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Determinants of Investment Decisions of Multipurpose Cooperatives of SOCCSKSARGEN Region, Philippines

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Abstract
This study investigates the determinants influencing investment decisions among multipurpose cooperatives in the SOCCSKSARGEN Region. Factors such as capital structure, risk considerations, cooperative direction, and institutional support were examined as predictors of investment behavior. Data were collected from 140 multipurpose cooperatives through face-to-face interviews, email surveys, and video conferences. Binary logistic regression analysis revealed that the identified factors—capital structure, risk considerations, cooperative direction, and institutional support—do not significantly predict investment decisions among multipurpose cooperatives in the region. The findings suggest a need for improvement in investment activities, particularly through increased exposure to financing and investment programs offered by both public and private institutions. Additionally, the study highlights the financial constraints faced by multipurpose cooperatives, hindering their expansion capabilities. Strategies to optimize capital structure for investment purposes, enhance risk assessment mechanisms, align investment decisions with cooperative objectives, and broaden institutional support are recommended. The study also underscores the importance of context-specific frameworks in cooperative settings and proposes avenues for future research, including expanding sample size, exploring alternative methodologies, and refining theoretical models. Overall, addressing financial constraints, enhancing strategic planning, and fostering partnerships with both public and private sectors are essential for facilitating informed investment decisions among multipurpose cooperatives in the SOCCSKSARGEN Region.

Keywords: Investment Decision, Cooperatives, and Binary Logistic Regression

Introduction

Cooperatives play a significant role towards growth and development of the global economy. Their competitive business activities provide additional revenue, increased employment and income among its members.

The cooperative in the SOCCSKSARGEN Region has posted positive growth in terms of its investments from P98.00 million in 2013 to P182.00 million in 2015. However, there is a decline in the number of operating cooperatives in the region (Castillo & Castillo, 2015). With this contribution to the regional economy, cooperatives have proved its significant role in attaining the Regional Development Plan (RDP) from 2017 to 2022. Under RDP 2017 to 2022, the cooperative is one of the key drivers in order to sustain

the growth of the region. The Plan further envisioned that the number of registered cooperatives will increase, thereby, increasing the cooperative's investment.

Cooperatives operate in an increasingly competitive and sometimes hostile economic environment. They must continuously invest in resources to serve their members more effectively if they hope to survive and grow (De Souza & Lunkes, 2016). Deciding where to invest is crucial for the cooperative because it will impact its growth and the benefits that it can provide to its members and the economy as a whole.

The investment decision-making process includes the decision to invest the company's fund in an asset that will generate a future return. This decision's common motive is to expand the current operation, replacement of obsolete asset, rebuilding or renewal of the old asset, and other purposes that need long-term commitment of funds in expectation of future return (Ariemba, Evusa, & Musau Muli, 2016). Pandley (2015) states that investment decision needs to be carefully done because it influences the company's growth, exposure to risk, and long-term effect on the company's financial position and performance.

The decision to invest is a challenging task on the part of the decision-makers because they need to assess the various alternatives of investment; select from the given alternatives of investment, and provide the optimal investment decision (Puska, Beganovic, & Sadic, 2018). On the other hand, Rahayu (2013) emphasize that risk in the investment decision is greater than the rest of the company, and all decisions require anticipation of the future. The decision-maker is confronted with the uncertainty of the investment options. Moreover, the decision-maker is also confronted with the limitation of the firm's resources.

Making an investment decision is the most important preparatory action in planning an investment. In making it, it is necessary first to define the ideas and then determine possible investment variants for the realization of these ideas, all of which must be consistent with the goals of the company (Puska, Beganovic, & Sadic, 2018). The major concern of investment decisions is the net cost of investment, net returns, cost of capital, and project evaluation technique.

This study is indispensable for several reasons. First is there is a need to transform micro, small, and medium cooperative to large cooperatives. Second is the maximization of the cooperative performance through investment decisions. The third is investment decision as a critical task of the decision-makers because it can lead to bankruptcy and avoid the death of cooperatives. And lastly, this investment decision is irreversible.

Literature Review

The investment decision making objective is to gain profit and can be done in two ways (Virlics, 2013). Investment can be fixed like building, plant, equipment, machine, or monetary instruments like stock and bond. These methods can make the firm grow. The decision whether to make an investment or not is dependent on the investor's profit expectation, the cost of the asset and availability to finance the investment, and how to finance that. A good investment decision is a decision that is thoroughly planned and not made in a rush. A wrong decision can lead to the firm's bankruptcy. It is necessary to know the basics of investment decisions to obtain maximum value from the appraisal process (Virlics, 2013). Investment decision depends on the expected return of the investment, which turns to an expectation of growth and product demand (McNichols & Stubben, 2008). The expectation of future growth is based on information that includes revenues and earnings.

The investment decision is made by the top management; the decision is based on their own personal experience and using their own intuition (Puska, Beganovic, & Sadic, 2018). Several parties are typically

involved in investment decisions, including managers who make the decision to invest, boards who review the capital budget, and external suppliers of capital.

