

EFFECT OF KNOWLEDGE AND AWARENESS ON COOPERATIVE MEMBERSHIP: ROLE OF SOCIO-DEMOGRAPHIC PROFILE IN CAVITE, PHILIPPINES

Leo D. Manansala^{*1}, Eпитacio B. Mendiola^{*}

^{*}College of Business Administration and Accountancy, De La Salle University Dasmariñas
DBB-B City of Dasmariñas, 4115 Philippines

^{**}College of Professional and Graduate Studies, De La Salle University Dasmariñas
DBB-B City of Dasmariñas, 4115 Philippines

Article history:

Received
12 August 2024

Revised
17 September 2024

Accepted
7 October 2024

Available online
30 November 2024

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Abstract

Background: Membership in cooperatives is crucial for fostering collective strength and sustaining the organization, enhancing its ability to serve members effectively. By comprehending the factors influencing membership, cooperatives can develop targeted recruitment strategies, bridging gaps in effective recruitment and involvement in Philippine cooperatives.

Purpose: This study delves into how knowledge and awareness levels impact cooperative membership while examining how socio-demographic factors like age, gender, education, and income moderate these relationships among members and non-members.

Design/methodology/approach: Data from 764 respondents, including cooperative members and non-members from the top 30 cooperatives in Cavite, Philippines, binary logistic regression and diagnostic tests were utilized.

Findings/ Results: The study reveals that educational initiatives are vital for promoting cooperative engagement, with higher knowledge levels significantly increasing the likelihood of membership. Demographic factors such as age and gender were found to moderate the influence of education and income on cooperative membership, indicating the need for more tailored and inclusive policies. The research shows that older individuals were less influenced by awareness efforts, while those with higher education were more likely to join cooperatives when well-informed. Although there were mixed effects of demographic factors on the relationship between awareness and membership, these effects were not statistically significant, suggesting that more detailed examination is needed.

Conclusions: The study concludes that educational initiatives significantly enhance cooperative membership, particularly when tailored to specific demographic groups. Age and gender moderate the effect of knowledge and education, emphasizing the need for customized policies. However, further research is needed as demographic effects on awareness and membership were not statistically significant.

Originality/ value (State of the art). The study stems from its novel examination of the interplay between knowledge, awareness, and socio-demographic factors in influencing cooperative membership, particularly in Philippine cooperatives. It adds value in providing actionable insights for cooperative policymakers, enabling the design of more targeted, inclusive recruitment strategies that address demographic diversity and promote sustainable cooperative growth.

Keywords: customized policies, demographic factors, cooperative engagement, cooperative membership, Philippines

How to Cite:

Manansala LD, Mendiola EB. 2024. Effect of knowledge and awareness on cooperative membership: role of socio-demographic profile in Cavite, Philippines. *Jurnal Manajemen & Agribisnis* 21(3): 360–373. <https://doi.org/10.17358/jma.21.3.360>

¹Corresponding author:
Email: ldmanansala@dlsud.edu.ph

INTRODUCTION

Cooperatives are a multi-faceted phenomenon (Karakas, 2019). As people-centered enterprises, cooperatives are owned, controlled, and operated by their members to fulfill their common economic, social, and cultural needs and aspirations. They play a pivotal and indispensable role in the socio-economic and environmental development of many developing countries. They help pool resources, save on transaction costs, provide protection, reduce poverty and overcome livelihood challenges, and facilitate employment in areas where governments, private enterprises, and individuals fall short (World Bank, 2006 cited in Ma & Abdulai, 2016; Mendoza, 2016; Mhembwe & Dube, 2017; Moon & Lee, 2020; Yakar Pritchard & Çaliyurt, 2022; ILO, 2022; Wrede, 2023). These elements encapsulate the role of cooperatives and are vital components of any poverty reduction strategy, a goal that continues to drive cooperative initiatives worldwide.

Globally, there are 3 million cooperatives employing 280 million people, which is 10% of the world's workforce (Karakas, 2019). The 300 largest cooperatives and mutuals had a combined turnover of US\$2.018 trillion in 2016. In the EU alone, there are about 131,000 cooperatives, employing over 4.3 million people and generating an annual turnover of €992 billion. In Hando, Senapathy, and Bojago (2022), cooperatives showed a significant economic impact, supporting the livelihoods of approximately 300 million people and employing over 100 million. Cooperatives account for 25% of the global insurance market and supply 33% of the world's dairy products (Hando et al. 2022). Research has extensively examined the role of cooperatives, consistently linking them to the improved performances of small farmers (Ma & Abdulai, 2016; Mhembwe & Dube, 2017; Soetriono et al. 2019), fish farm households (Twumasi et al. 2021), and small and medium enterprises (Edalia & Aslami, 2022).

