

The role of working capital management of urban primary consumer cooperative societies in managing price volatility in Ethiopia

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Abstract

This study examines the role of working capital management in managing price volatility in urban primary consumer cooperative societies in Ethiopia. It analyzes the impact cash management, receivables management, inventory management and payables management on price volatility management. Data were collected through a survey questionnaire from 114 chairpersons and vice-chairpersons of 57 urban primary consumer cooperatives operating in Bahir Dar, Adama and Addis Ababa cities achieving a response rate of 81.58%. Target urban primary consumer cooperatives were selected using a two-stage cluster sampling method. Structural Equation Model (SEM) analysis was employed to assess the relationships. The findings reveal that cash, receivables and payables management do not have statistically significant impacts on managing price volatility. However, inventory management demonstrates a statistically significant positive impact. The study concludes that urban primary consumer cooperatives should prioritize inventory management as a strategic tool for stabilizing prices while other working capital components serve broader financial management purposes.

Key words: primary consumer cooperative; working capital management; price volatility; SEM

1. Introduction

Management of working capital plays a pivotal role in determining the financial stability and operational efficiency of organizations, particularly in sectors exposed to price volatility, such as consumer cooperatives. Working capital management involves balancing components like cash, receivables, inventories and payables to ensure liquidity while minimizing costs associated with capital usage (Brigham and Ehrhardt 2008; Mathuva 2010). Effective management of these elements is crucial for urban primary consumer cooperatives in Ethiopia where economic uncertainty and inflation exacerbate pricing challenges (Kodama 2007).

In Ethiopia, consumer cooperatives serve as vital institutions for providing affordable goods to their members. However, these organizations often face constraints such as inadequate financial resources, fluctuating liquidity and inefficiencies in managing their short-term assets and liabilities. Research indicated that Ethiopian cooperatives suffer from lack of professional management and weak accounting systems, and limited access to banking services (Kelemu et al. 2014). Such limitations not only affect the cooperatives' ability to stabilize prices but also impact their financial sustainability especially in urban areas where market dynamics are complex. Asrat (2017) studied that in Ethiopia members perceive that their consumer cooperative societies service is below expectation due to limited accessibility and inconsistent supply of goods and services.

Research indicated that inadequate working capital management can lead to higher operational risks and reduced profitability which emphasizes the need for a strategic approach to managing current assets and liabilities (Ahmed 2016; Deloof 2003). The relationship between working capital management and price volatility is particularly relevant as effective management of inventory levels, receivables and payables can mitigate the adverse effects of fluctuating prices on cooperative operations (Baker, Filbeck, and Barkley 2023). Despite this fact the role of working capital management in addressing price volatility remains underexplored though price volatility is a significant concern of Ethiopian urban primary consumer cooperative societies.

Thus, the study seeks to address this gap by examining the practices of working capital management in urban primary consumer cooperatives in Ethiopia. By focusing on cash, receivables, inventory, and payables management practices, this research aims to understand the role of working capital management in urban primary consumer cooperative societies in managing price volatility.

2. Literature review and hypotheses development

2.1. Working Capital Management

Working capital management encompasses the strategies and techniques employed by businesses to efficiently manage their short-term assets and liabilities. Its core objective is to ensure that a company has sufficient liquidity to meet its immediate operational needs while optimizing profitability and minimizing risk. Effective working capital management is crucial for a firm's survival and growth.

The meaning of working capital management extends beyond simply having enough cash on hand. It involves strategically managing current assets like cash, accounts receivable, and inventory, and current liabilities such as accounts payable, short-term debt, and accrued expenses. The goal is to find the optimal balance between these assets and liabilities, maximizing the return on invested capital while maintaining sufficient liquidity to avoid financial distress. An inadequate level of working capital can lead to missed payment opportunities, supplier disruptions, and ultimately, business failure. Conversely, excessive working capital ties up funds that could be invested more profitably elsewhere (Pandey 2015).

The importance of working capital management stems from its direct impact on a company's operational efficiency and profitability. Efficient management of inventory, for instance, reduces storage costs and minimizes the risk of obsolescence (Chase, Jacobs, and Aquilano 2006). Effective credit and collection policies shorten the cash conversion cycle that frees up capital for other uses. Managing accounts payable strategically can improve supplier relationships and extend payment terms and enhance cash flow.

Key components of working capital management include forecasting short-term cash flows; establishing appropriate credit policies for customers and suppliers; implementing effective inventory control systems; and optimizing short-term financing strategies (Brigham and Houston 2019). These components are interconnected and require careful coordination to achieve optimal results. Therefore, effective working capital management requires a holistic approach that considers all relevant aspects of the business.

2.1.1. Working Capital Management in Consumer Cooperatives

Working capital management in consumer cooperative societies presents unique challenges and opportunities compared to traditional for-profit businesses. The importance of effective working capital management for cooperatives is paramount. Sufficient working capital enables cooperatives to meet their members' needs, maintain competitive pricing and invest in improvements. Conversely, poor working capital management can lead to stockouts, strained member relations, and financial instability (Adelodum 2024). This is particularly crucial given the often-limited access to external financing that cooperatives may face.

Components of working capital management in consumer cooperatives include inventory management tailored to member demand, efficient credit and collection policies that consider member affordability and responsible management of short-term borrowing to finance operations. Strategic planning, focusing on both financial performance and member satisfaction, is essential. A key difference from for-profit businesses is the emphasis on member equity and patronage returns that requires a careful balance between financial prudence and member benefits. Cooperatives do business on at-cost basis and at year end it refund patronage to members if there is over and above the of cost of doing business (Frederick 2005).

A study conducted in Uganda indicated that working capital management in cooperatives has mix impact on their performance. It concluded that receivables management has significant impact on their financial performance while cash management and payables do not (Neema et al. 2023) though indicated that working capital management was inefficient and associated with unstable profitability among Indonesian consumer cooperatives (Harefa, Zebua, and Hulu 2023). In addition, Dayanandan (2010) studied that short-term assets and liabilities are not well managed among Ethiopian cooperatives. Generally, in cooperative societies inefficient working capital management may cause funds to be stranded in idle assets that may lead to reducing liquidity and earnings that may impact their ability to serve members (Jumawan 2022).

