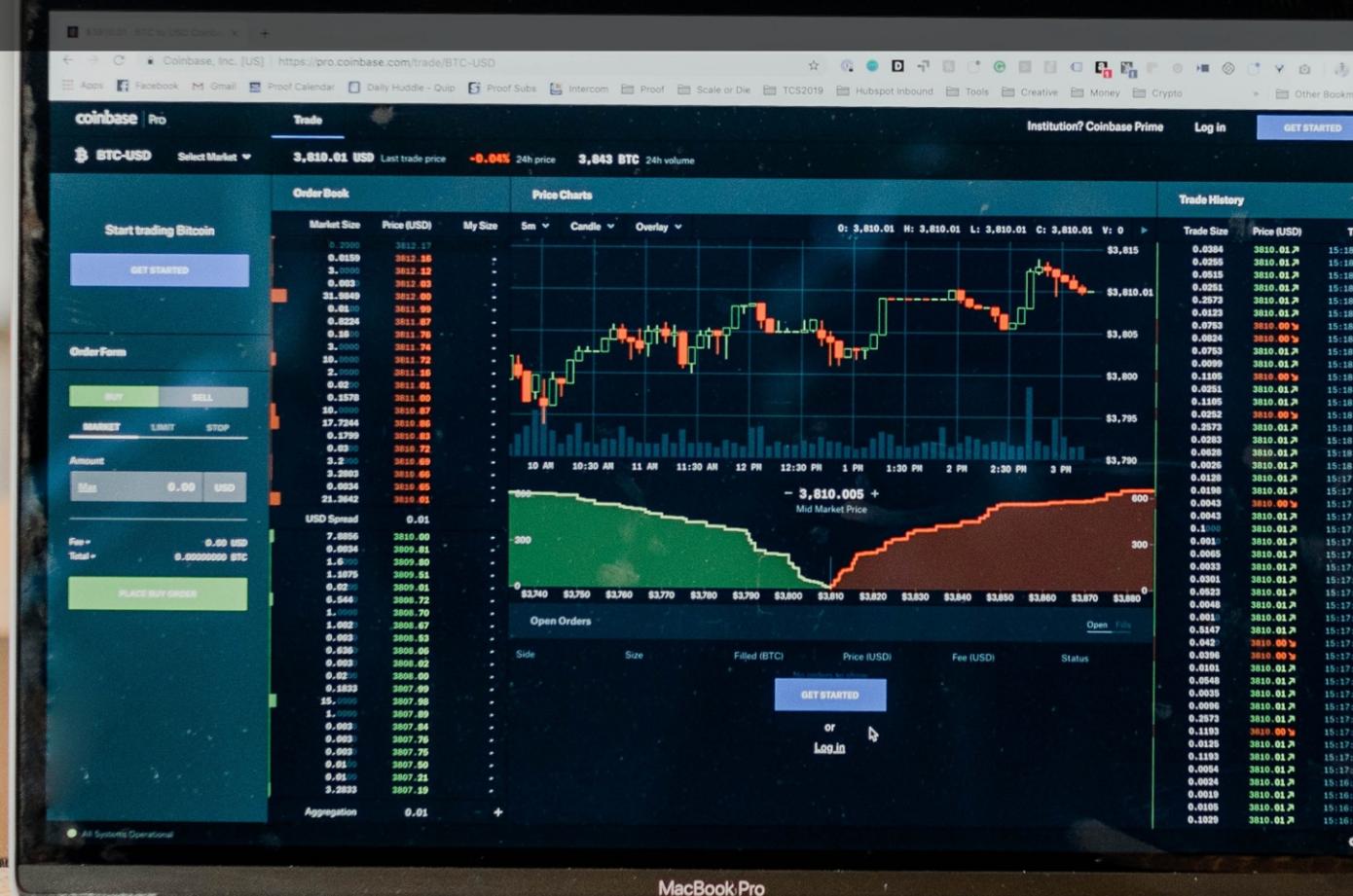


# GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: C

## Finance



Impact of Working Capital

Dynamics of Internal Financing

Highlights

National Government Agencies

Evidence from Eastern European Retail

Discovering Thoughts, Inventing Future



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# Impact of Working Capital Management on the Financial Performance of Select Listed Sectoral Indices: An Evidence from India

