**WEB BASED ISABELA SECTORAL GROUP MONETARY MANAGEMENT SYSTEM**

**WITH DATA ANALYTICS AND SMS NOTIFICATION**

**Chapter I**

**INTRODUCTION**

**Background of the Study**

Modern distribution management encompasses more than just moving products from one point to another. This process involves collecting relevant information that can be used to identify major opportunities for growth and competitiveness in the industry. In line with this, ‘WEB BASED ISABELA SECTORAL GROUP MONETARY MANAGEMENT SYSTEM WITH DATA ANALYTICS AND SMS NOTIFICATION’ is a proposed system for the sectoral group of people in the municipality of Isabela that will receive cash assistance and other services from their local government unit to assess the needs of the chosen beneficiaries. To implement solutions on how to make the distribution process easier and faster with the help of the proposed system.

The Department of Social Welfare and Development, in coordination with other agencies, secures the development and implementation of effective and innovative approaches and methods to address the emerging concerns of the senior citizens, person with disabilities, and solo parents of the municipality of Isabela in accordance with ***Republict Act of 2010 No. 9994***.

The Philippines has a large population of senior citizens, PWDs, and solo parents, who often struggle with financial constraints and difficulties accessing financial services, making them vulnerable to financial fraud and scams. To address these issues, this project proposes the development of a Sectoral Group Monetary Management System (SGMMS) in the municipality of Isabela that is tailored to the financial needs of these groups. This will include features such as account management, transaction monitoring, and as well as data analytics and SMS notification functions to enhance financial.

management, promote financial literacy, and prevent fraud and scams. Ultimately, the primary goal of the system is to provide a secure and user-friendly financial management solution that caters specifically to the needs of senior citizens, PWDs, and solo parents in the Philippines, contributing to building a more financially stable and resilient society.

Web based Isabela Sectoral Group Monetary Distribution Management System with Data Analytics & SMS Notification is a program designed to assist senior citizens, persons with disabilities, and solo parents to manage various types of services such as (allowances, groceries, etc), and the monitoring of monetary assistance management in the locality of Isabela for an organized, secured, and well- monitored distribution processes.

**Objective of the Study**

The goal of this study is to assist DSWD ISABELA in automating laborious processes of monitoring their records in the Sectoral Group Monetary Management System. The system will send an SMS notification informing every senior citizen, PWD or persons with disabilities, and solo parents of Isabela for their schedule and the flow of transaction in the monetary distribution.

**General Objective**

The primary aim of this research is to create, design, and develop an original web-based system referred to as the "Web-Based Isabela Sectoral Group."

Specific Objectives:

This study aims to attain the following:

1.The objective is to create a system that can:

* Profile management for senior citizens, PWDs, and solo parents.
* Efficiently handle monetary distribution.
* Implement SMS notifications.
* Monitor and manage the budget.
* Generate reports with data analytics.

2. To evaluate a system's quality based on the parameters of ISO/IEC 25010.

3. To evaluate the usability of the system based on the following parameters:

* System Usefulness
* Information Quality
* Interface Quality
* Overall Quality

**The Scope and Limitations**

The web-based system is designed to improve the monetary distribution process, benefiting senior citizens, individuals with disabilities, and solo parents in the Municipality of Isabela, Province of Negros Occidental. It's accessible to DSWD local officers, controlled by DSWD officials, and provides SMS notifications to sectoral members. It emphasizes data security and fraud prevention.

This system is intended to function as an effective and user-friendly platform that caters to the specific requirements of DSWD ISABELA in the management and improvement of their Sectoral Group Monetary Management System. It will integrate cutting-edge technology solutions to enable smooth data processing, real-time record monitoring, and secure information distribution, all with the ultimate objective of notably enhancing the overall operational efficiency of DSWD ISABELA's services. Through this initiative, we seek to contribute to the modernization and enhancement of the organization's procedures, ultimately benefiting the senior citizens, individuals with disabilities, and solo parents in Isabela by ensuring the timely and transparent handling of financial transactions and vital information.

The system is limited to managing monetary distribution and notifications for specific groups. Access is restricted to DSWD personnel, and its effectiveness depends on data accuracy and security measures. It doesn't address broader social welfare services or socioeconomic challenges.

**Significance of the Study**

The administrator and the municipality of Isabela, specifically the local government units that are responsible for the distribution management of cash assistance and all other services for these sectoral members are the intended users of the ‘Web based Sectoral Group Monetary Management System’ for Isabela DSWD. It is significant in the study for the following reasons:

The Administrator- this system will automate the process operations they currently have in order to perform their work faster and more efficiently to provide a presentable output.