2.1.2. Cash Management

Cash management is the process of collecting, managing and disbursing cash flows to ensure a company's liquidity and solvency. It's a critical aspect of working capital management that focuses specifically on optimizing the availability and efficient use of cash. The meaning of effective cash management goes beyond simply having enough money in the bank. It involves proactively predicting cash inflows and outflows, strategically investing surplus funds, and securing access to short-term financing when necessary (Gitman and Zutter 2015).

The importance of robust cash management cannot be overstated. Insufficient cash can lead to missed payment opportunities, supplier disruptions, and ultimately, business failure. Conversely, excessive cash holdings represent an opportunity cost as these funds could be invested to generate higher returns. Effective cash management, therefore, aims to balance liquidity needs with maximizing returns on invested capital (Brigham and Houston 2019). Key components of cash management include cash forecasting to predict future cash flows; efficient cash collection procedures to accelerate inflows; controlled disbursement strategies to manage outflows; and the strategic management of short-term investments to generate returns on surplus cash. Thus, effective cash management requires a clear understanding of the business's cash cycle and the implementation of appropriate strategies to optimize it (Bodie, Kane, and Marcus 2018). Despite this, a study conducted in Ghana showed that cash management practice among small and medium enterprises is poor and the financial resources are managed by people who are not trained well (Bismark et al. 2018).

With regard to cooperative societies a study conducted in the Philippines indicated that though primary cooperative societies have good cash management practices in preparing cash plans and budget, they lack required full-time employees who can handle day-to-day operations, do not update records and lack technical exposures and trainings to manage cash effectively (Samar et al. 2021). Further, a study conducted in Nigeria showed that cooperative usually face shortage of finance due to the fact that they are not committed to generate necessary funds either internally or externally and government loans allocated to cooperative societies were channeled to other sectors (Clementina Ngozi, Maurice, and Mary Udochi 2014). In general, as Gawali and Nare (2016) concluded cooperatives should effectively manage cash inflow and cash outflow to ensure their survival and to maintain good financial health as both shortage and excess of cash has negative impact on their operation. Thus, the following hypothesis was established:

Null Hypothesis 1 (H₀₁): Cash management of urban primary consumer cooperatives has positive significant role in managing price volatility of essential consumer goods.

2.1.3. Receivables Management

Accounts receivable management is a critical aspect of a company's financial management that involves managing the company's credit sales that results in outstanding customer invoices and receipts. Thus, the goal of accounts receivable management is to ensure that customer invoices are fully collected as they due. Selling goods on credit terms has cost. It includes the cost of administration, bad debts and opportunity costs that would have been generated had funds been available. This involves a number of key activities including invoicing, payment processing and customer management. By managing customer invoices and receipts effectively, companies can improve cash flow, reduce bad debt and build stronger customer relationships that can help to drive long-term success and growth. Therefore, companies should install sound credit management systems. Credit management involves the procedures and controls followed to ensure the efficient collection of customer payments and minimization of the risk of uncollectible accounts (Atrill 2020).

In the consumer goods industries retailers that implement good receivables management policies showed profitable. A study conducted by Celestin (2019) indicated that among Rwandan alcoholic and non-alcoholic retailers that those that approve credit extension by responsible employee, assess the repaying capacity of potential debtors and obtain promises of potential debtor on how they plan loan repayment could achieve a higher rate of loan collection.

With regard to cooperatives Abira and Muturi (2015) studied that management of accounts receivables improves firm profitability of Saving and Credit Cooperatives by freeing up more cash that is tied up in the hands of credit customers and making fund available for investment. On the other hand, a study indicated that management of accounts receivables in coffee grower cooperatives was poor. Most of these cooperatives did not have written credit policy and they heavily rely on qualitative evaluation of credit worthiness of members to extend loan. Further, they did not have separate credit committee. The management committee also acted as the credit committee who are illiterate and lacked the required training. Furthermore, credit management was solely carried out by the secretary or manager with one or two assistant clerk/s (Njiru 2003).

In conclusion, efficient receivables management enables firms to achieve lower days of sales outstanding which help to optimize their working capital. During inflationary periods consumer cooperatives can generate more cash through efficient receivables management that can enhance their power to agree better terms of sale with supplier and purchase in bulk quantities to achieve economies of scale. Thus, the following hypothesis was established:

Null Hypothesis 2 (H₀₂): Receivables management of urban primary consumer cooperatives has positive

significant role in managing price volatility of essential consumer goods.

2.1.4. Inventory Management

Inventory management is a crucial operational aspect of consumer cooperative societies. It directly influences their efficiency and ability to satisfy member needs. Proper inventory management ensures that these societies maintain the right balance of stock preventing both overstocking and stockouts which can hinder their financial performance and member satisfaction. A well-managed inventory system facilitates a smooth supply chain that enhances the responsiveness of these societies to consumer demands and market changes since inventory in the retail industry is highly variable (Sutarman, Purnomo, and Mety Zalynda 2024).

In consumer cooperative societies inventory management is instrumental in reducing unnecessary costs. Efficient inventory management systems help in minimizing storage expenses and the risk of inventory obsolescence that can significantly impact the cooperative's profitability. Inventory management impacts operations, marketing and finance. Poor inventory management hampers operations, diminishes customer satisfaction and increases operating costs. Furthermore, effective inventory management can help cooperatives to meet anticipated demand, reduce the risk of stockouts, to take advantage of order cycles, hedge against price increases and take advantage of quantity discounts (William J. Stevenson 2018). Blinder and Maccini (1991) also discussed that inventory stocks enable firms to meet part of any change in demand by altering inventory holdings rather than by changing prices.

Generally, a robust inventory management framework empowers cooperative leaders to make informed decisions by providing real-time data and insights into product turnover and trends. This approach enables them to align stock levels with anticipated future demand by minimizing the risk of overstocking or understocking. Ultimately, this leads to improved efficiency, reduced costs and enhanced sustainability for the cooperative. Additionally, by optimizing inventory management cooperatives can procure essential goods at affordable prices that benefit members and strengthen their position in the market. Therefore, the following hypothesis was established:

Null Hypothesis 3(H₀₃): Inventory management of urban primary consumer cooperatives has positive significant role in managing price volatility of essential consumer goods.