By Dr. Khurshid Ali & Numaira Showkat

*Higher Colleges of Technology*

**Abstract-** This paper is an attempt to investigate whether working capital management influences the financial performance of the sample companies or not. In order to achieve this objective, the researchers have taken into consideration seven sectorial indices and each sectorial index is represented by ten companies. The research is based on a reference period of fifteen years ranging from 2006 to 2020. The researchers have taken Return on Capital Employed (ROCE) and Return on Net Worth (RONW) as proxy to financial performance. After the thorough analysis, the overall findings put forth by the study confirm that working capital management has statistically significant impact on the financial performance of the sample companies. The findings presented by the study affirm that Average Receivable Period (ARP) and Average Payable Period (APP) positively impact the financial performance of the sample firms statistically in a significant manner. However, on the other hand, the results also affirm that Inventory Conversion Period (ICP) and Cash Conversion Cycle (CCC) negatively impact the financial performance of the sample firms statistically in a significant manner.

**Keywords:** working capital, financial performance, sectoral indices, ROCE, RONW, ARP.

**GJMBR-C Classification:** JEL Code: G30, M41



IMPACT OF WORKING CAPITAL MANAGEMENT ON THE FINANCIAL PERFORMANCE OF SELECT LISTED SECTORAL INDICES: AN EVIDENCE FROM INDIA

Strictly as per the compliance and regulations of:



# Impact of Working Capital Management on the Financial Performance of Select Listed Sectoral Indices: An Evidence from India

Dr. Khurshid Ali <sup>a</sup> & Numaira Showkat <sup>a</sup>

**Abstract-** This paper is an attempt to investigate whether working capital management influences the financial performance of the sample companies or not. In order to achieve this objective, the researchers have taken into consideration seven sectorial indices and each sectorial index is represented by ten companies. The research is based on a reference period of fifteen years ranging from 2006 to 2020. The researchers have taken Return on Capital Employed (ROCE) and Return on Net Worth (RONW) as proxy to financial performance. After the thorough analysis, the overall findings put forth by the study confirm that working capital management has statistically significant impact on the financial performance of the sample companies. The findings presented by the study affirm that Average Receivable Period (ARP) and Average Payable Period (APP) positively impact the financial performance of the sample firms statistically in a significant manner. However, on the other hand, the results also affirm that Inventory Conversion Period (ICP) and Cash Conversion Cycle (CCC) negatively impact the financial performance of the sample firms statistically in a significant manner. These findings collaborate with the results of many major studies which are discussed in the empirical review of literature.

**Keywords:** working capital, financial performance, sectoral indices, ROCE, RONW, ARP.

## I. INTRODUCTION

The success of a firm in the present cut throat competitive corporate world depends upon how well management ensures efficiency and effectiveness in each and every area of business operation. In this regard, management of working capital has assumed a pivotal role which in part determines the success of a business firm, besides, it has been seen that inadequacy or mismanagement of working capital is the leading cause of business failures in the long run. Proper working capital management ensures adequate liquidity, solvency, profitability, besides, aids in the attainment of shareholders wealth maximisation objective. According to (Bierman and Smidt, 1988; Paulo, 1992) Working capital management is closely connected to a business's success as it is

significantly associated with every form of inventory, moreover, the goal of working capital management is to guarantee the effective and efficient employment of resources. As per (Brigham and Houston, 2007) the goal of Working capital management is to ensure that the firm is able to continue its operations and it has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses. Numaira et. al. (2020) every business entity not only strives for the continuity of existing customers but also makes efforts to attract potential customers which demands availability of optimal inventory so that orders can be met as and when received. Thus, in the existing competitive environment, better inventory management has become key to the success of every business entity throughout the globe. Therefore, significance of inventory management cannot be overlooked as it is the key to the operational efficiency of every firm.

