The Effect of Marketing Cooperative Strategy on Agricultural Marketing Cooperative Unions Performance in Western Oromia, Ethiopia

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Abstract	Article Information
This study was intended to investigate the effects of marketing cooperative strategies on AMC union performance in western Oromia, Ethiopia. To address this desired objective, the study used an explanatory research design supplemented by mixed research approaches. The collected data were analysed by structural equation modelling (SEM), supported by SPSS (version 26) and Amos (version 3). This is for determining model identification, testing model fit, and further generating estimates and significance levels for testing the relationship between the predictor and outcome variable. The findings of the study indicated that MCS is statistically significant and positively influences AMC unions in the study area. Furthermore, the findings of the study demonstrated that improvements in MRMS, RMMS, TCRMS, and MDS are enhancing the AMC unions under study. Therefore, the study concluded that MCS and its dimensions have a positive effect on the performance of AMCU in western Oromia State, Ethiopia.	 *Corresponding Author: Asfaw Temesgen E-mail: asfaw.tembari@gmail.com

INTRODUCTION

Cooperation has existed among human societies since ancient times. From ancient cooperation, egalitarianism emerged in early human societies (Nadeau and Nadeau, 2018; Guillaume and James, 2017). That conventional cooperation among people gave rise to a formal cooperative society, which was initiated in Europe in the 19th century. Even though the cooperative movement was prompted for the first time to counteract the exploitation of consumers by capitalists (Mazzarol *et al.*, 2018; Forno, 2013; Altman, 2010), nowadays it appears as a socio-economic firm.

Cooperative societies have existed with an ideology of service motives and have been democratically led and controlled by their member-owners. These characteristics of cooperatives help their existence to serve members even during the worst economic conditions due to the commitment of the members to manage and then use the service (Morshidi et al., 2021; Debebe and Mesfin, 2020). This demonstrates cooperative societies

established by providing goods and services to members. This contributed to its endurance and survival in the different fields of business operations (Al-Hamouli et al., 2021; Golovina, 2020). Besides serving members' needs, cooperatives spread over the world have contributed to economic development through their participation in the marketing value chain (Debebe and Mesfine, 2020; Ferraz et al., 2018; White and Boland, 2016).

Along with their expansion across the globe, cooperatives established and operated businesses in different social and economic sectors to meet the socio-economic needs of their members (Candemir et a*l.*, 2021; Dagne et al*.,* 2017; Rhodes, 2013). Such efforts by cooperatives are made through the reduction of costs, management of risks, and market diversification to ensure member return (Kaluarachchige et al., 2021; Situma, 2021; Soares and Perin, 2020; Liang and Wang, 2019). Consequently, these, according to Al-Hamouli et al. (2021) and Golovina (2020), contributed to its endurance and survival in the different fields of business operations. With the increasing diversity of cooperative models, agricultural cooperatives were expanded and enlarged both horizontally and vertically to serve member demands in agricultural marketing (Sari et al., 2022; Habtamu, 2021; Tehseen *et al.*, 2020). An agricultural marketing cooperative (AMC) is one form of agricultural cooperative that exerts its effort in serving the member-owners by involving itself in agricultural marketing to create value for members (Malaisamy, 2021; Pingali et al., 2019; Masuku et al., 2016).

Through its growth and expansion, AMC is engaged in delighted operations in agricultural marketing. This is for sustaining member benefits through diversified agricultural marketing operations (Debebe & Mesfine, 2020; Pingali et al., 2019; Grashuis, 2019). Certainly, to ensure sustainable member benefits from marketing business, AMC is content to perform business aligned with member needs and demands (Anwar et al., 2022; Dendup &Aditto, 2020; Zakaria *et al.*, 2019). Indeed, AMC is participating in a wide range of agricultural marketing activities, including agricultural input supply, farm output marketing, agro-processing, providing social services for the members as well as for the community, and so forth, essentially serving members (Sebhatu et al., 2021; Pokharel et al., 2020; Giagnocavo et al*.,* 2018). AMC performance is ensured through effective management, firm value, financial continuity, and participation in the agricultural market channel (Zhang *et al.*, 2021; Lucas-Martinez *et al.*, 2020).