2.1.5. Payables Management

Payables management is a critical element of working capital management that significantly impacts a firm's liquidity, risk management and operational efficiency. Effective payables management allows organizations to maintain optimal cash flows while fulfilling their short-term obligations. Main objectives of management of accounts payable include ensuring timely payment of accounts payable, optimization of cash flow, maintaining positive vendor relationships, accurate financial reporting and optimization of working capital. As a result, effective management of accounts payable enables firms to improve cash flow, reduce costs, increase efficiency, enhance compliance and to make decisions based on required relevant information.

Strategic management of payables can help cooperatives to negotiate longer payment terms to suppliers without damaging their relationships and credit ratings to improve cash flow and enable reinvestment in operations. In addition, effective management of payables enables to avoid late payment costs such as penalties and interest expenses; to avoid losing early payment discounts. Furthermore, effective payables management can lead to better negotiation outcomes with suppliers including discounts for early payments that contributes to overall cost savings and enhanced profitability (Enow and Kamala 2016). Mburu and Warui (2023) studied that effective accounts payables management had a positive relationship with the financial performance of Kenyan microfinance institutions.

Research has shown that inefficient payables management can lead to cash flow problems and increased financial risks that result in disrupted operations and reduced. In other words, companies that effectively manage their payables can achieve a competitive advantage by maintaining liquidity while leveraging supplier credit. It stated that availability of more number of payables days increases the working capital of firms that enable them to re-invest and generate more income (Moodley 2014). Further, study showed that Eswatini Bigbend planters group grower firms could increase their profitability by extending the length creditor payment periods (Nkambule, Matsongoni, and Mutambara 2022).

In conclusion, payables management plays a fundamental role in working capital management through directly affecting a firm's liquidity, cost structure and overall financial stability. During inflationary periods consumer cooperatives can avail more cash at hand to acquire more inventory by delaying and extending settlement of payables so that they can avail goods and services at affordable price. Further, consumer cooperatives can also purchase required goods in good terms and in large quantities through maintaining trusty worthy relationships

with suppliers. In their report Kortman et al. (2020) indicated that businesses delay payment of payables to maintain good performance of working capital at the expense of suppliers. Thus, the following hypothesis was established:

Null Hypothesis 4 (H₀₄): Payables management of urban primary consumer cooperatives has positive significant role in managing price volatility of essential consumer goods.

3. Research methodology

3.1. Sample and Procedure

The study was conducted based on data collected through questionnaires distributed to chairpersons and vice-chairpersons of urban primary consumer cooperative societies. Data analysis was done using Structural Equation Modeling (SEM). SEM is a statistical technique that estimates the strength and direction of hypothesized causal relationships in quantitative research. SEM evaluates observed variables as indicators of underlying constructs and estimates causal relationships between these underlying constructs (Kline 2023). It consists of two components: the measurement model and the structural model. The measurement model addresses issues related to the validity and reliability of the constructs while the structural model examines the relationships between dependent and independent constructs within the SEM framework.

3.2. Sample

Research questionnaires were directly distributed to chairpersons and vice-chairpersons of 57 urban primary consumer cooperatives operating in Bahir Dar, Adama, and Addis Ababa. Bahir Dar is the largest city and the capital of the Amhara region while Addis Ababa is the capital of Ethiopia. Adama is the second-largest city in the Oromia region. Adama city was selected because the Oromia regional government relocated its administrative capital to Addis Ababa recently. Questionnaires were completed by respondents independently. A two-stage cluster sampling procedure was followed to choose target urban primary consumer cooperatives. According to the Federal Cooperative Agency (FCA) in Ethiopia there are only 275 urban consumer cooperative societies that have a total of 219,520 members and a combined capital of 320,621,913.42 Ethiopian birr (ETB). Moreover, they are concentrated in the Amhara and Oromia regions, and in Addis Ababa city administration. Urban primary consumer cooperatives operating in these regions and city make up 87% of the cooperatives, 95% of membership and 96.36% of total capital. Based on this, 57 urban primary consumer cooperatives operating in selected cities that make up 54% of membership and 70.87% of capital of the 275 cooperatives were included in the study sample.

A total of 114 questionnaires were distributed to both chairpersons and vice-chairpersons of the 57 cooperatives. But only 93 questionnaires were completed and returned that yield a response rate of 81.58%. According to Mellahi and Harris (2016) response rates for business and management research typically range from 50% to 80% though various research methods textbooks suggest rates between 60% and 80%. Therefore, the achieved response rate is considered adequate.

Demographic data analysis revealed that 83% of urban primary consumer cooperatives are led and managed by men. Across all age groups 75% of respondents reported having a university bachelor's degree with only 12% of these being women. Additionally, 61% of respondents were between the ages of 35 and 50 followed by 24% who were aged 18 to 35. In summary, urban primary consumer cooperatives in these cities are predominantly managed by men with bachelor's degrees most of whom are under 50 years of age (Table 1).

Table 1. Gender, Age and Highest Educational Status of Respondents

Highest Education Status			Age						Total	
			18 to 35 Years		35 to 50 Years		More than 50			
			Freq- uency	%	Freq- uency	%	Freq- uency	%	Freq- uency	%
College Diploma or TVET Level IV Certificate	Gender	Men	-	-	5	5	4	4	9	10
		Women	1	1	1	1	1	1	3	3
	Total		1	1	6	6	5	5	12	13
Bachelor Degree	Gender	Men	18	19	38	41	8	9	64	69
		Women	1	1	9	10	1	1	11	12
	Total		19	20	47	51	9	10	75	81
Masters Degree Holder	Gender	Men	1	1	3	3	-	-	4	4
		Women	1	1	1	1	-	-	2	2
	Total		2	2	4	4			6	6
Total	Gender	Men	19	20	46	49	12	13	77	83
		Women	3	3	11	12	2	2	16	17
	Total		22	24	57	61	14	15	93	100

Author: Author

3.3. Instrument

In order to study the role of urban primary consumer cooperatives a 19 Likert items questionnaire was employed. Each Likert-scale item was measured on a 5-point scale that ranges from 'strongly disagree =1' to 'strongly agree = 5'. Table 2 presents the Cronbach's alpha values for each construct. Instrument reliability was assessed using Cronbach's alpha which is a widely used statistical measure for evaluating the internal consistency of research instruments. According to Cheung et al. (2023) while a Cronbach's alpha of 0.70 is generally accepted as the minimum standard for reliability, a coefficient of 0.80 is recommended to ensure adequate reliability in most research studies.