There are various factors like nature of business, production policy, credit policy, inventory policy, market conditions, conditions of supply, business cycle, size of the firm, age of the firm, taxation policy, dividend policy, operating efficiency, price level changes, depreciation policy and availability of raw material that affect working capital requirements. Hence, firms are to be quite proactive while taking decisions regarding working capital requirements as it has a major effect on a company's balance sheet. It entails striking the appropriate combination between accounts receivables, accounts payables and inventories. (Nazir and Afza, 2007) Working capital management happens to be significant for firms and its essentiality is more seen in case of manufacturing concerns due to its direct influence on their performance. As per Deloof (2003), Working capital management is an effective way of handling current assets and current liabilities that assures optimal shareholder wealth and it demands adequate amount of liquidity to guarantee that short-term maturing commitments are met as and when they mature.

Firms with an effective working capital management strategy experience optimal levels of liquidity which results into adequate profits in the long run. There are various theories to the management of working capital which include the agency/stakeholder theory, risk and return theory, the operation and cash

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conversion theory and the operating cycle theory. In order to get profitability and attain liquidity at maximum, it is compulsory to track the silent goals of working capital management. For a long time, there has been a debate on which theory should be followed to efficiently manage working capital. Some academicians advocated for prescriptive (normative) approaches while as others advocated positive (descriptive) approaches to working capital management. It is the proper application of these theories which ensures how well the firm can achieve its primary goals. Therefore, firms should take each and every factor into consideration which directly or indirectly influences the working capital requirements while framing an effective working capital management strategy.

## II. RELATIONSHIP BETWEEN WORKING CAPITAL EFFICIENCY AND FINANCIAL PERFORMANCE

Working capital management do have a significant impact on both profitability and liquidity of firms (Shin and Soenen, 1998). Regarding liquidity, working capital management seeks to ensure that the investment in working capital components should be neither too little nor too much. The former could give rise to illiquidity, stock outs, and lost sales, whereas, the latter amounts to underutilization of financial resources and higher costs, therefore, management of working capital requires careful planning so that both the excess and the scarcity of working capital in relation to the operational requirement of an undertaking can be avoided. Better practices related to Working capital management improve money flows in the firm, thereby, makes the firm less reliant on external funds resulting in reduced possibility of default. A major element in working capital management efficiency is cash conversion cycle. If there is larger time period of conversion cycle, there will be higher amount invested in working capital, therefore, higher amount of funds will be required which will result in higher Interest expenses, higher default risk and reduced profitability. Efficient working capital management allows firms to redeploy underutilized corporate resources to higher-valued use, such as the funding of cash acquisitions. Firms that converge to the optimal level, either by increasing or decreasing their investment in working capital, improve their stock and operating performance over the subsequent period. The conclusion of this discussion puts forth that working capital efficiency and financial performance are closely related to each other.

## III. EMPIRICAL REVIEW OF LITERATURE

A comprehensive review of empirical literature has been undertaken so as to develop a better understanding of the working capital management and its impact on the financial performance of firms. As

Turner et al., (2012) rightly said that review of literature is the foundation for useful research. Thus, in this paper, the researchers have reviewed various studies that have helped in illuminating the various aspects of Working Capital Management i.e. inventory, receivables, payables and cash. These research pieces would not only help in grasping the idea as to what extend the knowledge of the subject is being implemented globally but would also help us to bring up the different areas of Working capital management and analyze various concepts. Allwood (2012) rightly asserted that an extensive examination of the literature enables researchers to develop appropriate research questions and strategies. Hence, a detailed review is undertaken on working capital, its components, financial performance, measures of financial performance and the allied areas so as to develop a proper understanding of the subject area.