In the modern global economy, member participation is crucial for the success of cooperatives (Hando et al. 2022). Member participation in cooperatives involves various aspects: engaging in business activities, contributing capital, participating in decision-making, and monitoring cooperatives (Ernita et al. 2014; Ernita et al. 2020). In Cukur and Cukur (2022), factors such as status of using credit, education level, and status of receiving support were found to be highly significant

in influencing the beekeepers to join cooperatives. Aju and Adeosun (2021) discovered that social, legal, economic, and cultural constraints hinder individual participation in cooperative societies in Africa, particularly for women. Factors such as African cultural and family traditions, a patriarchal societal system, household responsibilities, religious associations, strict cooperative entry requirements, limited access to resources, low wages, and non-participatory training activities all contribute to the challenges faced by women in these cooperatives (Aju & Adeosun, 2021).

The literature on individual involvement in cooperatives is relatively sparse, particularly within the Philippine context. Theories of cooperation suggest that collaboration emerges from individual utility-maximizing decisions (Moller et al. 2017). Existing research on cooperative member involvement can be divided into two main strands: one focusing on farmers' perceptions or willingness to join agricultural cooperatives, and the other on individuals' willingness to participate in cooperative governance, such as joining boards or trusting the board of directors (Jitmun et al. 2020; Morfi et al. 2021; Cele, 2022).

According to Egia and Etxeberria (2019), Dorgi (2017), Jaafar et al. (2017), and Mojo et al. (2017), lack of knowledge and awareness among enterprising cooperatives is one of the key factors contributing to failures. They play important roles in the decision of an individual to join cooperatives by having access to information about the benefits of cooperatives (Egia & Etxeberria, 2019; Dorgi, 2017; Jaafar et al. 2017; Mojo et al. 2017). Additionally, challenges such as bad perceptions of cooperatives, inadequate member participation, weak support from employees, and counterproductive environments can hinder cooperative success (Ebrahim, 2014; Soegiarto & Mulyani, 2022). Overall, understanding the diverse factors is essential in member participation for the success of cooperatives, involving engagement in activities, capital contribution, decision-making, and monitoring.

In the Philippines, cooperatives are essential economic actors, well-integrated into the legal framework. The constitution and Republic Acts No. 9520 (Philippine Cooperative Code of 2008) and 6939 clearly define and regulate cooperatives. They are categorized by membership level (primary, secondary, tertiary) and classified into twenty types based on economic activity and membership. Recognized in law since 1987,

cooperatives have favored status in economic and social policy, serving as a key policy instrument for promoting social justice and economic development. Based on the National Confederation of Training Centers for Cooperatives (NATCCO) report, there are currently 20,105 cooperatives registered in the Philippines. 13,096 of these have an estimated asset of Php3 Million (NATCCO, 2023). Despite the increasing number of cooperatives and members in the past, Cavite recorded significantly low membership growth rates. In line with this reality, among non-cooperative members in the Philippines, the primary reasons cited for not belonging to a cooperative relate to an apparent lack of awareness about costs and the nature of the benefits, not needing or wanting loans, and having inaccurate views of cooperatives (International Cooperative Research Group of the Cooperative Development Council, 2022). Moreover, there is scanty literature on what Philippine cooperatives should do to utilize emerging opportunities from recent development trends to address the issue of recruitment of non-members and promoting involvement among members. In light of these gaps, to help cooperatives address this issue, this study aims to explore how the socio-demographic profile of cooperative members and non-members moderates the effect of the level of knowledge and awareness on cooperative membership. The study would provide valuable insights that could help cooperative policymakers and actors in designing action plans and directions that increase effectiveness, inclusiveness, and sustainability by understanding and addressing the socio-demographic factors that influence membership decisions.

METHODS

The study was designed to explore how the socio-demographic profile of cooperative members and non-members moderates the effect of the level of knowledge and awareness on cooperative membership. The sample size was computed using Cochran's (1977) formula which is usually used for computing sample size for infinite population (Verma, 2019 in Manansala et al. 2022). The data came from a total of 764 respondents, comprising 408 cooperative members and 386 non-cooperative members. The cooperative members involved in the data gathering were from the top 30 cooperatives in Cavite, selected based on their membership size and having been operational for over five years. The non-cooperative members were

drawn from the business organizations, groups, or communities where these top 30 cooperatives operate. These non-member participants had been affiliated with their respective organizations, groups, or communities for at least five years.

A 4-part self-made research instrument inspired by seminal works such as Mollers et al. (2017), ILO (2022), Kaliveya et al. (2020), Bauml et al. (2021), Cele (2022), and Asiyah et al. (2023) was utilized. It is aimed at providing and describing the needed data (sociodemographic profile, knowledge of cooperatives, level of awareness, marketing, and recruitment, and cooperative membership status) to answer the research problems.

The first part of the instrument was set up to provide sociodemographic information and the cooperative membership status of the participants. Following the Quiz-based Knowledge Tracing (QKT) model by Shen et al. (2023) to effectively assess and monitor respondents' knowledge, the second part is a 15-item quiz-type assessment to measure the level of the respondents' knowledge about cooperatives. This type of assessment offers a practical, engaging, and effective method for measuring the knowledge of households about cooperatives, providing valuable insights in addressing the objectives of the study. Scores accumulated were interpreted as 15-14 = Excellent; 13-12 = Above Average; 11-10 = Average; 9-7 = Below Average; and 6-1 = Poor.