Isabela Seniors Citizen- this system will gather information of every sectoral member that will be used in encoding and monitoring the distribution of monthly cash assistance.

Isabela Sectoral Group - is an association of all the beneficiaries of the cash assistance and other services offered by the local government unit in the municipality of Isabela.

Researcher- the researcher can carefully study what is done to find and report new knowledge about the project.

Future Researcher- the future researchers can also use this study as their sample study guide for their future researchers that is also related to their system programming project.

**Definition of Terms**

For the clarity and understanding the key words that we used in this study are defined as the following:

**Analytics**

It is the information resulting from the systematic analysis of data or statistics.

In this study, this will compute the monthly budgets to be claimed by sectoral group members, and to establish balance distribution management.

**Assistance**

Serves as financial help to every sectoral member of the municipality of Isabela to provide their daily basic needs such as foods, medicine, electric bills, and etc.

In this study, this serves as the main purpose of the distribution management system that will be distributed to the sectoral members in the municipality of Isabela.

**Isabela Sectoral Group**

Isabela Sectoral Group is an association of all the beneficiaries of the cash assistance and other services offered by the local government unit in the municipality of Isabela.

In this study, it is the department that will benefit from using this study entitled ‘Web based Isabela Sectoral Group Monetary Distribution and Analytics and SMS notifications.’

**Monetary Distribution**

The way in which the collected funds or money from the government are divided among its population thru assigned local government units that are responsible for the monetary distribution.

In this system, this is the major transaction that will determine the interaction of both the admin and the end-users of Web based Sectoral Group Distribution Monetary Management System with Data Analytics and SMS Notification.

**Monetary Management**

The direction of the state of the financial, credit, and money markets. In order to achieve certain general goals, the monetary authority has societal purposes.

In this study, this will serve as the guide to know if the monetary distribution process is effective.

**Conceptual Framework**

Figure 1. showed the definition of the key components of the conceptual framework of the research.

**Operational framework**

Represents the concepts of operation of the system with hardware interaction.

In this study, this will represent the flow of the system on how it works and its effectiveness in the proposed study to attain desired goals.



Figure 2. The administrator of the system will be the one who will provide the information to the system of the list of sectoral members in the local of Isabela, then the system will generate an SMS notification to the end users. Lastly, the end-users (sectoral members of Isabela) will receive the notification that hase been auto- generated by the system.

**Chapter II**

**REVIEW OF RELATED LITERATURE AND PRIOR ARTS**

**Review of Related Literature**

This chapter focuses on the review of the related literature that is conducted locally and in foreign countries. This chapter encompasses the various ideas, concepts, generalization, conclusions and also the different developments related to the study starting from the past up to the present. This will serve as a guide to the researchers in developing the Web-based Isabela Sectoral Group Monetary Management System with Data Analytics and SMS Notification.

**Local Literature or Study**

Since 2011, the government, through the Department of Social Welfare and Development (DSWD), has implemented the Social Pension (SocPen) Program which gives a noncontributory monthly pension of PHP 500 to qualified seniors, i.e., indigent Filipinos aged 60 and above. Initially, the DSWD had sought to provide assistance to 1.2 million indigent senior citizens identified by the listahanan, on a PHP 8.71 billion budget allocation. Insufficient funds had prompted the department to realistically target only 138,960 seniors at program inception, though the actual served were 140,576 senior citizens with an actual budget of PHP 843.5million. Budget allocation for the SocPen has increased exponentially since program inception to over PHP 23.4 billion in 2021. With this 2,540 percent jump of a budget in a span of 10 years, the 2021 physical target has also increased to 3,835,066 senior citizens, a 2,634 percent increase. The 2020 physical target for SocPen is nearly two-fifths (37.8%) of senior citizens. This study describes SocPen's design and current implementation processes, especially the program is well-intentioned and is welcomed by seniors, and the SocPen has undergone some changes in response to criticisms of several external evaluations, implementation deficits persist. These need to be addressed, especially as the SocPen is currently one of the largest social protection programs of the government and has the potential to significantly impact the lives of elderly indigent beneficiaries ***(Albert, Monje & Muñoz,2021 SocPen beyond ten: A process evaluation of the DSWD Social Pension Program for indigent senior citizens amid the Covid-19 pandemic.).***