### a) *Inventory Management*

The management of inventory has a significant bearing on the performance of every firm. There should neither be excess or short inventory as both are having negative impact on the financial performance of the firm. Kilonzo et.al (2016), undertook a study on inventory management and financial performance and the results confirmed that there is a positive and significant relationship between inventory management and financial performance of firms funded by government venture capital in Kenya. Roumiantsev and Netessine (2005) studied in their paper the relationship between inventory management policies and financial performance of a firm and they could not find any significant evidence that could confirm statistically significant association between the variables under study. Onikoyi et.al. (2017) undertook an investigation, regarding cement sector and the results affirmed that there is a positive relationship between inventory management and organizational growth and profitability. That is, profitability of cement firms increases when effective inventory management is carried out, as inventory consists of major current assets of the cement sector. Agus and Noor (2006) examined the relationship between inventory management practices and financial performance. The study measured manager's perceptions of inventory and supply chain management practices and the level of performance in the industry. The findings suggest that inventory management practices have significant correlations with profitability and return on sales. Koumanakos (2008) studied the effect of inventory management on firm performance. The researcher took 135 manufacturing firms operating in three industrial sectors (food, textiles and chemicals) in Greece with a reference period from 2000 – 2002. The findings suggest that the higher the level of inventories preserved by a firm, the lower the rate of return. Vipulesh Shardeo (2015) investigated the effect of inventory

management on the financial performance and the findings put forth by the study affirmed that there exists a positive relationship between inventory management and financial performance of the sample companies. Khurshid and Numaira (2022) undertook a study to assess the impact of inventory management on the financial performance of sample companies and the findings affirmed that Inventory Turnover Ratio does not have any statistically significant impact on the operating profits of the sample companies, thereby, accepting the null hypothesis which states that there exists statistically no significant impact of inventory management on the financial performance of sample companies.

*b) Cash Management*

Cash Management is one of the most important components of working capital management. It was Gitman (1974) who introduced the concept of Cash Cycle and later Richards and Laughlin (1980) developed the Cash Conversion Cycle into a comprehensive model. A dynamic measure of working capital is Cash Conversion Cycle which establishes the time to convert a dollar of cash outflow back into a dollar of cash inflow. The Cash Conversion Cycle shows the relationships among Working Capital Management, Working Capital Policy, and firm profitability. Odo and Udodi (2022) investigated the Influence of Cash Management on Financial Performance of select firms and the analyses showed that there is a strong negative influence of cash and cash equivalent on return on assets. Soet et.al. (2018) examined the effect of operating cash flow management on financial performance of mutual funds in Kenya. The study found out that operating cash flow management has had a significant and positive effect on return on assets and insignificant and positive effect on return on equity. Thevaruban (2016) in his study confirmed that Cash ratio and financial performance do have statistically significant negative relationship with each other. Thus, management needs to ensure an adequate cash management control. Dhruba (2019) examined the impact of cash management on financial performance and the Study found that Cash management has an insignificant but positive effect on profitability. It clarifies that conversion cycle, cash flow and inventory management positively effect the profitability but the effect is nominal. Nuzulia et. al. (2021) investigated the impact of cash management practices towards financial performance and the analysis shows a significant relationship between cash management practices and return on assets but a non-significant relationship between cash management practices and Gross Profit Margin. Thangjam Ravichandra (2015) undertook a research to examine the link between free cash flow and profitability of firms. The findings of the research demonstrated that earnings and free cash flows are positively related. The analysis indicates, however, that the gains do not ensure

unfettered cash flow to companies. Hafiza Faiza Muhammad (2015) made a study to assess the effects of the capital structure on a corporation's profitability. The research focuses on the automotive sector and includes five businesses. The researchers used the examination of numerous ratios to fulfil the aims of the study and the results of the research show that the capital structure has statistically significant consequences on the profitability of companies.

*c) Receivable Management*

One of the significant components of working capital is account receivable which is a direct result of credit sales. If the receivables are managed effectively, monitored efficiently, planned properly and reviewed periodically by the management, it can not only enable the firm to better its financial performance but it can also enhance its inventory turnover. Deloof, M. (2003) made a study and found a significant negative relation between gross operating income and the number of days accounts receivables, inventories and accounts payables of sample firms. The findings of the study suggested that managers can create value for their shareholders by reducing the number of days of accounts receivables and inventories to a reasonable minimum. Francis and Charles (2018) studied the impact of Receivable management and the study concluded that there is a strong positive and statistically significant correlation between cash conversion period and financial performance of sample firms. George et.al. (2021) examined the effect of receivable management on the financial performance of sample entity and the findings puts forth affirmed that the accounts receivable management had an inverse correlation with the financial performance. This negative correlation meant that an increase in the Average Collection Period of chartered public universities in Kenya resulted in a decline in the financial performance of these institutions. Munene and Tibbs (2018) investigated whether receivable management effects financial performance or not. The study found that the average collection period and current ratio have a significant positive effect on equities, indicating that a positive change in the debtor's payment period resulted in the company's improved financial performance. Adam and Caroline (2018) studied the relationship between accounts receivable management and financial performance of Small Medium Enterprises in Mogadishu, Somalia. The study revealed an underlying positive effect of accounts receivable on SMEs' financial performance in Mogadishu.