The investment decision, the plan for company development, is the selection of methods and modalities of work and factors that affect the business operation. It is a series of evaluation of investment alternatives and risks involved through different financial tools (Puska, Beganovic, & Sadic, 2018). In order to make the best investment decision, it is necessary to acknowledge the number of factors (Rahayu, 2013) such as capital structure, risk factor, cooperative direction, and institutional support.

Investment decision in this study is defined as the acquisition of plant, property, and equipment, acquisition of intangible assets, acquisition of equity of other cooperatives, and acquisition of debt securities. These investment decisions are discussed below:

Usually, firms choose offering debt instruments because they can decide on the interest that they will pay to the creditors thus, cost of investment becomes lower and becomes certain. However, this makes the equity expensive due to the fact that the company used debt for operation. Owners or investors expect the company can generate profit and in return the firm can distribute high dividend. Aivazian, Ge, and Qui (2005) reveal that the cost of investment must be considered in the manner of financing. There should be an investment policy that will describe how much of the portion of the investment will be financed by debt and equity. They added that the impact of financial leverage on a firm's investment decision is a central issue in cooperate finance.

Traditional cooperatives are equity bound due to exclusive patron member ownership, and hence, may be expected to rely more on debt financing to use in their operation and investment activities (Franken & Lu, 2015). Mateos-Ronco and Guzman Asuncion (2018) states that firm can procure funds in the course of its main activity. The funds procured are considered as the internal funding of the firm. If this internal funding is sufficient for the investment projects, then it will be used to invest and to generate more earnings. But on the case of insufficient internal funding, the management will resort to find external source of financing. Firm can attract investors and creditors to ask for financing. If the firm chooses to find for investors, the firm will sell equity securities to them with the promise of dividend and ownership of the firm. On the other hand, when the firm chooses to look for creditors like banks and other financial institution, they will pay the regular interest of the borrowed money. Mateos-Ronco and Guzman Asuncion (2018) suggests that when a firm selects its source of financing, top management should weigh all the factors, benefits and risks associated with the financing options.

Rahayu (2013) finds out that financial factors such as the availability of internal fund such as net worth affects investment decision of the company. Internal financing is preferred over external financing it does not cause cost and the information is available. Rahayu (2013) reveals that leverage and agency cost associated with external financing cause adverse effect on company investment. Pastor-Agustin, Ramirez-Aleson, and Espitia-Escuer (2011) found out that firm with financing sources expand and acquire.

De Crom (2011) reveals that there is an insignificant relationship between capital structure and investment decision in a low growth firm. Additional cash flows from external financing and equity do not give managers the intention to invest or invest more. While on high growth firms, capital structures impact the investment decision. The investment activities are dependent on the availability of the external financing and the willingness to increase the equity of the firm. De Crom (2011) reveals further that the impact of capital structure to the investment decision across all types of firm is not significant.

Investment decision is concerned with efficient deployment of capital fund. Financing decision requires an appropriate selection and combination of capital from available source while dividend decision involve

the periodical determination of proportion of a firm's total distributable earnings that is payable to its ordinary shareholders (Gugler, 2003). The larger the dividend paid the lesser funds are retained for reinvestment and the more the company will have to rely on other source of long term funds to finance the project (Salawu & Olayinka, 2016).

The purchase of the capital goods and the cost and revenues are incurred and realized over several periods is characteristic of investment decision. These capital goods will be used in the operations or production process of the firm for several years. Therefore, the time value of money should be taken into account to evaluate investment alternatives properly. There is an uncertainty of the revenue generation, and this brings risk to the evaluation of investments. The risk in investment decision-making is greater compared to other activities. All decision makings require anticipation of future events, but in the case of investment, and extend to the forecast of the sale of goods for the next period (Rahayu, 2013). Moreover, investment decision is considered irreversible, and the uncertainty of the outcome plays key role.

Uncertainty can have a strong effect on aggregate investment. From a policy perspective, the certain macroeconomic policy environment and incentive structure is important for investment as the level of the tax incentives or the interest rate. Meaning, if the uncertainty is high, incentives may have to be prohibitively large to have any significant effect on investment. The risk exists because there is uncertainty in the recovery of cost of investment and realization of the expected profit (Virlies, 2013).

The effect of uncertainty is independent on investors' risk preferences or the extent to which risks may be diversifiable. Investors may be risk-neutral (as assumed by most of the literature on irreversibility) and their risks diversifiable, but investment would still be hostage to the perceived degree of uncertainty.

Risk is a possibility to be exposed to losses. The determination of risk is based on a long experience and information that allows the estimation of likelihood of consequences (Virlics, 2013). Risk and uncertainty are subjectively perceived, and it involves psychological and emotional factors (Danso, Amankwah-Amoah, & Uddin, 2019). Neuroeconomic evidences show that the psychological and emotional influence on decision making, involving risk and uncertainty, may have an informative and helpful role in the decision making process (Virlics, 2013). It is vital to analyze investment risk from the point of view of behavior economics and not only as an objective component.