AMCs are adhering to member services and are inspiring their members to satisfy and then retain them to sustain the business through effective agricultural marketing. However, its performance can be determined by various factors. According to Morshidi *et al*. (2021); Otieno (2019); and Mazzarol *et al*. (2018), collaboration, commitment, and member trust play decisive roles in influencing AMC performance. Besides, cooperative leaders, management, and employees' competency have a relationship with AMC performance (Morshidi et al., 2021; Debebe & Mesfin, 2020; Wassie et al., 2020). Moreover, government support, public policies, and private initiatives in cooperatives are found to be complementary and influential aspects of AMC performance (Candemir et al., 2021; Tefera et al., 2017). However, the influence of

marketing strategy on AMC performance was not given due attention in the previous studies. Therefore, this study was designed to investigate the effects of marketing cooperative strategies (CMS) on AMC performances in western Oromia, Ethiopia, where the cooperatives have massive potential to perform agricultural business operations to deliver agricultural-related goods and services to members.

Cooperation has existed among human societies since ancient times. From ancient cooperation, egalitarianism emerged in early human societies (Nadeau and Nadeau, 2018; Guillaume and James, 2017). That conventional cooperation among people gave rise to a formal cooperative society, which was initiated in Europe in the 19th century. Even though the cooperative movement was prompted for the first time to counteract the exploitation of consumers by capitalists (Mazzarol *et al.*, 2018; Forno, 2013; Altman, 2010), nowadays it appears as a socio-economic firm.

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where the cooperatives have massive potential to perform agricultural business operations to deliver agricultural-related goods and services to members.

Empirical reviews

Cooperative societies are not-for-profit and based on the ideologies of self-help enterprises characterised by member ownership, member use, member control, and marketing relationships. These characteristics of cooperatives are enduring in business operations, for they focus on services benefiting members through effective business operations (Ribas et al., 2022; Ponka, 2019). AMC also shares the general cooperative characteristics, emphasising the agricultural-related purpose and enabling performance by considering various effecting factors. Based on the views of scholars, the following broad hypothesis is developed.

H₉: MCS has a significant and positive effect on the performance of the AMC union.

This is postulated from the points of view of researchers and cooperative theory; among the factors affecting AMC performance, CMS is the one that is explained in terms of member return, risk management, transactional cost reduction, and marketing diversification strategies (Liang and Wang, 2019; Faysse and Onsamrar, 2018). According to Pingali *et al*. (2019), Grashuis (2019), and Henry (2018), each of these dimensions of CMS is measured and indicated by various parameters. Consequently, it is certain to pose sub-hypotheses regarding the dimensions of MCS and AMC performance. From this perspective, Shakouri and Shakouri (2020) and Hakala

(2015) concluded that the business operations of AMC are influenced by MRMS. Based on this empirical conclusion, the following hypothesis is postulated.

H₉ₐ: There is a positive and significant association between member return marketing strategy and AMC performance.

The study hypothesized this based on the empirical study conclusions, which stated that the MRMS of cooperatives influences AMC performance through cooperative dealing with fair costs of market operation, focusing on member demand, and practicing competitive yardstick (Kaluarachchige et al., 2021; Liang and Wang, 2019; Hakala, 2015). Besides, the basis for this hypothesis is that according to Anwar (2022), Shakouri and Shakouri (2020), Faysse, and Onsamrar (2018), MRMS of cooperatives is related to AMC performance for cooperatives, emphasising member promise, member need, and concern for community demand as well, which contribute to business volume and consequently financial growth of AMC.

In line with this, empirical studies confirmed that the implementation of RMMS meant an effective business operation for the cooperative (Situma, 2021; Sofoluwe, 2020; Okwara et al., 2019) and contributed to AMCs' performance. From this point of view, this study postulated the following hypothesis.

H₉ᵦ: There is a positive and significant relationship between the RMMS of cooperatives and AMC performance

This hypothesis is assumed by the study due to the empirical validation that risk-based RMMS such as direct marketing, promotion,

and customer-promising strategies as a measurement of RMMS affect AMC performance (Situma, 2021; Sarma *et al.*, 2019). Moreover, this marketing strategy is increasing business affordability by practicing predictable and executing value-added activities that enhance AMC performance (Kaluarachchige *et al.*, 2021; Okwara et al., 2019).