*d) Payable Management*

The amount of money that a recipient of goods promises to pay to the supplier is referred to as accounts payable. It is one of the major sources of unsecured short-term external finance for a firm, therefore, researchers all over the world has undertaken



numerous studies to investigate the impact of accounts payable on financial performance of firms. Duru and Okpe (2016) examined the impact of accounts payable management on financial performance and the results arising after analysis confirmed that the relationship between accounts payable ratio and profitability is statistically positive and significant. The study also revealed that both Debt ratio and Sales growth rate had positive and significant effect on profitability of the Companies under study. Rotich and Achode (2016) studied the relationship between accounts payable and financial performance of sample firms. After the thorough analysis, the results showed positive relationship between accounts payable and financial performance of sample firms. Hence, recommended that firms should establish a long-term relationship with suppliers in order to access trade credit in a more easy and fast way which will reflect in their financial performance. Nwakaego and Ikechukwu (2016) undertook a study to find out the effect of management of accounts payable on the financial performance of industrial and domestic manufacturing companies in Nigeria. The results put forth by the study confirmed a positive and significant effect of proper accounts payable management on profitability ratio. Mutai and Kimani (2019), investigated accounts payable management policies and its effect on liquidity. The findings revealed statistically significant positive relationship between Accounts Payables Management practices and liquidity. Moodley et.al. (2014) undertook a study on accounts payable and its impact of return to investors. The findings clearly indicate that firms with low levels of accounts payable underperform. It is possible that this could be a result of companies taking advantage of settlement discounts and reducing payable days with the resulting negative impact on long-term return as a consequence of lower cash resources to otherwise invest. Elias and Nwankwo (2018) examined the impact of average payments period on the return on assets and the results indicated that average payments period has a significant negative impact on profitability. Based on the findings, the study recommends that Nigerian insurance companies should endeavour to reduce their number of days accounts payables optimally and concentrate on reducing the high variability in the average payables period to enhance their corporate profits.

#### e) *Working Capital Management and Firm Performance*

As per the research finding, there exists statistically significant correlation between working capital management and firm performance. (Nyamao, et al., 2012) observed in their study that the financial performance is positively related to efficiency of cash management, receivables management, inventory management and Payable management. The study further puts forth that working capital management

practices have an influence on the financial performance of Small-Scale Enterprises. Konak and Guner (2016) confirmed in their study that effective management of working capital, such as decrease in short term debt turnover days positively affect the performance of firms. Le, et al. (2018) undertook a study and affirmed that Working Capital Management positively impacts the financial performance of firms. The cash conversion cycle has a significant positive relationship with firm performance as cash conversion cycle had statistically significant relationships with two out of three firm performance measurements. Niresh (2012) working capital management is a crucial element in determining the financial performance of a firm, particularly, manufacturing firms. Therefore, such firms should manage their working capital efficiently to achieve optimal profitability which can be achieved by improving the inventory control process, collecting receivables in line with the agreed credit terms and by delaying payments to suppliers. All these will lead to shorten the cash conversion cycle resulting to an increase in profitability. Charitou, et.al. (2010) undertook an empirical investigation that shows the effect of working capital management on firm's financial performance in an emerging market. The results indicate that the cash conversion cycle and all its major components; namely, days in inventory, days sales outstanding and creditors' payment period are associated with the firm's profitability. Waithaka (2010) in order to revamp the companies and to improve profitability the focus on the area of efficient working capital management is impeccable. The efficiency in working capital management practices as measured by efficiency in cash management, efficiency in receivables management and efficiency in inventory management has an influence on the growth rate of businesses sales, market share, profits and total assets and consequently plays a huge role in the financial performance of a company.

