B., Cajucom, K. Z., Dalusung, M. J. M., Faustino, S. J. D., Galvez, I. N. D., & Mercado, L. J. L. (2022). Public Health Record Management System: An Up-Close Monitoring System. International Journal of Advanced Trends in Computer Science and Engineering, 11(3), 96–100. https://doi.org/10.30534/ijatcse/2022/041132022

Deane, A. J., & Kraus, A. (2021). Safety, The Official (ISC)2 CISSP CBK Reference (Cissp: Certified Information Systems Security Professional) (6th ed.). Sybex. ISBN-13: 978-1119789994. https://rb.gy/1q4gvv

Garcia, M. B., Mangaba, J. B., & Tanchoco, C. C. (2021). Virtual dietitian: A nutrition knowledge-based system ... - IEEE xplore. https://ieeexplore.ieee.org/abstract/document/9581887/

Komalasari, N., Murad, D. F., Agustine, D., Irsan, M., Budiman, J., & Fernando, E. (2018). Effect of education, performance, position and ... - IEEE xplore. https://ieeexplore.ieee.org/document/8864437

Markgraf, B. (2019, March 5). Importance of Information Systems in an organization. Small Business - Chron.com. https://smallbusiness.chron.com/importance-information-systems-organization-69 529.html

Moghaddasi, H. (n.d.). The importance of nutrition information system for improving patient care. https://www.researchgate.net/profile/Hamid-Moghaddasi/publication/332786609_The_Importance_of_Nutrition_Information_System_for_Improving_Patient_Care/links/5cc9c449299bf120978f2fb4/The-Importance-of-Nutrition-Information-System-for-Improving-Patient-Care.pdf?origin=publication_detail

Pain, S. W. (2023). Safety, Health and Environmental Auditing (2nd ed.). Routledge. ISBN-13: 978-1032570204. https://rb.gy/6n0f0i

Skagne, F., & Dalipi, F. (2022). Understanding the importance of information systems implementation in organization's effectiveness: a comparative study on two Swedish organizations. ProQuest | Better Research, Better Learning, better insights. https://www.proquest.com/

Tao, D., Yang, P., & Feng, H. (2020). Utilization of text mining as a big data ... - wiley online library. https://ift.onlinelibrary.wiley.com/doi/abs/10.1111/1541-4337.12540

Balocon, O. H., Bandilla, C. I., Mariscotes, B. M., & Tabuso, C. (2024). SEAL OF GOOD LOCAL GOVERNANCE FOR BARANGAY (SGLGB) MANAGEMENT SYSTEM FOR THE DILG OF CITY OF SANTA ROSA.

Yang, P., Xiong, N., & Ren, J. (2020). Data Security and privacy protection for cloud storage: A survey | IEEE ... https://ieeexplore.ieee.org/abstract/document/9142202

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