If financial results are reported truthfully, then other parties could step in to curtail the investment. As a result, firms invest more than they otherwise would have, and attempts to meet capital market expectations or meet bonus targets, for example, could affect investors, employees, customers, and a broad set of related parties. The findings indicate that firms manipulating earnings do over-invest in the misreporting period (Juan Manuel García Lara et al. 2015).

McNichools and Stubben (2008) find significantly greater investment than would be expected based on investment fundamentals. Additional tests using matched control firms suggest that sample firms invest more than they would have had they not overstated their earnings. While sample and control firms exhibit some over-investment before the manipulation period, control firms reduce the level of investment, whereas sample firms continue over-investing during the manipulation period. Finally, the evidence indicates that sample firms curb over-investment following the misreporting period. These findings suggest that an important consequence of earnings management is its effect on firms' investment decisions.

Ben-David , Graham, and Harvey (2013) that states decision makers miscalibrate their skill and resulted to overconfidence in their decision making. Individuals tend to overestimate their chances of relative success and enter more frequently.

The 'outsider' could be a vigilant board. The company charter typically specifies amount beyond which the board has to approve any investment. Lowering the threshold may be a sensible strategy to combat overinvestment due to overconfidence (if boards competently fulfil their monitoring function). An active board that is aware of the firm's investment opportunities could also encourage the head of the company to undertake value-creating projects he may leave on the table when financing constraints are tight (Ben-David, Graham, & Harvey, 2013). Obviously, limits on rationality and expression of social preferences may affect not only managers, but board members also. While overconfidence about the firm's projects may be less likely in external board members (who are not personally hand-picking and designing the projects) than in CEOs, other biases, like escalation of commitment, could affect board decisions, as well. They persistently overestimate their own skills relative to others and, as a result, are optimistic about the outcomes of their decisions. Thus, they push themselves into risk loving behavior and choose investments which are riskier than shareholders prefer. Moreover, financing decisions are also affected.

In cooperatives, the member is the owner, investor, buyer and seller, controller, and beneficiaries (Mateos-Ronco & Guzmán-Asunción, 2018). As member with different roles most probably he/she will pursue very different role. When the member thinks he is investor, then he is looking forward for the dividend in exchange of the shares he bought. On the other hand, if this member is also the board of director, then his objective will be for sake of other member and for the sustainability of the cooperative. As a board of director of the cooperatives, he is more knowledgeable on the operations and economic environment of the cooperatives compared to a member only. He/she will select investments that will increase the member's dividend and will sustain the cooperatives (Mateos-Ronco & Guzmán-Asunción, 2018). This is a challenging task for the board of directors because not all investments have sufficient information on the return of investment as well as the risk associated with it.

In the investment model suggested by Puska, Beganovic, and Sadic (2018), it emphasizes that investment opportunities are vital in the investment decision. The presence of investment opportunities constitutes investment alternatives. In decision making, there should be one or more alternatives.

Government gives investment opportunities to cooperatives by providing policy and programs that will increase its growth (Lyne & Collins, 2008). The set policies will affect the investment depending on the degree of confidence of the investors. The stabilization of investment may entail social and economic costs. If there is low government's credibility, the investment response is low. Credibility would help speed the investment response and reduce the costs of adjustment. Furthermore, Zosima A. Pañares et al. (2013) concluded that government microfinance program had benefited both cooperatives and their member-borrowers. The provision of microfinance capitalization enabled the cooperatives to acquire assets, increased capitalization for microfinance investments and expanded cooperative profits.

Li (2016) argues that of government incentives for businesses are essential instruments of economic development. State governments must offer incentives to attract new investments in order to create jobs and stimulate local economies, especially where unemployment is high and firms would not otherwise consider locating. In theory, incentives ease firms' cost burdens and in so doing, make otherwise disadvantaged locations within a state more attractive economically. In attracting firms, and especially large production plants or service organizations, incentives make state and local economies more competitive for a wide array of related businesses (Li, 2015).

Financial constraints due to capital market imperfections have been raised as a major reason for government intervention in private investments. Zuniga-Vicente, et.al (2012) argue on the way in which private investment is affected by the features of the source of public funding. In particular, it would be

worthwhile to study the grant criteria established by the different public agencies and construct taxonomies to assess how different requirements and awarding criteria can stimulate or substitute private investing spending. Zuniga-Vicente, Alonso-Borrego, Forcadell, and Galan (2012) claim that the source of a subsidy influences whether it is used to stimulate firm investment activities or to substitute some of them (mainly development activities).

Mateos-Ronco and Guzman-Asuncion (2018) emphasizes that cooperative structure of the firm impact its activities specially the investment decision. The size and age or length of operation are factors under cooperative structure that influences investment decision.

Empirical results suggest that cooperative's size significantly affects the sensitivity of investment to cash flow (deCarvalho & Kalatzis, 2018). In particular, the larger the size of the cooperative, the smaller the sensitivity of the investment to cash flow is. An important macroeconomic dimension of these findings is that, provided fluctuations in cash flow and liquidity are correlated with movements in aggregate economic activity and the business cycle, macroeconomic instability may affect investment mainly for firms that rely heavily on internal finance (Serven & Solimano, 1992).