#### *Objectives*

The study's broader objective is to investigate the impact of working capital efficiency on the financial performance of the sample industries in Indian context. More specifically, the study aims at achieving the following set of objectives:

1. To assess the impact of Average Revenue Period (ARP) on the financial Performance of the sample Industries.
2. To assess the impact of Average Payable Period (APP) on the financial Performance of the sample Industries.
3. To assess the impact of Inventory Conversion Period (ICP) on the financial Performance of the sample Industries.

### Hypotheses

The following set of hypotheses have been developed to meet the specified goals of the study.

#### Provide the Investigation a Correct Direction:

*H1:* Account Receivable does not have statistically any significant impact on the financial performance of sample industries.

*H2:* Accounts Payable does not have statistically any significant impact on the financial performance of sample industries.

*H3:* Inventory Conversion period does not have statistically any significant impact on the financial performance of sample industries.

*H4:* Cash Conversion cycle does not have statistically any significant impact on the financial performance of sample industries.

### IV. DATA BASE AND RESEARCH METHODOLOGY

In order to achieve the objectives of the study, the researchers have drawn the sample of the study from seven sectoral indices, namely, Automobile, Pharmaceutical, Fast Moving Consumer Goods, Consumer Durables, Metal, Oil and Gas and Real Estate. Each sample industry is represented by 10 companies and the weight age of these ten companies in each sectorial index is around 80 per cent to 85 per cent which stands as a fair representative of each sectorial index.

The study has used panel data set of 70 Indian listed companies which represent seven different sectors. The researchers have taken a reference period of 15 years ranging from 2006 to 2020 which is reasonable enough to provide dependable results. The data has been collected through Capitaline Electronic database, which is a digital database for giving financial information of listed as well as other companies.

#### Variable ARP:

$$ROCE_{i,t} = \beta_0 + \beta_1 ARP_{i,t} + \beta_2 Growth_{i,t} + \beta_3 Size_{i,t} + \beta_4 CR_{i,t} + \beta_5 CF_{i,t} + \beta_6 LEV_{i,t} + \beta_7 AGE_{i,t} + \epsilon_{i,t} \quad (1)$$

$$RONW_{i,t} = \beta_0 + \beta_1 ARP_{i,t} + \beta_2 Growth_{i,t} + \beta_3 Size_{i,t} + \beta_4 CR_{i,t} + \beta_5 CF_{i,t} + \beta_6 LEV_{i,t} + \beta_7 AGE_{i,t} + \epsilon_{i,t} \quad (2)$$

#### Variable APP:

$$ROCE_{i,t} = \beta_0 + \beta_1 APP_{i,t} + \beta_2 Growth_{i,t} + \beta_3 Size_{i,t} + \beta_4 CR_{i,t} + \beta_5 CF_{i,t} + \beta_6 LEV_{i,t} + \beta_7 AGE_{i,t} + \epsilon_{i,t} \quad (3)$$

$$RONW_{i,t} = \beta_0 + \beta_1 APP_{i,t} + \beta_2 Growth_{i,t} + \beta_3 Size_{i,t} + \beta_4 CR_{i,t} + \beta_5 CF_{i,t} + \beta_6 LEV_{i,t} + \beta_7 AGE_{i,t} + \epsilon_{i,t} \quad (4)$$

### V. VARIABLE SPECIFICATIONS

The first group of variables undertaken in the study are concerned with the efficiency of working capital which is represented by cash conversion cycle (CCC), accounts receivable period (ARP), accounts payable period (APP) and inventory conversion period (ICP) to quantify working capital efficiency.

The Profitability variables make up the second set of variables. Several measures of profitability have been employed in previous empirical research on working capital management; for example, Vishnani and Shah (2007), Bhunia and Das (2015), joshi Lalit Kumar (2017) took Return on Capital Employed (ROCE) as a proxy for assessing firms' financial performance, while Niresh (2012) used Return on Equity (ROE) as a representative variable for measuring firms' financial performance. Riyaz Ahmad (2012) has used RONW as a variable to study profitability. In this study, the researchers have employed Return on Capital Employed (ROCE) and Return on Net Worth (RONW) to determine the financial performance of sample firms.