Table 2: Cronbach's alpha Values

Variables	Cronbach's Alpha
Cash Management (CasMgt)	.844
Receivables Management (RecMgt)	.798
Inventory Management (InvMgt)	.867
Payables Management (PayMgt)	.806
Overall	.902

Source: Author

The Cronbach's alpha reliability test underscores the robustness of the survey instrument. Inventory Management (0.867) and Cash Management (0.844) demonstrated strong internal consistency; and Payables Management (0.806) and Receivables Management (0.798) also showed acceptable reliability. The overall

Cronbach's alpha of 0.902 signifies excellent internal consistency that confirmed the research instrument provided a coherent measure of working capital management practices in urban primary consumer cooperatives.

4. Data Analysis

4.1. Descriptive Analysis

Descriptive statistics is used to summarize and organize data to provide a clear overview of the main characteristics of study. Further, it facilitates easier interpretation and understanding of a research dataset. In this study the mean and the standard deviation are used to provide a general understanding of opinions of respondents. In addition, the chi-square test of independence is also employed to discuss whether opinions of respondents significantly differ based on their gender and education status. Tables 3 and 4 provide a summary of respondents' opinions categorized by gender and the corresponding chi-square test results assessing the independence of responses across gender. Similarly, Tables 5 and 6 present a summary of responses based on respondents' highest educational attainment along with the chi-square test results examining the independence of responses across educational levels.

Table 3 outlines the distribution of respondents' opinions on five constructs: cash management, receivables management, inventory management, payables management and management of price volatility categorized by gender. The data reveal a notable pattern in the neutral responses across most constructs for both men and women. In cash management of urban primary consumer cooperatives, for instance, 58.44% of men and 62.50% of women responded neutrally. Similarly, in Receivables Management 58.44% of men and 56.25% of women showed neutral agreement opinions.

However, differences arise in specific constructs. For Payables Management of urban primary consumer cooperatives men showed a broader distribution of responses with 20.78% selecting "Agree" and 35.06% "Neutral" while women had a slightly higher rate of disagreement (37.50%) compared to men (31.17%). In Management of Price Volatility women exhibited higher agreement levels i.e. 37.50% "agree" and 18.75% "strongly agree" compared to men (31.17% agree and 16.88% strongly agree). This may suggest that women perceive more effective handling of price volatility than their male chairpersons and vice-chairpersons of urban primary consumer cooperative societies.

The mean and standard deviation values support these observations. The mean for cash management (2.860, SD = 0.653), for instance, indicates that responses tend toward neutrality with a relatively low variability. Similar trends are seen in receivables management (Mean = 2.849, SD = 0.658) and inventory management (Mean = 2.441, SD = 0.983) that highlights consistent perceptions of chairpersons and vice-chairpersons of urban primary consumer cooperatives across genders.

Table 4 evaluates the relationship between gender and opinions of respondents using chi-square tests. The results show existence of no significant association across all constructs as evidenced by p-values greater than 0.05. Cash management ($p = 0.154$) and receivables management ($p = 0.968$), for instance, demonstrate gender does not significantly influence opinions of chairpersons and vice-chairpersons of urban primary consumer cooperatives.

Despite slight variations in agreement or disagreement rates in certain constructs, the absence of statistically significant differences suggests both men and women generally share similar perspectives on working capital management practices and the role of urban primary consumer cooperatives in managing price volatility of consumer goods they sell to members.

Generally, analyses of Tables 3 and 4 demonstrated that gender differences are not statistically significant though there are differences of opinions in certain variables. Both men and women predominantly hold neut-

Table 3: Distribution of Respondents Opinions by Gender

		Cash Management (CasMgt)				
Gender		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Men	Frequency	0	21	45	11	0
	% within Gender	0.00	27.27	58.44	14.29	0.00
	% within CasMgt	0.00	87.50	81.82	84.62	0.00
Women	Count	1	3	10	2	0
	% within Gender	6.25	18.75	62.50	12.50	0.00
	% within CasMgt	100.00	12.50	18.18	15.38	0.00
		Receivables Management (RecMgt)				
Men	Frequency	0	22	45	9	1
	% within Gender	0.00	28.57	58.44	11.69	1.30
	% within RecMgt	0.00	81.48	83.33	81.82	100.00
Women	Frequency	0	5	9	2	0
	% within Gender	0.00	31.25	56.25	12.50	0.00
	% within RecMgt	0.00	18.52	16.67	18.18	0.00
		Inventory Management (InvMgt)				
Men	Frequency	14	26	27	9	1
	% within Gender	18.18	33.77	35.06	11.69	1.30
	% within InvMgt	77.78	86.67	84.38	75.00	100.00
Women	Frequency	4	4	5	3	0
	% within Gender	25.00	25.00	31.25	18.75	0.00
	% within InvMgt	22.22	13.33	15.63	25.00	0.00
		Payables Management (PayMgt)				
Men	Frequency	6	24	27	16	4
	% within Gender	7.79	31.17	35.06	20.78	5.19
	% within PayMgt	75.00	80.00	90.00	84.21	66.67
Women	Frequency	2	6	3	3	2
	% within Gender	12.50	37.50	18.75	18.75	12.50
	% within PayMgt	25.00	20.00	10.00	15.79	33.33
		Management of Price Volatility (MaPV)				
Men	Frequency	0	11	29	24	13
	% within Gender	0.00	14.29	37.66	31.17	16.88
	% within PayMgt	0.00	91.67	82.86	80.00	81.25
Women	Frequency	0	1	6	6	3
	% within Gender	0.00	6.25	37.50	37.50	18.75
	% within PayMgt	0.00	8.33	17.14	20.00	18.75

Source: Author

-tral views on working capital management practices and management of price fluctuations with slight variations in agreement or disagreement rates. The mean and standard deviation values further confirm the central tendency toward neutrality that indicated a general alignment in perceptions.

Table 4: Chi-square Independence Test of Respondents Opinions: By Gender

Variable	Mean	Std. Deviation	Chi-square (df)	p-value
Cash Management	2.860	0.653	3	0.154
Receivables Management	2.849	0.658	3	0.968
Inventory Management	2.441	0.983	4	0.843
Payables Management	2.839	1.056	4	0.605
Management of Price Volatility	3.538	0.927	3	0.836

Source: Author

Table 5 examines respondents' opinions based on their highest educational qualification. The majority of bachelor's degree holders consistently selected "Neutral" across all constructs. In Cash Management, for example, 57.33% of bachelor's degree holders responded "neutral" while 66.67% of master's degree holders did the same. However, diploma or TVET level IV certificate holders showed more variability with 25% agreeing with statements about cash management indicating more direct engagement or a more positive assessment of cash handling in urban primary consumer cooperatives.