Part 3 measures the level of awareness of the participants regarding the presence or existence of cooperatives in the workplace or community (CC), cooperative members and officers (CMO), cooperative financial and other benefits, cooperative products and services, and the activities of the cooperatives (BA). The degree of awareness of respondents to the items of these dimensions was recorded on a 4-point Likert scale (1 = not aware at all, 4 = strongly agree). Also, for the participant's observation of the frequency of marketing and recruitment (MR) efforts of cooperatives that may or may not influence a household's cooperative membership decision, a 4-point Likert scale (1 = never, 4 = always) was used.

A series of validity and reliability tests and analyses were performed to ensure the instrument's quality and reliability. These tests included face and content validity assessments to review the items and ensure

their relevance and comprehensiveness in capturing the intended constructs of interest. Experts in the field were consulted to evaluate the questionnaire items and assess the extent to which they cover all pertinent aspects of the constructs. Their input was instrumental in enhancing the questionnaire's validity and overall quality.

An item analysis was conducted on the quiz-type assessment to evaluate the difficulty and discrimination of each item. The results indicated that the items fell within an acceptable difficulty range, between 0.3 and 0.7. Additionally, all items demonstrated strong discrimination, with values ranging from 0.37 to 0.72. The detailed analysis highlights the proportion of difficulty and item-total score correlation, confirming the reliability of the quiz-type instrument used in the study.

Furthermore, factor analysis was conducted to confirm that the level of awareness questionnaire measures the theoretical concepts it is supposed to measure. Lastly, the internal consistency of the questionnaire was assessed using measures such as Cronbach's alpha and Composite reliability. The items with low indicator loadings were removed to improve the average variance AVE for each variable or lower-order construct.

Having no factor loadings below 0.40 and Cronbach's Alpha values for all variables more than 0.90, the data confirms the reliability of the measurement model.

Analytical Procedure

The study aimed to gain a deeper understanding of whether and why households in Cavite are willing to join cooperatives. Specifically, how the level of knowledge and awareness help form the intention of joining cooperatives as well as the socio-demographic characteristics that may shape the individuals' behavioral intentions. To do this, the study employed various statistical tools and diagnostic tests for data analysis using SPSS version 26.

Binary logistic regression models were used to estimate the hypotheses of the study. It is a powerful and flexible method that assumes a dichotomous choice of whether or not to join cooperatives (Gujarati 2004 cited in Tinaprilla et al. 2022).

Model 1 shows the direct effects of knowledge and awareness factors on the likelihood of joining a cooperative while Model 2 incorporates interaction terms to show how socio-demographic factors moderate the effects of knowledge and awareness on the likelihood of joining a cooperative.

Model 1

$$\text{logit}(P(Y=1)) = \beta_0 + \beta_1 \text{Knowledge} + \beta_2 \text{CC} + \beta_3 \text{MO} + \beta_4 \text{BA} + \beta_5 \text{MR}$$

Model 2

$$\text{logit}(P(Y=1)) = \beta_0 + \beta_1 \text{Knowledge} + \beta_2 \text{CC} + \beta_3 \text{MO} + \beta_4 \text{BA} + \beta_5 \text{MR} + \beta_6 \text{Age} + \beta_7 \text{Gender} + \beta_8 \text{Education} + \beta_9 \text{Income} + \sum_{i=1}^5 \lambda_i (\text{IV} \times \text{Age}) + \sum_{i=1}^5 \lambda_{i+5} (\text{IV} \times \text{Gender}) + \sum_{i=1}^5 \lambda_{i+10} (\text{IV} \times \text{Education}) + \sum_{i=1}^5 \lambda_{i+15} (\text{IV} \times \text{Income})$$

where: $\text{logit}(P(Y=1))$ is the log-odds of the probability that $Y=1$ (membership status or joining cooperative), Knowledge represents the level of knowledge, CC, MO, BA, and MR represent the different awareness factors. The socio-demographic moderators are represented by Age, Gender (1= Male, 0= otherwise), Education (1= College graduate, 0= otherwise), and Income. β_0 is the intercept, β_n is the coefficient, and λ_n represents the coefficient of the interaction terms between independent variables (IV) and moderators.

Before testing Models 1 and 2, diagnostic tests such as Likelihood Ratio Test (LRT), and Variance Inflation Factor (VIF) play a crucial role in binary logistic regression models presented to ensure the validity, reliability, and interpretability of the results. It can help in making informed decisions about model specification, identify potential issues, and assess the overall performance of the model. To enhance the credibility and reliability of the findings, the study conducted a robustness test through the bootstrap method.

Effect of Levels of Knowledge and Awareness on Cooperative Membership Status

Cooperatives are founded on the principles of equal membership and democratic control over members' means of livelihood, aiming to address issues arising from contemporary capitalism and foster social

solidarity (Hana, 2020). In this model, cooperative membership represents a unique form of ownership where members collectively own and manage the cooperative business. Active membership is essential for enhancing the performance and competitiveness of cooperatives (Verhees, Sergaki, & Dijk, 2015).