Cooperatives certainly invented TCRMS for cost-benefit, for it is a service-driven enterprise as part of CMS (Anwar, 2022; Shakouri and Shakouri, 2020; Sarma et al., 2022). Hence, the following relationship between MCS and AMC performance is formulated.

H₉c: There is a positive and significant effect of TCRMS on AMC performance.

This is hypothesised by the fact that AMCs are ensuring member benefit and sustainability by using transaction cost reduction according to cooperative philosophy by practicing horizontal and vertical marketing integration (Anwar, 2022; Soares and Perin, 2020; Faysse and Onsamrarn, 2018; Ashenafi, 2016). According to Shakouri and Shakouri (2020); Liang and Wang (2019); Pingali *et al*. (2019); and Grashuis (2019), the implementation of TCRMS in the form of the elimination of market intermediaries and restricted investment contributes to expanding business and enhancing AMC performance.

Empirical studies provided that AMC emphasises MDS for sustaining the business in the agricultural market and consequently satisfying members' needs (Pingali *et al.*, 2019; Faysse & Onsamrar, 2018; Grashuis, 2019; Henry, 2018). Based on this, the

following relationship between MDS and the performance of AMC is hypothesised:

H₉d: Market diversification strategy is positively and significantly influencing the performance of AMC

This relationship is assumed because AMC is applying diverse marketing strategies in farm input and output marketing and also supplying consumers' goods when they are demanded (Tehseen et al., 2020; Liang and Wang, 2019; Grashuis, 2019; Henry, 2018). As per study findings by Sofoluwe (2020); Pingali *et al*. (2019); and Faysse and Onsamrar (2018), marketing diversification strategies impact AMC performance for cooperatives engaging in agricultural processing and export marketing as well.

MATERIALS AND METHODS
Research design

The study used an explanatory research design to explain the relationship that MCS and its dimensions have with AMC performance. Thereby, it was used for explaining the extent of the influences those explanatory variables have on the response variable. The study also used a mixed qualitative and quantitative research approach; indeed, quantified Likert scale responses and qualitative data from interviews and discussions were used in this study.

Sampling design

Concerning sampling design, the study specified a target population and determined sample size and sampling techniques. Accordingly, as indicated in the preceding chapter of the dissertation, the study was conducted in western Oromia, Ethiopia, which includes four zones from which six AMC unions were purposefully selected; indeed, there was no such study conducted regardless of the marketing potential of cooperative unions. The GAM members of the sample AMC unions that account for 926 are the target population of the study. Based on the defined target population for the

study, it is certain to determine the sample size for the research.

Once the sample size for the study is determined, the next step is to indicate sampling techniques. The study used purposive sampling methods for selecting AMC unions. As a result, Gibe Didessa, Chaffe Bulluk, Jorgo Birbir, Dilla Alaltu, Malka Gudina, and Torban Anfillo of the AMC union were selected based on the fact that they have been in operation for more than ten years and are relatively active in agricultural marketing potential areas.

Respondents for the study were sampled from sample AMC unions using the systematic sampling method. To proceed with this sampling procedure, the sampling interval was determined by using the formula, where I" is the sampling interval, N is the target population, and n is the sample size of the study. Hence, the Ith respondents were selected from the lists of GAM members of each sample AMC union proportionally. Key informants in the BoD encompass the chairperson, general manager, and focus group discussion members that included board members and management, excluding those who were sampled as key informants. These participants in the study were sampled using the judgement sampling method. The rationale for using this sampling technique was to include those who are believed to have adequate information on the required data from their respective AMC unions.

Data collection methods

The study employed different data collection methods for different sources of primary data. It employed a semi-structured questionnaire to collect data from respondents. The closed-ended parts of the questionnaire were dichotomous and five-point Likert scale response questions. Whereas open-ended questionnaires were posed for respondents to collect data that could not be captured by closed-ended questionnaires, in-depth

and face-to-face interview and discussion checklists were used for collecting data from key informants and focus group discussions, respectively, which were used to supplement findings from respondents.