With regard to Payables Management bachelor's degree holders displayed higher in "neutral" (33.33%) and agree opinion levels (20%) compared to master's degree holders who leaned toward "Disagree" (50%). Similarly, in Management of Price Volatility diploma holders showed higher levels of agreement (33.33%) and strong agreement (41.67%) compared to the other groups, indicating their stronger confidence in managing price fluctuations.

Further, the mean and standard deviation values provide additional insights. For instance, cash management (Mean = 2.86, SD = 0.65) and receivables management (Mean = 2.85, SD = 0.66) exhibit low variability indicating a central tendency toward neutrality regardless of educational status of respondents.

Table 5. Distribution of Leaders Opinions by Highest Education Status

Education Status		Cash Management (CasMgt)				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
College Diploma or TVET Level IV Certificate	Frequency	0	1	8	3	0
	% within					
	Education Status	0.00	8.33	66.67	25.00	0.00
	% within CasMgt	0.00	4.17	14.55	23.08	0.00
Bachelor Degree	Frequency	1	21	43	10	0
	% within					
	Education Status	1.33	28.00	57.33	13.33	0.00
	% within CasMgt	100.00	87.50	78.18	76.92	0.00
Masters Degree	Frequency	0	2	4	0	0
	% within					
	Education Status	0.00	33.33	66.67	0.00	0.00
	% within CasMgt	0.00	8.33	7.27	0.00	0.00
		Receivables Management (RecMgt)				
College Diploma or TVET Level IV Certificate	Frequency	0	3	6	3	0
	% within					
	Education Status	0.00	25.00	50.00	25.00	0.00
	% within RecMgt	0.00	11.11	11.11	27.27	0.00
Bachelor Degree	Frequency	0	22	44	8	1
	% within					
	Education Status	0.00	29.33	58.67	10.67	1.32

Masters Degree	% within RecMgt	0.00	81.48	81.48	72.73	100.00
	Frequency	0	2	4	0	0
	% within					
	Education Status	0.00	33.33	66.67	0.00	0.00
	% within RecMgt	0.00	7.41	7.41	0.00	0.00
Inventory Management (InvMgt)						
College Diploma or TVET Level IV Certificate	Frequency	3	2	4	3	0
	% within					
Bachelor Degree	Education Status	25.00	16.67	33.33	25.00	0.00
	% within InvMgt	16.67	6.67	12.50	25.00	0.00
Masters Degree	Frequency	15	24	27	8	1
	% within					
Masters Degree	Education Status	20.00	32.00	36.00	10.67	1.32
	% within InvMgt	83.33	80.00	84.38	66.67	100.00
Masters Degree	Frequency	0	4	1	1	0
	% within					
Masters Degree	Education Status	0.00	66.67	16.67	16.67	0.00
	% within InvMgt	0.00	13.33	3.13	8.33	0.00
Payables Management (PayMgt)						
College Diploma or TVET Level IV Certificate	Frequency	2	2	4	2	2
	% within					
Bachelor Degree	Education Status	16.67	16.67	33.33	16.67	14.29
	% within PayMgt	25.00	6.67	13.33	10.53	33.33
Masters Degree	Frequency	6	25	25	15	4
	% within					
Masters Degree	Education Status	8.00	33.33	33.33	20.00	5.06
	% within PayMgt	75.00	83.33	83.33	78.95	66.67
Masters Degree	Frequency	0	3	1	2	0
	% within					
Masters Degree	Education Status	0.00	50.00	16.67	33.33	0.00
	% within PayMgt	0.00	10.00	3.33	10.53	0.00
Management of Price Volatility (MaPV)						
College Diploma or TVET Level IV Certificate	Frequency	0	2	1	4	5
	% within					
Bachelor Degree	Education Status	0.00	16.67	8.33	33.33	41.67
	% within MaPV	0.00	16.67	2.86	13.33	31.25
Masters Degree	Frequency	0	9	31	25	10
	% within					
Masters Degree	Education Status	0.00	12.00	41.33	33.33	13.33
	% within MaPV	0.00	75.00	88.57	83.33	62.50
Masters Degree	Frequency	0	1	3	1	1
	% within					
Masters Degree	Education Status	0.00	16.67	50.00	16.67	14.29
	% within MaPV	0.00	8.33	8.57	3.33	6.25

Source: Author

Table 6 applies chi-square tests to assess the relationship between educational attainment and opinions of chairpersons and vice-chairpersons of urban primary consumer cooperative societies. Similar to the gender analysis the p-values for all variables exceed 0.05 that confirmed presence of no significant association. Cash management ($p = 0.670$) and receivables management ($p = 0.794$), for example, showed that educational status does not significantly impact views on these areas. The lack of significant differences implies that leaders across all educational levels share consistent views on working capital management practices and management of price fluctuations. This uniformity suggests that cooperative leadership training and experience may play a more

critical role in shaping perspectives.

Table 6: Chi-square Independence Test of Respondents: By Education Status

Variable	Mean	Std. Deviation	Chi-square (df)	p-value
Cash Management	2.86	0.65	6	0.670
Receivables Management	2.85	0.66	6	0.794
Inventory Management	2.44	0.98	8	0.531
Payables Management	2.84	1.06	8	0.591
Management of Price Volatility	3.54	0.93	6	0.185

Source: Author

Generally, findings from Tables 5 and 6 revealed that educational attainment does not significantly influence respondents' opinions on working capital management practice and management of price volatility. Although diploma holders occasionally exhibit more positive views, there is an overall consistency of opinions across education levels. Ultimately, these results emphasize existence of shared understanding of working capital management practices and perception of their roles in managing price fluctuations among leaders of urban primary consumer cooperative societies.