In the theory of planned behavior (Ajzen, 1991), the logic of cooperation based on the result of individual utility-maximizing decision-making sheds light on the cognitive factors leading to cooperative participation or not (Mollers et al. 2017; Bauml et al. 2021; Cele, 2022). The theory posits that participation in a self-help organization is primarily driven by individual considerations. It predicts intentions, which are the precursors to actual behavior, based on three cognitive constructs: attitudes toward the behavior, subjective norms, and perceived behavioral control. An individual's level of knowledge and awareness significantly influences these constructs. Behavioral belief, which represents the projection of the outcome of group involvement, aligns with the expectations of a potential group member. This conceptualization includes the decision-maker's subjective perception of utility, linking it to common economic approaches (Mollers et al. 2017; Bauml et al. 2021; Cele, 2022). When positive outcomes are anticipated and the individual is knowledgeable and aware of the benefits, they are more likely to develop positive attitudes towards joining a mutual support group.

In their 2020 study, Kaliyeva et al. utilized a bivariate probit model to jointly estimate the impact of various factors on rural households' intentions to join and create cooperatives. They found that rural households with positive views towards cooperatives, high production capacity, awareness or knowledge of cooperatives, and no reliance on a dairy business for household income were more inclined to participate in collective actions. Additionally, perceived social norms and household risk attitudes significantly influenced their intention to engage in such collective efforts (Kaliyeva et al. 2020). Asiyah (2023) determined the factors that can increase interest in joining cooperatives in Indonesia. These factors include cooperative leaders and actors' interpersonal skills and organizational image. These findings imply that fostering positive attitudes towards cooperatives, enhancing household capacity and knowledge, ensuring effective leadership, and maintaining a positive organizational image are essential strategies for encouraging rural households to

join and create cooperatives. Moreover, understanding the social and economic contexts of these households can further tailor approaches to boost cooperative participation.

On the same note, Dorgi (2017) used qualitative and quantitative data to find that members' lack of knowledge and awareness about the cooperative's concept, principles, values, rights, and duties as members and the uniqueness of cooperatives with other forms of businesses were found to be the main reasons for the failure of agricultural cooperatives in Ethiopia. Ki and Wang (2016) explored factors that could influence members' behavioral intentions in professional membership associations by surveying 13,229 members from eighteen associations. They found that members' perceptions of personal and professional benefits positively correlated with their intentions to renew and recommend membership. Moreover, the key determinants of recruiting new members in professional associations include opportunities for professional development, self-improvement, maintenance of standards, improvement of the profession, and discounts on equipment/educational opportunities based on the study of Reyes and Brown (2018). In Vietnam, Anh (2022) found the perceived benefits as 1 out of 7 factors affecting cooperative member satisfaction in high-tech agricultural cooperatives. The author utilized 395 cross-sectional data using partial least squares structural equation modeling.

These works suggest that when members and would-be members are knowledgeable and aware of the benefits of being part of an association, they are more likely to renew their membership and engage actively. Similarly, in the context of cooperatives, higher levels of knowledge and awareness about the cooperative's principles, benefits, and operations can enhance members' perceptions of its value. This heightened perception can lead to increased participation, loyalty, and advocacy, which are crucial for the cooperative's performance and competitiveness. Therefore, improving knowledge and awareness among cooperative members can positively impact their engagement and support for the cooperative. Egia and Exteberria (2019) reinforce these findings by asserting that in the complex situation in which modern cooperative trading companies operate, education, training, and information are necessary to avoid the distortion of what cooperative means among members and increase engagement for those who want to join cooperatives (Egia & Exteberria,

2019). Consequently, to enhance comprehension of the association between the variables being investigated, this study hypothesized:

- H1a: Levels of knowledge positively affect the cooperative membership.
- H1b: Levels of awareness positively affect the cooperative membership.

Influencing Effect of Socio-Demographic Profile on Levels of Knowledge Awareness and Cooperative Membership Status Relationship

A plethora of studies in various fields showed the influencing effect of socio-demographic profile, studies related to cooperative membership included. A study conducted by Jaafar et al. (2017) examined the factors affecting membership among independent oil palm smallholders in Malaysia. The regression analysis showed that nine factors significantly influenced respondents in the decision to become members of cooperatives which includes gender, non-farm occupation, knowledge of cooperatives, community/society involvement, household income, commitment, perception, management, and communication. Metto et al. (2020) examined the effects of member education types on their participation in Savings and Credit Cooperative Societies in Kenya. Using mixed methods, findings revealed that the socio-demographic attributes affecting member participation were education, age, sex, income, and occupation. Moreover, Rokhani et al. (2022) used logistic regression analysis to identify the factors contributing to farmers' participation groups, associations, and cooperatives in Indonesia. The data revealed that farmers' age and education positively affect their participation in associations and cooperatives. Moreover, the farmers' wealth has a positive effect on their participation in cooperatives and a negative effect on their participation in associations (Rokhani et al. 2022). Rwela (2023) processed using binary regression analysis the cross-sectional data from

340 farmer respondents in Tanzania to examine socio-economic and institutional determinants of farmers' decision to join cooperatives. The findings showed that age, education, credit services, the amount of credit accessed, farm input, marketing, and price information were significant determinants of farmers' decision to join cooperatives (Rwela, 2023).