Mateo-Ronco and Guzman-Asuncion (2018) states that firm size is the repealing factor of capital structure. A large size firm has access to a long-term debt because of their assets, its capacity to pay, and bigger cash inflows. Moreover, large firms can attract more because they have established a credit reputation with stakeholders such as banks and other financial institution. Because of these characteristics, they can attract credits that offer lower interest rates. The result found by deCarvalho and Kalatzis (2018) indicate that larger firm has access to large financing and higher quality earnings which increases the availability of the internal financing. Considering that there is availability of financing, large firms has the financial flexibility to invest. However, Mateo-Ronco and Guzman-Asuncion (2018) found out that small and medium firm has more debt than large firm. They explained that large firms somehow do not rely too much on debt, while small and medium firm rely on the debt because of limited internal fund.

On the other hand, small firms has less access to financing and low quality of earning thus, they became a constraint in the access of external financing (deCarvalho & Kalatzis, 2018). These financial constraints discourage small firms to engage in investing. Investment decision related to research and development is positively related to the firm size. However, this research and development related investment decision decline as company size decline (Gugler, 2003).

Regarding firm's length of operations, the literature suggests that small firms are more likely to face financing limitations because they are typically younger and hence, more vulnerable to capital market imperfections induced by information asymmetries and collateral constraints (Cook, Chaddad, & Illiopoulus, 2004).

Methodology

The researchers employed descriptive correlational design to analyze the relationship of these variables. The aim of descriptive correlation research is to describe the relationship among variables rather than to infer cause and effect relationships (Lappe, 2000).

The respondents of the study were the chairpersons of the board of directors of multipurpose cooperatives in the SOCCSKSARGEN Region. In the study of Puska, Beganovic and Sadic (2018), one of the functions of the top executives is to decide where and how to invest the funds of the firm. This is supported by Agamata (2016) that top executive handles the investment decision of the organization.

Based on the data provided by Cooperative Development Authority Region 12, there were 337 operating

multipurpose cooperatives in the SOCCSKSARGEN Region. There were 140 respondents answered the survey questionnaire.

The self-made questionnaire was utilized to gather information from the respondents of the study. The survey questionnaire was validated by five experts in the field of research. This process tested the internal validity of the questionnaire. After the validation of the questionnaire, the researchers conducted a pilot survey to 30 respondents to test the internal consistency of the instrument.

Table 1: Reliability Result

Variables	Pilot Survey (n = 30)	Actual (n = 140)
Investment Decisions	0.664	0.806
Capital Structure	0.678	0.901
Risk Factor	0.962	0.931
Cooperative Direction	0.920	0.864
Institutional Support	0.642	0.844

According to Hulin (2001) , a general accepted rule is that α of 0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater a very good level. As shown in table 1, the Chronbach's Alpha for pilot and actual survey is above 0.6 which indicates that the instruments has internal consistency.

Descriptive statistics such as frequency, percentage, mean and standard deviation were used to describe the variables of the study. Binary Logistic Regression was utilized to determine the influence of capital structure, risk factor, cooperative direction, and institutional support to investment decision.

Result and Discussion

Table 2 :Cooperative Structure of the Multipurpose Cooperative in SOCKSARGEN Region

Asset Size	Frequency	%
Micro Cooperative (with assets of 3 million and below)	31	22.14
Small Cooperative (with assets more than 3 million up to 15)	51	36.43
Medium Cooperative (with assets more than 15 million up to 100)	47	33.57
Large Cooperative (with assets more than 100 million)	11	7.86
Total	**140**	**100.00**
Number of Years Operating		
1 year to 10 years	27	19.29
11 year to 20 years	56	40.00
21 year to 30 years	53	37.86
31 year to 40 years	3	2.14
above 40 years	1	0.71
Total	**140**	**100.00**

This section contains multipurpose cooperative structure; the investment decisions of the multipurpose cooperatives; the capital structure of multipurpose cooperatives; the level of risk factor; the level of cooperatives direction; the level of institutional support of multipurpose cooperatives; the determinants of the investment decisions multipurpose cooperative; and the moderating effect of the asset size and number of years in operation.

The result shows that a large proportion of the multipurpose cooperatives in SOCCSKSARGEN Region, belongs to the small and medium category while few of them belongs to the large asset size category. This is somehow similar to the report of Castillo and Castillo (2015), wherein large proportion of the

cooperative population in the Philippines is classified as micro and small cooperatives or with asset size less than 15 million. It was also highlighted in their report, that few or 2 percent of the total population of the cooperatives where large cooperatives or with asset more than 100 million. This result described the level of assets of the multipurpose cooperatives. The asset levels defined the capacity of the firm to engage in investment activity (Castillo & Castillo, 2015). Since the large proportion of the multipurpose cooperatives in SOCCSKSARGEN Region is small and medium cooperatives, there is a need of government and non-government support to address the growth and sustainability of the multipurpose cooperatives (Quilloy, 2015).