4.2. Structural Equation Model (SEM) Analysis

4.2.1. Preliminary Analysis

To assess both discriminant and convergent validity data was analyzed using Principal Component Analysis (PCA) and Confirmatory Factor Analysis (CFA). The Kaiser-Meyer-Olkin (KMO) test for sampling adequacy and Bartlett's test of sphericity were conducted as preliminary checks. The KMO measure yielded a value of 0.844 ($p < 0.01$) that indicated the suitability of study data for factor analysis (Table 7). According to Field (2009) KMO values between 0.5 and 0.7 are considered mediocre, 0.7 to 0.8 good, 0.8 to 0.9 great, and above 0.9 superb. Bartlett's test of sphericity was also significant ($p < 0.05$) confirming the presence of sufficient correlations among variables to justify the use of factor analysis. Bartlett's test evaluates the null hypothesis (H_0) that the correlation matrix is an identity matrix ($\Sigma = I$) which imply no underlying factor structure. A statistically significant result ($p < 0.05$) rejects the null hypothesis by confirming presence of significant inter-variable correlations and fulfilling a critical prerequisite for identifying latent factors through factor analysis (Bruce Thompson 2004).

Table 7: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.844
Bartlett's Test of Sphericity	Approx. Chi-Square	840.274
	df	171
	Sig.	.000

Source: Author

Then, PCA analysis was conducted using varimax rotation with Kaiser normalization. Five factors were retained based on Kaiser's criterion that states reliable and meaningful factors can be retained if their eigen values are greater than one (Kaiser 1960) (table 8). The item-factor loading cut-off point was set at 0.40 which often serves as a cutoff point. Though as a rule of thumb items/variables with loadings above 0.32 are included and interpreted in to a factor (Tabachnick and Fidell 2013), there were few cross-loading items. As a result, the cut-off item-factor loading was set at 0.40 to avoid cross-loading which is also acceptable. Hair et al. (2014) stated that factor loadings within the range of ± 0.30 to ± 0.40 meet the minimal level for interpretation of factor

structure and loadings equal to or greater than ± 0.50 are considered practically significant.

Table 8: Rotated principal Component Matrix^a

Variable	Component				
	InvMgt	CasMgt	PayMgt	RecMgt	MaPV
IM1	.800				
IM2	.760				
IM3	.766				
IM4	.714				
IM5	.685				
CM1		.813			
CM2		.723			
CM3		.668			
CM4		.783			
CM5		.735			
PM1			.792		
PM2			.728		
PM3			.634		
PM4			.765		
RM1				.791	
RM2				.700	
RM3				.696	
RM4				.724	
MaPV					.742

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Source: Author

Additionally, the Principal Component Analysis (PCA) showed that the retained factors accounted for 68.12% of the total variance (table 9). According to Pett et al. (2003), as cited in Matore et al. (2019), a total explained variance of 60% or higher is considered adequate in social science research. Moreover, all item-factor communality coefficients exceeded 0.50 which is deemed acceptable for factor analysis (Bruce Thompson, 2004).

Table 9: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1. InvMgt	7.07	37.21	37.21	7.07	37.21	37.21	3.50	18.43	18.43
2. CasMgt	1.91	10.06	47.27	1.91	10.06	47.27	3.13	16.48	34.91
3. PayMgt	1.58	8.30	55.56	1.58	8.30	55.56	2.60	13.67	48.58
4. RecMgt	1.34	7.04	62.60	1.34	7.04	62.60	2.55	13.44	62.02
5. MaPV	1.05	5.51	68.12	1.05	5.51	68.12	1.16	6.10	68.12

Extraction Method: Principal Component Analysis

Source: Author

4.2.2. Measurement Model

Measurement model is the first part of Structural Equation Modeling (SEM). CFA was done to assess both convergent and divergent validity of the study measurement model. The purpose of CFA is to confirm whether there is validity issue in the hypothesized measurement model. IBM SPSS.Amos.24 was used for analysis. Fig. 1 shows SEM measurement model of the study.

First, tests of multivariate outliers, data normality, Common Method Bias (CMB) and goodness-of-fit were conducted. Outliers refer cases where its scores are substantially different from all other cases in a particular dataset. Usually, the Mahalanobis Distance (D2) is computed for each case to detect the presence of multivariate outliers. Multivariate Outliers represent cases that have extreme values with reference to multiple variables. Cases with the highest Mahalanobis Distance (D2) are the most likely candidates for existence of multivariate outliers in a dataset (Byrne 2012). Analysis of results of the study indicated no presence of multivariate outliers in this research. Further, normality of data was investigated using values of skewness and kurtosis. Garson (2012) indicated that both skewness and kurtosis values that fall in the range $-2/+2$ show normality of data. Analysis of results indicated skewness and kurtosis values fell in the range between -0.362 to 0.770 and -1.314 to 0.346 respectively. Thus, study data was normally distributed.

Common Method Bias (CMB) test was also performed using Herman’s single factor analysis. According to Herman’s single factor test presence of CMB is assumed if all items of an instrument load to one general factor and whether the majority of the variance can be explained by the general factor (Podsakoff et al. 2003). Results showed all items loading to a single general factor had only a 37.21% total explained variance. This reflects absence of Common Method Bias (CMB) in this study. In addition, model goodness-of-fit tests explained that hypothesized measurement model satisfied required suggested standard indices. Hair et al. (2014) stated that reporting the chi-square value and degrees of freedom, the comparative fit index (CFI) or Tucker Lewis Index (TLI) and root mean square error of approximation (RMSEA) provides adequate unique information to evaluate a model. Accordingly, it was found that chi-square value/degrees of freedom (CMIN/DF) = $1.356 \leq 3$, CFI = $0.935 \geq 0.90$, TLI = $0.923 \geq 0.90$ and RMSEA = $0.062 \leq 0.08$. Further, the parsimony goodness-of-fit index (PGFI) = $0.629 \geq 0.50$ and the root mean square residual (RMR) = $0.055 \leq 0.08$ are both within acceptable range. Thus, it is confirmed that all parameters indicated presence of good model goodness-of-fit.