Data analysis method

The collected and sorted data were analyzed using a structural equation model (SEM) using SPSS Amos software Vision 23 for modeling the relationship between the hypothesized variable, MCS dimensions as causal factors, and AMC performance as an effect variable of AMC (Arbuckle, 2019; Byrne, 2010). The basis for using SEM in this study is that it enables the researcher to test a set of regression models simultaneously. Furthermore, SEM is used as a statistical technique for specifying and determining a model that illustrates the hypothesized causal relationship among variables (García-Alcaraz *et al.*, 2014; Kline, 2016).

Accordingly, the conceptual model specification that defines the hypothesised relationships between the predicting and response variables is illustrated in the following Figure 1.
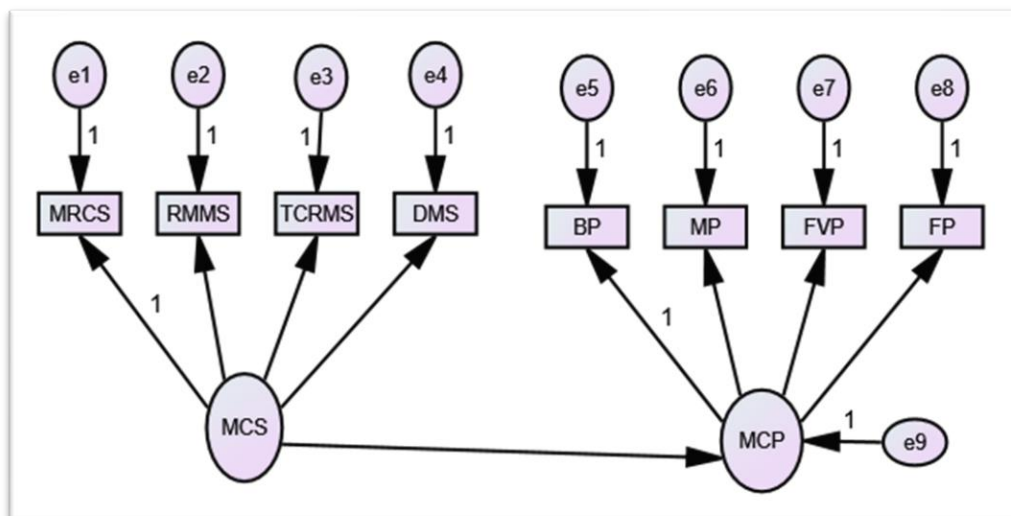

Figure 1 *Conceptual model specification for SEM analysis*

RESULTS AND DISCUSSION

Reliability and validity test

To proceed with the analyses, testing the consistency of the data collection tools and the accuracy of the data is indispensable. Reliability and validity tests were used to ensure that the data collection tool used was reliable and that the data was valid. According to Gitomer et al. (2021) and Smith and Smith (2018), composite reliability and convergent validity tests were used in the study.

The reliability and validity test analyses were conducted using the SPSS version 26 and Amos 23 package tools, from which standardized loadings of predicting and outcome variables were taken for the analyses. According to Said *et al.* (2011), composite

reliability was used by the study as an indicator of reliability, which is estimated by the following relation:

$$Composite\ Reliability = \frac{(\sum Standardized\ Loading)^2}{(\sum Standardized\ Loading)^2 + \sum(ME)}$$

Accordingly, from the factor loading analysis by Amos, composite reliability for predictor (MCS) and outcome (MCP) is calculated with Excel and presented in Table 1 below for the reliability test.

Table 1

Composite reliability test

		Latent Variables	Standardized loading (1)	Square of standardized loading	Measurement error (ME) (1-A)	The sum of (ME)	The sum of Standardized	The sum of Squared Standar	B+ME	Composite reliability (B/B+ME)
MRMS	<--	MCS	0.833	0.693889	0.139111					
RMMS	<--	MCS	0.699	0.488601	0.210399					
MDS	<--	MCS	0.576	0.331776	0.244224	0.454358	3.232	10.4458	10.9002	0.9583
TCRS	<--	MCS	1.124	1.263376	-0.139376					
BP	<--	MCP	0.363	0.131769	0.231231					
MP	<--	MCP	1.076	1.157776	-0.081776	0.474757	3.029	9.1748	9.6496	0.9508
FVP	<--	MCP	0.813	0.660969	0.152031					
FP	<--	MCP	0.777	0.603729	0.173271					