Overall, the influence of socio-demographic profiles on cooperative membership underscores the importance of understanding and addressing the diverse needs and preferences of potential and existing members. By leveraging these insights, cooperatives can enhance their recruitment and retention strategies, promote inclusivity, improve member engagement, inform policy and decision-making, boost performance, and foster social solidarity. With this, the study hypothesized that:

- H2a: Socio-demographic profiles such as age, education, gender, and income moderate the relationship between the level of knowledge and cooperative membership status.
- H2b: Socio-demographic profiles such as age, education, gender, and income moderate the relationship between the level of awareness and cooperative membership status.

Figure 1 illustrates the research model and hypothesis development, showcasing how the study examines the impact of cooperative knowledge and awareness on membership. The relationship between knowledge, awareness, and membership is moderated by sociodemographic factors such as age, gender, education, and income. This suggests that the influence of knowledge and awareness varies among different demographic groups, emphasizing the need for tailored engagement strategies to effectively promote cooperative membership across diverse populations.

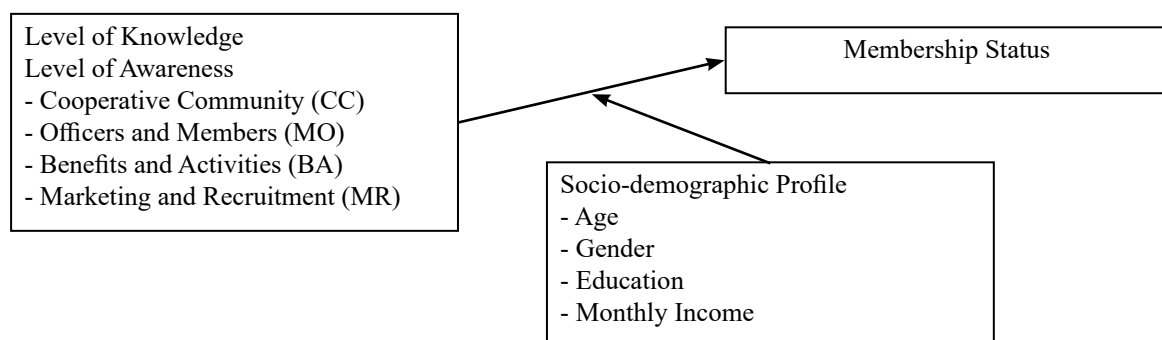


Figure 1. Research framework

RESULTS

As this study aims to understand the factors that influence the cooperative membership of households, it was important to describe the demographic information of the respondents. Table 1 shows the profile of cooperative members and non-members in the study areas. These profiles include age groups in years, gender, level of education, and income.

The data shows that the cooperative members were aged 26 to 45 years while non-members were 18 to 35 years old. The age of members and non-members was statistically significantly different ($p > .001$) with members being generally older than non-members. Out of the 794 respondents, 281 (35.39%) were males and 513 (64.61%) were females ($p < .001$). In terms of the respondents' level of education, 285 (69.85%) out of the 408 members attained college education while

the majority of non-members had either completed high school or had tertiary education. It implies that there is a statistically significant relationship between members' and non-members' educational attainment. Lastly, it shows that most of the respondents' income ranges no more than Php25,999.00 ($p < .001$).

Effect of Levels of Knowledge and Awareness on Cooperative Membership Status

One of the primary objectives of this study is to thoroughly examine how households' levels of knowledge and awareness influence their intention to join cooperatives. Table 2 presents the factors affecting cooperative membership. To assess the model's effectiveness, various tests on the logistic regression model were conducted. These tests aim to provide a detailed understanding of the model's fit to the data and its ability to explain the membership outcome.

Table 1. Respondents' demographic information (n = 794)

Demographic Information	Member		Non-Member		Overall		Chi ²	df	p
	n	%	n	%	n	%			
Age groups (years)									
18 – 25	26	6.37	159	41.19	185	23.30	216.37	4	.000
26 – 35	108	26.47	132	34.20	240	30.23			
36 – 45	124	30.39	59	15.28	183	23.05			
46 – 55	85	20.83	30	7.77	115	14.48			
56 and above	65	15.93	6	1.55	71	8.94			
Gender									
Male	120	29.41	161	41.71	281	35.39	131.15	1	.000
Female	288	70.59	225	58.29	513				
Level of education									
Elementary	2	0.49	3	0.78	5	0.63	160.08	5	.000
Highschool	29	7.11	162	41.97	191	24.06			
Vocational	15	3.68	20	5.18	35	4.41			
Assoc. Degree	39	9.56	30	7.77	69	8.69			
College	285	69.85	164	42.49	449	56.55			
Postgraduate	38	9.31	7	1.81	45	5.67			
Income (in Php)									
> 16,000	182	44.61	300	77.72	482	60.71	119.74	3	.000
16,000 – 25,999	100	24.51	63	16.32	163	20.53			
26,000 – 35,999	42	10.29	13	3.37	55	6.93			
36,000 above	84	20.59	10	2.59	94	11.84			
Total	408	51.39	386	48.61	794	100.00			