On the result of the number of years operating, the majority of the respondents are operating 11 to 20 years. This reflects that majority of the multipurpose cooperatives have long years of experience in operating a cooperative. Bruynis, et. al (2004) explained that long years of operation equates to years of experience in handling the cooperatives operations and as well as facing challenges of the cooperatives. The long years of operations is one of the key factors of the success of cooperatives.

Table 3: Investment Decision of Multipurpose Cooperatives in SOCCSKSARGEN

	Investment					
Property, plant, and equipment	**Yes**		**NO**		**TOTAL**	
	Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
1. Land	70	50.00	70	50.00	140	100
2. buildings	80	57.14	60	42.86	140	100
3. machinery	61	43.57	79	56.43	140	100
4. equipment	70	50.00	70	50.00	140	100
5. vehicles	82	58.57	56	41.43	140	100
6. furniture	128	91.43	12	8.57	140	100
7. fixtures	128	91.43	12	8.57	140	100
8. office equipment	120	85.71	20	14.29	140	100
Intangible assets						
1. Goodwill	27	19.29	113	80.71	140	100
2. Copyrights	9	6.43	131	93.57	140	100
3. Patents	14	10.00	126	90.00	140	100
4. Trademarks	25	17.86	115	82.14	140	100
5. Trade names	37	26.43	103	73.57	140	100
Equity of other cooperatives						
1. Other Multipurpose Cooperative	20	14.29	120	85.71	140	100
2. Other Type of Cooperative	14	10.00	126	90.00	140	100
3. Federation Cooperatives	53	37.86	87	62.14	140	100
Debt instruments						
1. Government - short term debt instrument	23	16.43	117	83.57	140	100
2. Government – long term debt instrument	18	12.86	122	87.14	140	100

3. Private – short term debt instrument	22	15.71	118	84.21	140	100
4. Private – long term debt instrument	15	10.71	125	89.29	140	100

The result of investment decisions reflects the investing activities of the multipurpose cooperatives in SOCCSARGEN Region. For the property, plant and equipment, the result showed majority of the multipurpose cooperatives invested in the furniture and fixtures and followed by offices equipment. Furniture and fixtures are items of movable equipment that are used to furnish an office. Examples are bookcases, chairs, desks, filing cabinets, and tables. These assets are necessary to carry out the function of the office like preparation of the report. This form of investment entails less capitalization as compared to other long-term assets (Agamata, 2016). On the other hand, only half of the total number respondents invested in land, building, machinery, equipment, and vehicles. Land, building, machinery, equipment, and vehicles are considered expensive investments (Briggeman, Jacobs, Kenkel, & Mckee, 2016). Moreover, when investing in this type of asset there is a high expectation of the its return.

Regarding the result of the intangible assets, few multipurpose cooperatives invested intangible assets. Castilla- Polo and Sanchez-Hernandez (2020) argue that intangible assets are key for the growth and sustainability of the cooperatives. Intangible assets include all the resources that, although lacking physical substance, contribute future benefits to the organization to which they belong. These include know-how, quality management, innovation, consumer trust and reputation, among other assets. It was found in the study that there were few cooperatives invest on the intangible assets because it requires capitalization and few financial institution offers financing for this type of assets.On the result of acquisition of equity of other cooperatives and debt instrument, it was revealed that majority of the multipurpose cooperatives do not invest in the equity of other cooperatives and debt instruments. Common reasons of non-investing is lack of capital and lack of knowledge on the type of investment (Ariemba, Evusa, & Musau Muli, 2016).

Table 4 :Capital Structure of Multipurpose Cooperatives

Debt Level	**Mean**	**Interpretation**
1. Short term loans from a trade supplier	2.94	Within the Target Amount
2. Short term loans from cooperative bank	2.71	Within the Target Amount
3. Short term loans from cooperative union/federation	2.75	Within the Target Amount
4. Short term loans from private financial institution	2.81	Within the Target Amount
5. Short term loans from government financial institution	3.12	Within the Target Amount
6. Long term loans from a trade supplier	2.86	Within the Target Amount
7. Long term loans from cooperative bank	2.67	Within the Target Amount
8. Long term loans from cooperative union/federation	2.72	Within the Target Amount
9. Long term loans from private financial institution	2.72	Within the Target Amount
10. Long term loans from government financial institution	3.09	Within the Target Amount
Equity Level		
1. Subscribed Capital	3.63	Above the Target Amount
2. Paid up capital	3.57	Above the Target Amount

3. Reserve Fund	3.46	Above the Target Amount
4. Donation from the government	3.14	Within the Target Amount
5. Donation from private institution	2.42	Below the Target Amount
Weighted Mean	**2.97**	**Within the Target Amount**

The results indicate that the capital structures of the multipurpose cooperatives are within their target amount. The expected/planned amount of debt and equity level was achieved. These could mean that multipurpose cooperatives do heavily rely on the external financing to avoid additional expenses like interest rate and surcharges.