Sources: Computed from field survey (2022)

As a rule, the data collection tool is reliable if the composite reliability is greater than or equal to 0.6 (Gitomer *et al.,* 2021; Taherdoost, 2016). Concerning the reliability test presented in Table 1, the composite reliability for the dimension of the predictor variable component is 0.9583 and that of the outcome variable dimension is 0.9508, which is beyond the standard. This indicates that the data collection tool used by the study is relevant and consistent. Regarding the validity test, the average variance extracted (AVE) was used as an indicator of convergent validity, which is estimated by the following formula (Said *et al.,* 2011),

$$AVE = \frac{(\sum Standardized\ Loading)^2}{Number\ of\ indicators}$$

From the factor loading analysis using Amos, AVEs for predictor (MCS) and outcome (MCP) are presented in Table 2 below for the validity test.

It is indicated that the benchmark AVE for testing convergent validity is 0.5 or greater (Gitomer et al.*,* 2021; Taherdoost, 2016; Said *et al.*, 2011). With this regard, AVE for MCS is 0.6944, and AVE for MCP is 0.6385, which is almost greater than the benchmark. Consequently, the collected data for the study is valid and accurate to measure the relationship between the study variables.

Table 2

Convergent validity test

		Latent Variables	Standardized loading	Square of standardized loading	Some of squared loading	Number of indicators	AVE
MRMS	<---	MCS	0.833	0.693889			
RMMS	<---	MCS	0.699	0.488601			
MDS	<---	MCS	0.576	0.331776	2.7776	4	0.6944
TCRS	<---	MCS	1.124	1.263376			
BP	<---	MCP	0.363	0.131769			
MP	<---	MCP	1.076	1.157776	2.5542	4	0.6385
FVP	<---	MCP	0.813	0.660969			
FP	<---	MCP	0.777	0.603729			

Sources: Computed from field survey (2022)

Model fit test

The study was conducted as a model fit test to proceed with hypothesis testing. For this purpose, a SEM fit test was run so that the model was identified, as can be seen in Figure 2 below. The model identification analysis confirms that the model is identified because the degree of freedom is greater than zero (df = 19) and the probability level is determined (probability level =.000). This demonstrates the model is identified (saturated), and the minimum was achieved.
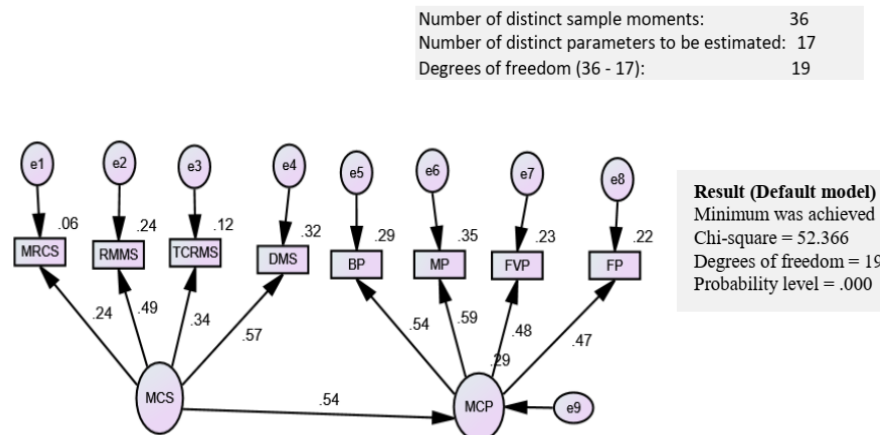

Figure 2 *SEM model from Amos for MCS and MCP*

After confirmation of model identification, the model fitness test was conducted as a precondition for hypothesis testing with the SEM to ensure the feasibility of the model. Accordingly, the recommended model fit indices such as CMIN/DF, DF, RMR, RMSEA, GFI, and CFI by Arbuckle (2019); Kline (2016); García-Alcaraz *et al.* (2014); and Byrne (2010) are used to validate the model fit of the study. From the Amos analysis, the model fit summary is presented in Table 3 below, along with the benchmark values.