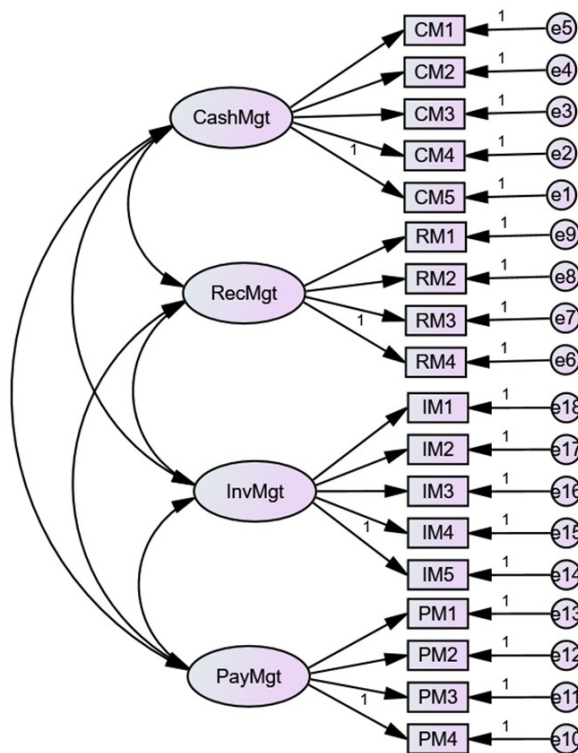


Figure 6. SEM Measurement Model

Next, the hypothesized measurement model underwent evaluation for measurement error using tests of convergent and discriminant validity. Convergent validity is typically assessed by examining factor loadings, average variance extracted (AVE) and composite reliability (CR). Common thresholds suggest acceptable

convergent validity when each factor loading is greater than 0.5, AVE is above 0.5 and CR exceeds 0.7 (Anderson and Gerbing 1988; Diamantopoulos and Siguaw 2000; Fornell and Larcker 1981). However, Kline (2023) suggests that factor loadings slightly below 0.5 might be acceptable if the corresponding AVE remains higher than 0.5.

The Confirmatory Factor Analysis (CFA) results presented in Table 10 demonstrate strong convergent validity. This is because both Average Variance Extracted (AVE) and Composite Reliability (CR) values exceed the recommended thresholds of 0.50 and 0.70, respectively, for all variables. Additionally, CR values are consistently higher than their corresponding AVE coefficients that further confirm the internal consistency of the measurement model. Then, discriminant validity was confirmed using the Fornell-Larcker criterion (Fornell and Larcker 1981). This criterion suggests that discriminant validity is achieved if the square root of each construct AVE is greater than its inter-construct correlation coefficients. As shown in table 10 all square root values of AVE were indeed higher than their corresponding correlations that indicates presence of good discriminant validity among study variables. Hence, study findings support both convergent and discriminant validity indicating the measures used accurately capture the intended constructs and effectively differentiate them from each other.

Table 10: Convergent and Discriminant Validity

	CR	AVE	MSV	PayMgt	CasMgt	RecMgt	InvMgt
PayMgt	0.807	0.513	0.399	0.716*			
CasMgt	0.847	0.527	0.284	0.468	0.726*		
RecMgt	0.801	0.502	0.366	0.605	0.505	0.709*	
InvMgt	0.868	0.568	0.399	0.632	0.533	0.563	0.753*

CR- Composite Reliability; AVE- Average Variance Explained; MSV- Maximum Shared Variance; *- Square-root of AVE.

Source: Author

4.2.3. Structural Model

Structural Equation Modeling (SEM) was used to test hypothesized relationships. The core component of the SEM is the structural model. In this study the structural model established the relationship between exogenous latent variables (cash management, receivables management, inventory management and payables management) and the endogenous variable (management of price volatility). IBM SPSS.Amos.24.0 was used for analysis. Fig. 2 shows SEM structural model of the study.

Fit indices for the structural model indicated good overall fit. All required indices fell within the recommended ranges for acceptable model fit. Test results showed chi-square value/degrees of freedom (CMIN/DF) = 1.385 ≤ 3, comparative fit index (CFI) = 0.926 ≥ 0.90, Tucker Lewis Index (TLI) = 0.911 ≥ 0.90 and root mean square error of approximation (RMSEA) = 0.065 ≤ 0.08. In addition, both parsimony goodness-of-fit index (PGFI) = 0.620 ≥ 0.50 and root mean square residual (RMR) = 0.055 ≤ 0.08 showed acceptable values. Therefore, hypothesis testing using path coefficients of the structural model was allowed and, hence, undertaken. All factors and regression weights covariances among each other were statistically significant (P<0.05). Further, the SEM analysis coefficients are presented in table 11. SEM results shows that only inventory management has significant positive role in the management of price volatility of essential consumer goods in urban primary consumer cooperative societies. In addition, inventory management has the highest (R²=0.34) explaining power in variation in management of price volatility. As a result, hypothesis 3 (H03) is accepted.