Also, the equity of the cooperatives is above the target amount. These could mean that there no equity starvation on the multipurpose cooperatives in the SOCCSARGEN Region. Moreover, the result is supported by the result of Rahayu (2013) that cooperatives preferred to have internal financing over external financing. The equity of the multipurpose cooperatives is sufficient to conduct their operation as well as can support the investing activity.

On the other hand, the donation from private institution is below target amount. These could mean that multipurpose cooperatives received less support from the private institution in terms of capital building. Private institutions donation focused on community building and charitable activities.

Table 5: Level of Risk Factors of the Multipurpose Cooperatives in SOCKSARGEN Region

Items	Mean	Descriptive Interpretation
Availability of information		
1. Investment opportunities	3.59	Influenced most of the time
2. Source of financing	3.51	Influenced most of the time
3. Return on investment	3.73	Influenced most of the time
Expected Return		
1. Expected Cash Inflows of the investment Project	3.81	Influenced most of the time
2. Net Income of the investment project	3.72	Influenced most of the time
Time Horizon		
1. Payback Period	3.40	Moderately influenced
2. Maturity of the investment	3.32	Moderately influenced
Capital Investment		
1. Capital Expenditure	3.77	Influenced most of the time
Cost of Investment		

For the risk factor result, it was revealed that risk factors such as availability of information, expected return, time horizon, capital investment, and cost of investment influenced the investing activities of multipurpose cooperatives of the SOCCSKSARGEN Region. This result is backed up by the study of Silic and Back (2015), the risk perceived considerably influential in making decision. The decision maker assesses the impact of risk factors before making a decision.

Availability of information also revealed that can influence the investing activities of the multipurpose cooperatives in SOCCSKSARGEN Region. The availability of information equipped the decision marker in making decision (Virlics, 2013). The access on the information on the investment opportunities brings a strategic behavior to proactively engage in the investing activities. It allows estimation of the likelihood of the consequences specially if there is certainty on the information on the investment opportunities, sources of financing, and return on the investment, of the investing activities.

The expected return can influence the investing activities of the multipurpose cooperatives in the SOCCSKSARGEN Region. The study of De Carvallo, F.L and Kalatzis, A.E.G (2018) affirms that financial information such expected cash inflow, net income, capital investment, and cost of investment contribute in engaging in investing activities.

On the other hand, the time horizon of the investment can moderately influence the investment activities of the multipurpose cooperatives in SOCCSKSARGEN Region. As mentioned in the study of Rahayu (2013), the investment is long-term. The result can be explained that multipurpose cooperatives expect that they can realize their investment in a long period of time.

Table 6: Level of Cooperative Direction of Multipurpose Cooperatives in SOCCSKSARGEN Region

Items	Mean	Descriptive Interpretation
Cooperatives Objective		
1. Establish a branch	1.96	Rarely implemented
2. Purchase or lease a long-term asset	3.21	Moderately implemented
3. Introduce a new product	3.29	Moderately implemented
4. Develop new channel of distribution	3.14	Moderately implemented
5. Establish alliance with existing distribution channels	3.06	Moderately implemented
6. Refrain old technology	3.53	Implemented most of the time
7. Introduce new/modern technique or technology	3.72	Implemented most of the time
8. Improve channel of distribution	3.47	Implemented most of the time
9. Research and development	2.79	Moderately implemented
10. Exploration	2.69	Moderately implemented
11. Internal development of major marketing programs	3.46	Implemented most of the time
12. Outsource services from available services contractors	2.26	Rarely implemented
Management Interest		
1. To increase the capital of the cooperative	4.46	Implemented all the time
2. To increase the net surplus of the cooperatives	4.40	Implemented all the time
3. To increase/expand the operation of the cooperative	4.46	Implemented all the time
4. To increase the efficiency of the cooperatives	4.41	Implemented all the time
5. To increase the number of members	4.20	Implemented most of the time
6. To generate extra income	4.17	Implemented most of the time
7. To pay short term obligation	3.51	Implemented most of the time
8. To pay long term obligation	3.41	Implemented most of the time

Weighted Mean	**3.48**	**Impemented most of the time**

As shown in table 6, cooperative objectives such as refrain old technology, introduce new/modern technique or technology, improve channel of distribution and internal development of major marketing programs were implemented most of the time by them. While purchase or lease a long term asset, introduce a new product, develop new channel of distribution, establish alliance with existing distribution channels, research and development, and exploration were moderately implemented. However, establish a branch and outsource services from available services contractors were rarely implemented by the multipurpose cooperatives. Consequently, as result revealed, management interests were implemented most of the time. Based on the weighted mean, the cooperative directions of the multipurpose cooperatives in SOCCSKSARGEN Region are implemented most of the time.

The cooperative directions were implemented most of the time. These directions set as the guide of the cooperatives in making decisions. According to Agamata (2016), cooperative direction can shape the capital investment. The direction should be geared towards expansion or improvements of the technology. Establishing a branch and outsource services from the available services contractors is rarely implemented by the multipurpose cooperatives in SOCCSKSARGEN Region. Establishing a branch is rarely implemented maybe because it entails huge capital, while outsourcing is rarely implemented because cooperatives are self-help organization. Cooperatives find available talents in their members and encourage to work and share in the organization.