Table 3

Model Fit Summary for the default model

Model fit indices		Estimated	Benchmark Values	Sources
Discrepancy	CMIN/DF	2.756	<5	
	Df	19	≥ 0	Arbuckle (2019)
	GFI	0.954	>0.90	Kline (2016)
Goodness-of-fit index	AGFI	0.914		García-Alcaraz, *et al* (2014)
	RMR	0.021	< 0.08	Byrne (2010)
Comparative fit index	RMSEA	0.080	< 0.08	
	CFI	0.947	>0.90	

Sources: Computed from field survey (2022)

From the result, the value of the discrepancy (CMIN/DF =2.756); degree of freedom (DF = 34); goodness-of-fit index (GFI = 0.954); adjusted goodness-of-fit (AGFI = 0.914); root-mean-square residual (RMR = 0.021; RMSEA = 0.080); and comparative fit indices (CFI = 0.920) all meet the threshold level. All these validate that the identified model is well-fitted with the collected data for further hypothesis testing.

A significant test of parameters

The study was designed to examine the effect of marketing cooperative strategies on the performance of the AMC union in western Oromia. Hence, testing the existing significant relationship between the study variables is required. To test the desired effect, the study used the squared multiple correlations as presented in Table 4.

Table 4

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate	P
Marketing cooperative performance (MCP)	0.292	***
Marketing diversification strategy (MDS)	0.320	0.008
Transaction cost reduction strategy (TCRS)	0.118	***
Risk management marketing strategy (RMMS)	0.242	***
Member return marketing strategy (MRMS)	0.056	***
Financial performance (FP)	0.219	***
Firm value performance (FVP)	0.231	***
Management performance (MP)	0.348	***
Business performance (BP)	0.288	***

Sources, *computed from field survey, 2022*

The results reveal that all the predictor variables of MCS and the reflective variables of MCP have statistically significant

associations with p-values less than 0.05. From the analysis, the squared multiple correlations for marketing cooperative strategy are 0.292, which indicates that 29.2% of the performance of the AMC unions under

study was accounted for by MCS. Besides, MCS is composed of MDS, TCRS, MRMS, and RMMS, each contributing to performance. As can be seen from the result of the squared multiple correlations, MDS is 0.320; TCRS is 0.118; MRMS is 0.056; and RMMS is 0.242. This illustrates that the variance in AMC union performance by MDS is 32.0%; TCRS is 11.8%; MRMS is 5.6%; and RMMS is 24.2%.

On the other hand, the marketing performance of a cooperative is reflected by its financial performance (FP), firm value performance (FVP), management performance (MP), and business performance (BP). Indeed, squared multiple correlations for these reflective outcome variables are FP =0.219, FVP =0.231, MP = 0.348, and BP = 0.288. As a result, 21.9% of the variance in AMC union performance is reflected in FP; 23.1% in FVP; 34.8% in MP; and 28.8% in BP.

All these empirical results of the study are supplemented by the analyzed qualitative data from key informants and focus group discussions. It is indicated that, as per the views of informants and focus group discussants, the performance of AMC unions depends on the marketing strategies that the cooperative unions are implementing.

Hypothesis testing

The study was designed to investigate the effects of marketing cooperative strategies on the performance of AMC unions, for which one broad and four sub-hypotheses were postulated. These are the effects of a marketing cooperative strategy (MCS), a member return marketing strategy (MRMS), a risk management marketing strategy (RMMS), a marketing diversification strategy (MDS), and a transaction cost reduction marketing strategy (TCRMS).

Accordingly, Table 5 presents the standardized regression weights (estimates) of predicting variables concerning the outcome variable and their respective significant levels from the SEM model analyzed using SPSS Amos.

Table 5

Standardized Regression Weights: (Group number 1 - Default model)

| | | | Estimate | | S.E. | C.R. | P | Label |
			Standardized	Unstandardized				
MCP	<---	MCS	0.535	0.280	0.027	10.435	***	
MCP	<---	MRMS	0.603	0.833	0.067	12.428	***	
MCP	<---	RMMS	0.618	0.699	0.054	12.933	***	
MCP	<---	MDS	0.576	0.576	0.050	11.589	***	
MCP	<---	TCRMS	0.672	1.124	0.075	14.922	***	