Table 2. Effect of Levels of Knowledge and Awareness on Cooperative Membership Status

Variables	β	S.E.	Wald	df	p	Exp(β)
Level of Knowledge	.522	.096	29.655	1	.000	1.685
Level of Awareness						
CC	.161	.046	12.417	1	.000	1.175
OM	.299	.043	47.385	1	.000	1.349
BA	-.002	.024	.008	1	.927	.998
MR	-.005	.019	.065	1	.799	.995
-2 Log likelihood	540.96 ^a					
Cox & Snell R ²	.505					
Nagelkerke R ²	.674					
Hosmer & Lemeshow Test						
Chi-square (df)	35.70*			(8)		
Omnibus Test Model						
Chi-square (df)	557.70*			(5)		

^a Estimation terminated at iteration number 6 because the parameters estimate changed less than by .001.

*significance at 0.1%

Table 2 highlights a significant relationship between knowledge and cooperative membership. Each unit increase in knowledge raises the odds of membership by 68.5% ($p < .001$), underscoring the crucial role that understanding cooperatives plays in influencing individuals to join. This finding supports hypothesis H1a and aligns with previous studies by Safitri et al. (2020), and Cukur and Cukur (2021), which similarly emphasize the effect of knowledge on cooperative participation. It implies that by focusing on enhancing public knowledge, cooperatives can significantly increase their membership and engagement.

Moreover, the data suggests that higher awareness among households of the existence of cooperatives in their workplaces or communities ($p < .001$) and knowing someone who is a cooperative member or officer ($p < .001$) significantly increases the likelihood of becoming a cooperative member. Specifically, each unit increase in awareness raises the odds of membership by 17.5% and 34.9%, respectively. This indicates that personal connections and visibility in everyday environments are crucial drivers for cooperative membership.

However, Awareness of a cooperative's benefits, activities, marketing, and recruitment efforts appears to negatively impact membership, as shown by odds ratios below 1. Though these results lack statistical significance, suggesting the relationships may not be meaningful, they indicate that simply knowing about a cooperative's offerings may not drive membership.

This implies that other factors, like personal experience or direct engagement, might be more influential.

These findings partially support hypothesis H1b and offer mixed insights compared to past studies. For instance, Anh (2022) found that awareness of cooperative managers enhances satisfaction and membership in high-tech agricultural cooperatives in Vietnam, which aligns with the current study's emphasis on personal connections. However, Anh's claim that perceived benefits and support policies increase membership contrasts with the current study's results on benefits awareness. Similarly, while Hando et al. (2022) found positive effects of cooperative centers' proximity and satisfaction on membership in Southern Ethiopia, the present study does not strongly support these findings. Additionally, the results differ from Jones et al. (2016), who linked awareness of monetary incentives to membership growth, as well as Habiyaemye et al. (2023) and Astri et al. (2015), who highlighted the importance of marketing and recruitment in membership decisions. These insights suggest that cooperatives should focus on increasing their visibility and fostering personal connections within communities to boost membership. At the same time, they should critically evaluate the effectiveness of their benefits communication, marketing, and recruitment strategies. For policymakers and cooperative managers, these findings highlight the importance of tailored engagement approaches that leverage both personal networks and community presence to enhance cooperative membership rates.

Moderating Effect of Socio-Demographic Profile on Levels of Knowledge Awareness and Cooperative Membership Status Relationship

This paper seeks to provide a comprehensive analysis of these dynamics, offering valuable guidance for cooperatives aiming to grow and thrive in a diverse and evolving societal landscape. Thus, understanding the moderating effects of socio-demographic profiles on the relationship between knowledge, awareness, and cooperative membership is crucial for developing effective and inclusive strategies in the recruitment of non-members and promotion of member involvement.

The findings from Table 3 highlight how socio-demographic factors like age, gender, education, and income ($p < .01$) significantly influence the relationship between knowledge and cooperative membership. Firstly, age and gender positively moderate this relationship, suggesting that as individuals become more knowledgeable about cooperatives, older individuals are 17.5% more likely to join, and males have a 106% higher likelihood of membership compared to females. This indicates that cooperative outreach efforts might be particularly effective if they focus on educational initiatives targeted at older populations and men. Conversely, education and income negatively moderate the knowledge-membership relationship. This means that individuals with higher education and income levels are less likely to join cooperatives as their knowledge increases.

Therefore, the findings support H2a with mixed effects. These findings suggest that cooperatives need to address specific barriers or misconceptions that may deter highly educated or affluent individuals from joining. Tailored messaging that aligns cooperative membership with the values and interests of these groups, such as emphasizing professional benefits or exclusive opportunities could be more appealing.