After achieving regular payouts to beneficiaries, the endeavor to pursue more efficient payment mechanisms continued towards reducing manual transactions. The program used to transfer cash grants to more than half the beneficiaries through over-the-counter (OTC) payments which require voluminous paper-based documents and a long processing time for liquidation. The cash cards are limited to cash withdrawals from the ATM, without any additional functions such as saving and receiving deposits/funds from other resources. This clearly showed an opportunity that the program can shift manual to electronic payment in the future like other established cash transfer programs in the world (CGAP, 2012). By 2019, the share of payout through the cash card among Pantawid Pamilya beneficiaries increased to 62 percent, and the Government of the Philippines (under a technical working group) is currently developing a plan to change beneficiaries’ cash cards from single purpose card (to which only the LBP can deposit funds and beneficiaries use ATM only) to basic deposit accounts **(*DSWD, 2014, Making Payments More Efficient for the Philippines Conditional Cash Transfer Program*).**

The Bangko Sentral ng Pilipinas (BSP) has recognized digital payments as a policy priority. It has advocated the migration from a cash-based economy to a digital or a cash-lite economy. It seems though that we have a long way to go because 85 percent of all retail sales in the country are still conducted in cash. Perhaps a culprit is the low-awareness about the different e-payment platforms. With the advent of fintech, our march toward a digital economy could be accelerated.

Digital payment is defined as a “monetary transaction between two parties [individuals, businesses, or government] through a digital payment instrument [such as cards, bank transfer, mobile wallet, etc.] in which both payer and the payee use an electronic medium.”

Digital payment is done using prepaid and debit cards, credit cards, and mobile money accounts. The use of debit cards in the country has almost doubled from 38 million in 2013 to 71 million in 2018. The use of prepaid cards has also doubled from 35 million in 2013 to 70 million in 2018. Prepaid cards comprise about 47 percent of total card use but comprises over 78.5 percent of total transactions. It is, therefore, the foremost form of digital payment. The use of credit cards has increased from 7.5 million in 2013 to 9 million in 2018. *(****Bangkong Sentral ng Pilipinas, 2018, Digital Payments in the Philippines).***

**Foreign Literature or Study**

The globe is aging, and the number of old people is increasing. Presently, Malaysia is one of the world’s aging countries. With long life expectancy, less income, and limited financial knowledge, elderly people in Malaysia are seen as helpless in their old age and drastic measures need to be taken, especially by the government to improve the financial wellbeing and quality of life of this group. Even though a great deal of research has been done on the saving behavior of the aging population, yet, no research has attempted to model and validate the financial wellbeing of elderly retired people in Malaysia. Thus, this study is done looking at previous literature on how to develop financial and digital literacy among Malaysian elderly to ensure they have adequate financial resources and the ability to adapt to new technology in managing their financial assets. The finding of this study indicated that the “Cognitive-Readiness-Opportunity-Internal Values-Technology Adoption Model”, can become an important model concerning the development of an elderly peoples’ financial wellbeing in retirement. The outcome of this study will complement the Malaysian National Strategic Thrust (Improving wellbeing for all) and SDG Agenda 2030 to achieve zero poverty, especially among elderly people

(*Horiz 224–236 2017,*Developing Resilient Financial Wellbeing Among Elderly Citizens in Malaysia*).*

**A Literature Review on the Study of Income Distribution, Education and Education Return Rate - Based on Family Background and Gender Differences**

The study of income distribution, education input and education return rate has always been a hot topic in the theoretical circle. Most of the existing research has drawn a conclusion that there is a significant positive correlation between the years of education and the income level. There is a two-way causal relationship between income distribution and education.

In addition, the distribution of education and the rate of return on education will also have an impact on education. This paper aims to focus on the impact of gender differences in income distribution on education based on previous research, while focusing on the distribution of education and the rate of return on education in different genders. Based on the specific quantitative indicators of the differences, some theoretical support and policy recommendations on education and education reform are given. *(Universities from China).*

**Monetary Policy and Personal Income Distribution: A Survey of the Empirical Literature**

The purpose of this paper is to conduct a survey of the recent literature that evaluates, in an empirical way, the distributional impacts of monetary policy. In the first two sessions, we discuss, respectively, the transmission channels of monetary policy to income distribution and the empirical strategies used to measure it. The majority of surveyed papers find that a contractionary monetary policy worsen the income distribution, and that an expansionist policy tends to improve it. Moreover, several papers found that the higher is the redistributive impact of fiscal policy, the lower is the impact of monetary policy on inequality. Another outcome with empirical support is the role of the labor share on total income: the higher is this share, the higher is the impact of monetary policy on inequality. The last point discussed is the asymmetric effects of contractionary and expansionary monetary policy. There is evidence that increases in interest rates have statistically significant effects on income distribution, whereas the effects of reductions in interest rates are not statistically different from zero. This empirical finding goes against the conventional view that the distributional effects of interest rate changes are temporary and likely to net out over the business cycle *(Sylvio Antonio Kappes, Jan 2023).*