Sources, *computed from field survey, 2022*

From the result displayed in Table 5, the standardized regression weights (estimates) are used for further interpretation. The result reveals that the main predicting variable, MCS, has a significant positive relationship with the performance of AMC unions (β =0.535; p < 0.001). This implies that an improvement in MCS of one percent results in

an enhancement of AMC union performance by 53.5%.Moreover, the result portrays that there is a positive and significant association between MCS components such as MRMS (β =0.603; $p < 0.001$), RMMS (β =0.618; $p < 0.001$); MDS (β =0.576; $p < 0.001$) and TCRMS (β =0.672; $p < 0.001$). This implied that an increase in MRMS by one percent improves performance by 60.3%; a 1% increase in RMMS contributed to the performance of 61.8%; an improvement in MDS by 1% enhances performance by 57.6%; and an increase in TCRMS by 1% improves AMC unions performance by 67.2%.

The result was also supported by the views of key informants and focus group discussions, which indicated a marketing strategy implemented by AMC unions about member benefits, reduction of cost of operation, risk minimization, and diversification of operations contributing to furthering performance.

From this point of view, the study reveals that CMS has a statistically significant and positive effect on the performance of AMC unions in the study area. Consequently, the postulated broader and sub-hypotheses are tested.

Table 6

Decision on the formulated hypotheses

Hypotheses		Estimate	CR	P	Decision
H$_9$	MCS has a significant and positive effect on the MCP of the AMC union	.535	10.435	<0.05	Accepted
H$_{9a}$	There is a positive and significant association between MRMS and MCP of the AMC union	.603	12.428	<0.05	Accepted
H$_{9b}$	There is a positive and significant relationship between RMMS and MCP of the AMC union	.618	12.933	<0.05	Accepted
H$_{9c}$	MDS is positively and significantly influencing the CMP of the AMC union	.576	11.589	<0.05	Accepted
H$_{9d}$	There is a positive and significant effect of TCRMS on the MCP of the AMC union	.672	14.922	<0.05	Accepted

Sources, *computed from field survey, 2022*

From the hypotheses tested, the result on the effect of MCS on MCP advocated that an effective marketing cooperative strategy improves the performance of AMC in western Oromia, the study area. Hence, there is adequate evidence to accept H$_a$. Corresponding to the sub-hypotheses, the findings of hypotheses testing regarding the relationship of MRMS, RMMS, MDS, and TCRMS with MCP show that all the significant levels are below the benchmark ($p < 0.05$) and the estimates are positive. This

reveals that actively implementing these components of MCS enhances the performance of AMC; consequently, there is promising evidence to accept H$_9$, H$_{9b}$, H$_{9c}$, and H$_{9d}$ respectively.

CONCLUSIONS

The study was intended to investigate the effects of CMS on the AMC union's performance. As a result, the collected data was analysed for its reliability and validity.

From this perspective, the values of composite reliability and average variance extracted were beyond the benchmark. Hence, the study concluded that the data collection tools were reliable and the data was valid to measure the relationship between the predictors and the outcome variable.

Following the confirmation of the model identification and fit, the study was switched to analyse the effects of the marketing cooperative strategies on the agricultural marketing cooperative union's performance. Based on the findings, it is concluded that marketing cooperative strategies and their reflective dimensions, such as marketing diversification strategy, transaction cost reduction strategy, risk management marketing strategy, and member return marketing strategy, all have a statistically significant and positive relationship with the agricultural marketing cooperative unions' performance.

Regarding the postulated hypotheses, it is found that for all the predictor variables' effect on the outcome variable, the significant levels are at the determined value (p-value < 0.05) and all the estimates are positive. Based on this, it is concluded that marketing cooperative strategy and its components have significant effects on the agricultural marketing cooperative unions' performance. As a result, all the hypotheses are accepted.

It is found that the estimate of transaction cost reduction strategy is the highest of all the predictor variables, followed by risk management marketing strategy. From this, the study recommended that agricultural marketing cooperative unions in the study area maintain their commitment to the practices of these strategies. Besides the AMC union, the case requires pursuing the application of marketing diversification and member return marketing strategies to further enhance their performance.

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DECLARATION

The authors declare that they have no conflict of interest.

DATA AVAILABILITY STATEMENT

All data included in the article are available from the corresponding author upon request.

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