Among the management interest, increasing the capital, the net surplus, and efficiency are implemented all the time by multipurpose cooperatives. The main purpose of the business organization is to increase its capital, net surplus (net income), and efficiency (Agamata, 2016) . These are key determinants of financial management and sustainability. They are motivated to do such thing because management as part of the member of the cooperative (part owner) will directly gained from implementing such activities.

Table 7 : The Level of Institutional Support on Multipurpose Cooperatives in SOCCSKSARGEN Region

Items	Mean	Descriptive Interpretation
Government Provision		
1. Government provides trainings related to investing	3.83	Strong support
2. Government established policies for investments of cooperatives	3.82	Strong support
3. Government supervises the investing activities of cooperatives	3.59	Strong support
4. Government subsidies /grants	3.34	Moderate support
5. Government tax incentive policies for investments	3.98	Strong support
6. Government banks and financial institutions offer investment options for cooperatives	3.83	Strong support
7. Government banks and financial institutions offer a financing program for cooperative	3.89	Strong support
Private Institution Provision		
1. Private institutions donation	1.77	Not supported

2. Private banks and financial institutions offer investment options for cooperatives	2.50	Low support
3. Private banks and financial institution offer financing program for cooperative	2.61	Low support
Weighted Mean	**3.30**	Strong support

As shown in the Table 7, institutional support like government has strong support to multipurpose cooperatives. However, the private institution has low support on investing and financing programs of multipurpose cooperatives while there is no support/ very low support. There is a strong support on multipurpose cooperatives in the SOCCSKSARGEN Region.

Institutional support to multipurpose cooperatives in SOCCSKSARGEN Region is strong. The result is reflection of the implementation SDG 2020 and RA 9520, that government should provide necessary assistance among cooperatives. This is reflective of the mandate of the RA 9520 where in all government agencies should provide assistance to the cooperatives.

Among the government support, the government grants/subsidies revealed that is moderately supported. Cooperatives which products and services related to agriculture mostly received the government grants and subsidies through Department of Agriculture. Employee multipurpose cooperatives seldom received subsidies and grants.

Private institutions have low support to the multipurpose cooperatives in the SOCCSKSARGEN Region. This means that multipurpose cooperatives rarely received financing programs, or investment options from the private sectors. Most private financial institution target retail investors or business sectors.

Table 8: Model Fit Information – Aggregate

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	36.327			
Final	35.108	1.219	4	.875

The 'Model Chi-square', which is found in Table 8, is linked to the '-2LL' value, and shows the difference between the '-2LL' values of the null model and the 'full' model. The null model constitutes the dependent variable while the full model constitutes outcome and predictors variables.

In the current application, the transition from the null model to the 'full' model seems to be accompanied by a drop in the '-2LL' of 1.219 (for the null model, the '-2LL' value is therefore 36.327). This drop appears as not statistically significant (p value =0.875>0.05). This leads to a conclusion that 'null' model is a 'better' model than the full model. Thus, null hypothesis of the study which states that there is no significant relationship between independent variables (capital structure, risk factor, cooperative direction, and institutional support) and dependent variable (investment decision) shall not be rejected.

The second statistical measure is the Hosmer and Lemeshow which measures the overall fit. This statistical test measures the correspondence of the actual and predicted values of the dependent variable (Janssens, Wijnen, De Pelsmaker, & Kenhove, 2008). A better model fit is indicated by a smaller difference between the observed and predicted classification as evident in Table 9 below.

The study examined the relationship of capital structure, risk factor, cooperative direction, and institutional support and investment decision of the multipurpose cooperatives in SOCCSKSARGEN Region. The investment decision has binary outcome (1=invested, 0= not invested) and the independent variables are

continuous data. Binary logistic regression was utilized in the study since the study predict a binary outcome. The full model constituted the capital structure, risk factor, cooperative direction, and institutional support as independent variables (predictor variables) and the outcome is investment decision. The result revealed that full model with four independent variables cannot establish significant relationship on investment decision of the multipurpose cooperatives. The Hosmer and Lemeshow Test reveals that model does not have a goodness of fit. In the validation, it is confirmed that capital structure, risk factors, cooperative direction, and institutional support do not have significant relationship with investment decision of the multipurpose cooperatives. It prevails that model has poor model fit and the predicted accuracy of the model is 100%. Thus, this study has sufficient evidence to accept the null hypothesis of the study.

De Crom (2011) claims that the capital structure has negative, but insignificant impact on investment decision of the low-growth firm. This support the result of the study, where in capital structure is not significant factor of the investment decision of multipurpose cooperatives. However, on high growth firm's capital structure has significant relationship with the investment decision. De Cron (2011) explained that high growth firms tend to be more aggressive to the extent that they acquire more investments through debt. Also, De Cron (2011) highlights that there were many insignificant variables because the approximation of dependent variable, namely investment decision, is not optimal. The researchers added that to improve the model future researchers can explore different ways to estimate the investment decision of the firm.