The study also reveals mixed effects of awareness on membership thus partially supporting H2b. While higher awareness generally increases the likelihood of cooperative membership, this effect is moderated differently by age and education. Older individuals are less likely to join cooperatives despite higher awareness, whereas those with higher education levels are more likely to join. This suggests that awareness campaigns should be designed to address the specific concerns of older individuals, perhaps by highlighting

the long-term benefits and community impact of cooperatives. For those with higher education, emphasizing innovative and professional aspects might be more effective. Interestingly, while the data suggests that gender and income might positively moderate the effect of awareness on membership, these associations were not statistically significant in this study. This indicates potential trends that need further investigation. Future research should delve deeper into how these factors interact with awareness to influence cooperative membership, providing clearer guidance on engaging these demographic groups.

Comparatively, these findings resonate partially with previous studies, such as Metto et al. (2020), which found positive effects of demographic factors on cooperative membership in Kenya. However, the results contrast by showing that higher education and income levels can negatively influence membership decisions, suggesting a more nuanced interaction. Twumasi et al. (2021), found that household heads' decisions to join cooperatives are affected by education level and peers who are coop members. Similarly, Rokhani et al. (2022) observed complex demographic effects in Indonesia, where age and education had mixed impacts on cooperative participation. Overall, the findings underscore the importance of understanding the moderating effects of socio-demographic profiles on the relationship between knowledge, awareness, and cooperative membership. By leveraging these insights, cooperatives can develop more targeted and effective strategies that resonate with diverse demographic groups, fostering a more inclusive and engaged membership base.

The analysis of demographic factors such as age, gender, education, and income on the relationship between awareness and cooperative membership status reveals notable patterns, though without statistical significance, warranting careful interpretation. Age consistently shows a positive moderating effect, indicating that as awareness of cooperative officers, benefits, and activities increases, older individuals are more likely to join. Gender presents mixed effects, positively influencing the relationship between awareness of cooperative officers and membership, but negatively affecting awareness of benefits and activities. Education generally has a positive moderating effect, with higher levels increasing the likelihood of membership as awareness grows, although it reduces the impact of awareness of benefits and activities. Income also shows

mixed effects, positively influencing membership when awareness is about cooperative officers, but negatively when it involves benefits and recruitment. While these patterns provide useful insights, the lack of statistical significance suggests that they should be interpreted cautiously and used as a basis for further research rather than for immediate strategic decisions.

Robustness Test

The study employed bootstrap methods for robustness testing to validate and strengthen the reliability of the results. This technique uses resampling to generate empirical distributions, addressing potential data limitations and model complexity. The results affirm the positive impact of knowledge and awareness levels regarding cooperatives on membership status ($p < .01$), confirming the robustness and validity of the initial findings (Table 4). This indicates that the conclusions are stable across different samples and not overly reliant on specific assumptions, enhancing confidence in the generalizability and practical relevance of the results.

Table 3. Moderating effect of demographic profile on levels of knowledge and awareness and cooperative membership status relationship

Variables	β	S.E.	Wald	df	P	Exp(β)
Knowledge*Age	.161	.063	6.636	1	.010*	1.175
Knowledge*Gender	.723	.263	7.556	1	.006**	2.061
Knowledge*Education	-.184	.088	4.384	1	.036*	.832
Knowledge*Income	-.259	.079	10.735	1	.001**	.772
CC*Age	-.051	.025	4.203	1	.040*	.951
CC*Gender	.145	.117	1.540	1	.215	1.156
CC*Education	.0111	.031	13.136	1	.000***	1.076
CC*Income	.046	.033	1.883	1	.170	1.047
OM* Age	.004	.024	.021	1	.884	1.004
OM*Gender	.037	.102	.131	1	.717	1.038
OM*Education	.002	.031	.003	1	.958	1.002
OM*Income	.049	.039	1.638	1	.201	1.051
BA*Age	.018	.012	2.218	1	.136	1.018
BA*Gender	-.084	.066	1.636	1	.201	.919
BA*Education	-.015	.020	.551	1	.458	.985
BA*Income	-.005	.018	.064	1	.801	.995
MR*Age	.016	.011	1.961	1	.161	1.016
MR*Gender	-.061	.052	1.355	1	.244	.941
MR*Education	.000	.016	.000	1	.992	1.000
MR*Income	-.008	.015	.307	1	.579	.992
-2 Log likelihood	429.529 ^a					
Cox & Snell R Square	.570					
Nagelkerke R Square	.760					
Hosmer and Lemeshow Test						
Chi-square (df)	21.97*					(8)
Omnibus Tests of Model						
Chi-square (df)	669.13**					(29)

^a Estimation terminated at iteration number 6 because parameter estimates changed by less than .001; * significance at 5%; ** significance at 1%; *** significance at 0.1%;

Table 4. Effects of level of knowledge and awareness on cooperative membership status with bootstrapping