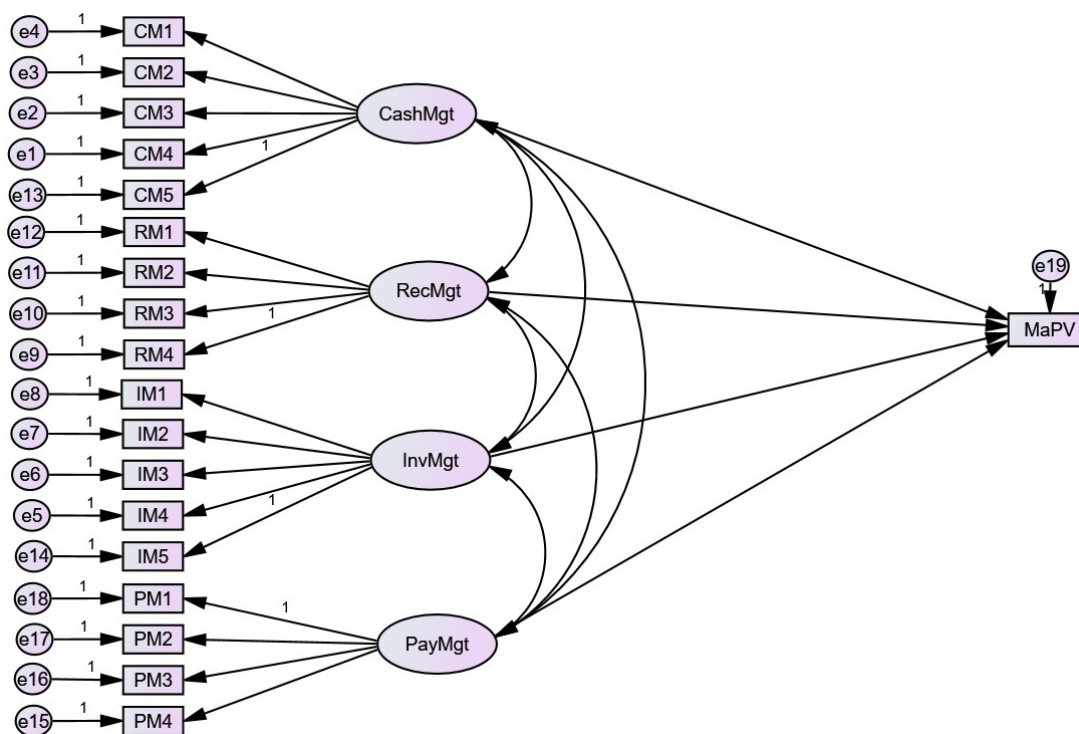


Figure 7. SEM Structural Model

Table 11: SEM Regression Coefficients

	Relationship	SE*	t-value	P-value	R ²	Decision
H ₀₁	Cash Management → Management of Price Volatility	-0.031	-0.236	0.813	-0.03	Rejected
H ₀₂	Receivables Management → Management of Price Volatility	0.176	1.150	0.250	0.18	Rejected
H ₀₃	Inventory Management → Management of Price Volatility	0.342	2.185	0.029	0.34	Supported
H ₀₄	Payables Management → Management of Price Volatility	0.081	0.508	0.612	0.08	Rejected
					Overall R ²	0.26

Note: P<0.05

* Standardized Estimate; R²- Coefficient of Determination

Source: Author

5. Discussion and Conclusion

The structural equation modeling (SEM) results in table 11 provide insights into the relationships between various working capital management components and the management of price volatility in urban primary consumer cooperative societies. Specifically, the analysis examines the influence of cash management, receivables management, inventory management and payables management on price volatility management based on standardized regression coefficients, t-values and p-values.

The relationship between cash management and management of price volatility in urban primary consumer cooperative societies has a standardized regression coefficient of -0.031 (t-value = -0.236; p-value = 0.813). The high p-value indicates that this relationship is not statistically significant. Therefore, cash management does not have a meaningful impact on price volatility management in the context of the studied cooperatives. This suggests that the way cooperatives manage their cash may not directly contribute to stabilizing prices. It is also evidenced by the weak explaining power ($R^2=0.03$) of cash management in variance in management of price volatility. Thus, hypothesis 1 (H01) rejected.

In addition, the relationship between receivables management and Management of Price Volatility in urban primary consumer cooperative societies has a standardized regression coefficient of 0.176 (t-value = 1.150; p-value = 0.250). While the positive coefficient suggests a potential relationship, the high p-value indicates that this effect is not statistically significant. This indicates that receivables management appears to have no substantial direct influence on price volatility management. It is also evidenced by the moderate explaining power ($R^2=0.18$) of receivables management in variance in the management of price volatility. Thus, hypothesis 2 (H02) rejected.

Furthermore, payables management does not exhibit a significant relationship with price volatility management in urban primary consumer cooperative societies. The standardized regression coefficient is 0.081 (t-value = 0.508; p-value = 0.612). This indicates that how cooperatives manage their payables is not a critical factor in stabilizing prices. It is also evidenced by the weak explaining power ($R^2=0.08$) of payables management in variance in management of price volatility. Thus, hypothesis 4 (H04) rejected.

In contrast, the relationship between inventory management practice and Management of Price Volatility in urban consumer cooperative societies stands out as statistically significant. The regression coefficient is 0.342 (t-value = 2.185; p-value = 0.029). These results suggest a positive and significant effect implying that effective inventory management contributes to better manage price volatility in urban primary consumer cooperative societies. It is also evidenced by a good explaining power ($R^2=0.34$) of payables management in the variance in management of price volatility. Thus, hypothesis 3 (H03) accepted.

In general, the SEM analysis results reveal that among the working capital management components evaluated only inventory management significantly impacts the management of price volatility in urban primary consumer cooperative societies. This finding shows the importance of maintaining effective inventory control as a key strategy for managing price fluctuations. The overall coefficient of determination ($R^2=0.26$) of the model also indicates that the explanatory power of the model is highly supported by inventory management. On the other hand, cash management, receivables management and payables management practices in urban primary consumer cooperative societies do not exhibit significant direct effects. This suggests that their influence on the management of price volatility may be indirect or context-dependent. These results emphasize the need for cooperatives to prioritize inventory management in their efforts to achieve price stability. Therefore, it is recommended that urban primary consumer cooperative societies should prioritize their inventory management over other working capital components. In addition, they need to develop strategies or request assistance from appropriate stakeholders including the Federal Cooperative Commission of Ethiopia to better serve members and enhance their role as price stabilizing agents by improving their cash, receivables and payables management.

6. Implication of the Study

The findings of this study hold significant implications for the effective management of price volatility in urban primary consumer cooperative societies. While working capital management is a critical aspect of financial sustainability, the study confirmed that not all components have a direct influence on managing price volatility.

The absence of statistically significant impacts from cash management, receivables management and payables management suggest that these elements may not play important roles in stabilizing prices of essential consumer goods while it is important to stress on their vitality for overall operational stability. This indicates that urban primary consumer cooperatives should prioritize these areas for liquidity and operational efficiency rather than focusing on their role in price volatility mitigation. Cooperative leadership and policymakers might, therefore, direct fewer resources and strategies specifically toward these components concerning price stability.

Conversely, the study concluded the critical importance of inventory management in managing price volatility. The positive and statistically significant impact of inventory management implies that urban primary consumer cooperatives that maintain good inventory management practices are better positioned to stabilize prices of essential goods. This can mitigate the effects of supply chain disruptions, seasonal demand fluctuations and

market uncertainties. Therefore, these cooperatives should invest in robust inventory management systems.

In general, the study stresses the strategic importance of inventory management in stabilizing prices while cash, receivables and payables management should be approached as broader financial management tools rather than direct interventions for price volatility. This targeted approach can ensure effectiveness of urban primary consumer cooperatives in price volatility management of essential consumer goods and ultimately their sustainability.

7. Limitation of the Study

There are some limitations to the current study that should be discussed here. One limitation of the study is that data was collected from only chairpersons and vice-chairpersons of urban primary consumer cooperatives. Future research can be done using secondary data sources for the same variables of the study and including the views of the board of directors and other committee members. Further, future researchers may include more variables like market dynamics, external economic conditions, policy interventions etc. so that more can be understood about the role of urban primary consumer cooperatives in managing price volatility of essential consumer goods they deliver to members.

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