The result contradicts to the literature review of the study because the model was tested in foreign countries where cooperatives have similar characteristics with the cooperatives. Like for instance in American and European region, big portion of the cooperatives are classified as large enterprise and there is wide source of external financing (International Co-operative Alliance, 2019). Cooperatives in these regions have similar capacity to the corporate type of business.

Table 9: Goodness of Fit

	Chi-square	Df	Sig.
Hosmer and Lemeshow Test	11.947	8	.154

The Hosmer and Lemeshow test shows that the fitted model is not statistically significant (p value = 0.074 from Table 4.10), indicating that insignificant differences remain between actual and expected values. This is an indication that fitted model does not have a good model fit.

The binary logistic regression utilizes pseudo R^2 as measure in the determination of the strength of relationship between the set of independent variables and the dependent variables. It indicates the variation explained by the model. As specific measures, pseudo R^2 uses Cox and Snell and Nagelkerle. The indices can be considered as supplementary to each other. Table 12 summarizes the values of these measures.

Conclusion and Recommendations

This study analyzed the determinants of investment decisions of multipurpose cooperatives in SOCCSKSARGEN Region. Based on the result, the researchers concludes the following:

1. Majority of the multipurpose cooperatives in SOCCSKSARGEN Region has total assets below 100

million or classified as micro, small and medium enterprises. Their limited access to external financing resulted to limited resources for operations and investing activities. Thus, expansion ability of the multipurpose cooperatives is slow.

2. The level of the capital structure in terms of debt and equity level of the cooperative is within the target amount. Multipurpose cooperatives in SOCCSKSARGEN Region focused on expanding their internal source of funds and maintaining the external financing. The funds accumulated through internal and external financing are used as working or operating capital instead of acquiring assets such as land, equipment and machinery.
3. The risk factors in terms of the availability of information, expected return, time horizon, capital expenditure, and cost of investments influenced the previous investing activities of the multipurpose cooperatives. The chairperson of the board of directors considered and assessed the risk associated in the investment before making decision. However, their decision is also dependent on the decision of the general assembly or members of the multipurpose cooperatives.
4. The level of the cooperative direction in terms of cooperative objectives and management interest are implemented most of the time. The multipurpose cooperative management operates within the direction set by the RA9520 and towards increasing the capital, net surplus and efficiency of the organization. It is evident that there is a strong determination in improving the overall financial health of the multipurpose cooperative.
5. There is a strong institutional support in terms of government support and while private institution provision has weak support on the multipurpose cooperatives. It is evident that the government extends assistance among multipurpose cooperatives and regulates and monitors the investing activities of the organization. However, private institution rarely extends donation, investment, and financing programs. Multipurpose cooperatives in the SOCCSKSARGEN Region received less financing and investment support from the private financial institution sector.
6. There is no significant relationship between independent variables (capital structure, risk factor, cooperative direction, and institutional support) and dependent variable (investment decision). The null hypothesis of the study cannot be rejected. In Philippine setting and in SOCCSKSARGEN Region, the capital structure, risk factor, cooperative direction and institutional support do not influence the multipurpose cooperatives to invest. The result contradicts to the literature review of the study. Most of the literature used in this study are based on American and European context wherein big portion of the cooperatives has large asset size, and there is a wide source of external financing. Cooperatives in these regions really operates similarly with cooperate type of business. Also, the model is widely tested in corporate type of business or investor owned firm. While in the Philippines specifically in SOCCSKSARGEN Region, the majority multipurpose cooperatives are classified as MSMEs and there are lesser sources of financing. There is an obvious opposite situation of cooperatives in the foreign countries and in the Philippines. Thus, the researchers concludes that the model is not applicable in the Philippine context as well as in cooperative type of business.

Based on the analysis of the capital structure, risk factor, cooperative direction, and institutional support as determinants of the investment decision of the multipurpose cooperatives of SOCCSKSARGEN Region, the following are the recommendations:

1. Cooperative Industry/ Society should focus on expansion related objectives to intensify the investing activities and could be able to help in the achievement of sustainable development goal.

2. National government should continue programs related to development of the investing activities of the multipurpose cooperatives. Thus, they should provide subsidies/grants for multipurpose cooperatives to augment their resources.
3. Cooperative Development Authority should provide programs like investment forum and business summit where financial institutions can introduce their different investment products to the multipurpose cooperatives. This will widen the ideas of multipurpose cooperatives where they can invest their funds.
4. Private institutions should provide or intensify their marketing of their financing and investing programs to the multipurpose cooperatives. The information regarding their products and services could be a source of investment opportunities that will help in the investment decision of multipurpose cooperatives.
5. Multipurpose cooperatives aimed to increase their growth and sustain their operation should focus on the objectives related to expansion. In making investment decision, they should assess the factors such as capital structure, risk factors, cooperative direction, and institutional support.

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