Variables	β	Bias	S.E.	Bootstrap ^a
Sig. (2-tailed)				
Level of Knowledge	.522	.005	.096	.001*
Level of Awareness				
Cooperative Community	.161	.000	.046	.001*
Officers and Members	.299	.009	.043	.001*
Benefits and Activities	-.002	.001	.024	.924
Marketing and Recruitment	-.005	-.001	.019	.807
-2 Log likelihood	540.962 ^b			
Cox & Snell R Square	.505			
Nagelkerke R Square	.674			
Hosmer and Lemeshow Test				
Chi-square (df)	35.698**			(8)
Omnibus Tests of Model				
Chi-square (df)	557.702**			(5)

^aUnless otherwise noted, bootstrap results are based on 1000 bootstrap samples; ^bEstimation terminated at iteration number 6 because parameter estimates changed by less than .001 for split file \$bootstrap_split = 0; * significance at 1%; ** significance at 0.1%

Managerial Implications

The findings of this study suggest several key managerial implications for cooperative leaders and policymakers. First, it is crucial to focus on educational campaigns, as higher knowledge levels are strongly associated with increased membership. Cooperatives should prioritize initiatives that inform potential members about the benefits and operations of the organization, ensuring that knowledge dissemination plays a central role in promoting growth. Additionally, the study highlights the varied impact of demographic factors, such as age, gender, and education, on membership decisions. Tailored strategies are necessary to engage different demographic groups effectively. For example, older individuals may require distinct messaging and outreach techniques, while younger, more educated audiences could be more receptive to detailed information and clear benefits.

The results also indicate that simply raising awareness of cooperative activities and benefits may not be sufficient to drive membership. As such, cooperative managers should go beyond traditional awareness campaigns by offering hands-on experiences, community engagement opportunities, and direct involvement in cooperative activities to enhance personal connections with potential members. Furthermore, age-specific incentives or rewards may be useful in attracting older individuals who are less responsive to conventional

awareness efforts. Similarly, incorporating cooperative education into academic programs could attract more highly educated members at an earlier stage.

Finally, since awareness of marketing and recruitment efforts showed limited effectiveness in boosting membership, cooperatives should reconsider their recruitment strategies. Personal engagement, targeted incentives, and showcasing tangible benefits of membership may prove to be more successful approaches. By adopting these customized strategies, cooperatives can enhance recruitment efforts, improve member engagement, and foster sustainable growth.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Understanding what drives households' membership in cooperatives is vital to the success of cooperatives in Cavite. This study helps explain the effect of the level of knowledge and awareness on cooperative membership and how age, gender, education, and monthly income can influence this relationship. The study employed binary logistic regression to test the hypotheses. The results yielded interesting findings that may affect cooperative policies, action plans, and directions in the recruitment of non-members and promoting involvement among members.

The study revealed that higher levels of knowledge are associated with a higher likelihood of being a member (H1a). This finding suggests that knowledge plays a significant role in determining membership status; individuals with higher levels of knowledge are more likely to join compared to those with lower levels. This connection recognizes the importance of knowledge in cooperative membership, underscoring the significance of educational initiatives, policy support, and community engagement efforts to promote the growth and sustainability of cooperatives as inclusive and democratic enterprises.

Additionally, the study found mixed findings regarding the moderating effects of various demographic profiles on the relationship between knowledge, awareness, and membership status in cooperatives. The moderating effects of age and gender showed positive and negative effects, respectively, while education and income demonstrated complex interactions (H2a). This highlights the need for a nuanced understanding of how age and gender shape the relationships among these variables, emphasizing the importance of designing inclusive and contextually relevant interventions and policies in cooperative contexts.

Furthermore, the analysis indicated a complex relationship between awareness levels and membership status, with a partial acceptance of H2b. The negative effect of age suggests that older individuals may be less responsive to awareness campaigns, while the positive effect of education indicates that higher education levels can amplify the impact of awareness on cooperative membership. Tailored awareness campaigns targeting specific demographics could be beneficial, with a focus on addressing older adults' specific concerns and emphasizing detailed information for educated individuals. Policymakers and cooperative managers should consider these moderating effects when designing policies and engagement strategies to enhance membership appeal across diverse demographic groups.

Recommendations

To enhance cooperative membership in Cavite, it is essential to develop targeted educational initiatives for older individuals and males, emphasizing the unique benefits of cooperatives. Workshops and community events can increase awareness and understanding among these groups. Tailored messaging for highly

educated and affluent individuals should address their specific concerns and values by highlighting professional benefits and networking opportunities. Strategic awareness campaigns must focus on the long-term benefits and community impact of cooperatives for older populations while emphasizing innovative aspects for those with higher education. Regular evaluations of communication and marketing strategies regarding cooperative benefits and recruitment efforts will ensure they resonate with target audiences. Ongoing research into the moderating effects of gender, income, and other socio-demographic factors is encouraged to refine engagement strategies. By adopting these recommendations, cooperatives can attract diverse members, foster community engagement, and contribute to their sustainability and growth.

FUNDING STATEMENT: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

CONFLICTS OF INTEREST: The author declares no conflict of interest.

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