### VI. BASELINE SPECIFICATIONS AND ESTIMATION APPROACH

#### a) Baseline Specifications

It must be noted that all the specifications used in this study have been largely borrowed from some previous studies, namely, Altaf and Shah (2017), Banos et. al. (2012), Bhatia and Srivastava (2016), Singhania et.al. (2014) among others. These studies helped in the identification of appropriate controls to be used along with the main variables.

#### b) Baseline Specifications for Investigating the Impact of Working Capital Efficiency on Financial Performance

The following are the baseline specifications for testing the relationship between working capital efficiency and financial performance:

Variable ICP:

$$ROCE_{i,t} = \beta_0 + \beta_1 ICP_{i,t} + \beta_2 Growth_{i,t} + \beta_3 Size_{i,t} + \beta_4 CR_{i,t} + \beta_5 CF_{i,t} + \beta_6 LEV_{i,t} + \beta_7 AGE_{i,t} + \epsilon_{i,t} \quad (5)$$

$$RONW_{i,t} = \beta_0 + \beta_1 ICP_{i,t} + \beta_2 Growth_{i,t} + \beta_3 Size_{i,t} + \beta_4 CR_{i,t} + \beta_5 CF_{i,t} + \beta_6 LEV_{i,t} + \beta_7 AGE_{i,t} + \epsilon_{i,t} \quad (6)$$

Variable CCC:

$$ROCE_{i,t} = \beta_0 + \beta_1 CCC_{i,t} + \beta_2 Growth_{i,t} + \beta_3 Size_{i,t} + \beta_4 CR_{i,t} + \beta_5 CF_{i,t} + \beta_6 LEV_{i,t} + \beta_7 AGE_{i,t} + \epsilon_{i,t} \quad (7)$$

$$RONW_{i,t} = \beta_0 + \beta_1 CCC_{i,t} + \beta_2 Growth_{i,t} + \beta_3 Size_{i,t} + \beta_4 CR_{i,t} + \beta_5 CF_{i,t} + \beta_6 LEV_{i,t} + \beta_7 AGE_{i,t} + \epsilon_{i,t} \quad (8)$$

## VII. ESTIMATION APPROACH

The econometric panel data methodology has been employed to estimate the relationships defined by the models presented above. The following are the specifics of such an estimate:

### a) Efficiency of Panel Data

Because of the benefits it provides, panel data approach was used to estimate the models mentioned above. First, panel data is based on the assumption that individuals are heterogeneous, which aids in controlling for unobservable heterogeneity (Hsiao, 2003; Klevmarken, 1989; Moulton, 1986, 1987). Time-series and cross-section studies, in particular, do not account for individual variation and hence run the danger of producing skewed results (Moulton, 1986, 1987).

Second, panel data gives more information, increases variability, improves efficiency, and minimises collinearity between variables (Hsiao, 2003). Third, panel data can be used to investigate the dynamics of adjustment. According to Baltagi (2008) cross-sectional distributions appear steady but conceal a great number of shifts. Finally, it makes it easier to model technological efficiency by allowing complex models to be built (Koop and Steel, 2001).

### b) Account Receivable Efficiency and Financial Performance

The table 1.1 presents the results of the relationship between Accounts Receivable management and firm profitability on full-sample.

Table 1.1: Impact of ARP on Financial Performance

Variables	Dependent Variable: ROCE		Dependent Variable: RONW		
	(1)	(2)	(3)	(4)	(5)
ARP	.02584*** (2.34)		1.15	.01213*** (2.52)	1.15
GROWTH	.13873** (2.22)		1.01	.127009*** (2.65)	1.01
SIZE	5.6796** (2.30)		1.25	6.0756** (2.00)	1.25
CR	-.80726*** (-2.85)		1.14	-.99163*** (-3.02)	1.14
CF	7.80685*** (4.68)		1.46	9.102*** (3.43)	1.46
LEV	-6.4077* (-1.92)		1.29	-8.0797** (-2.15)	1.29
AGE	-.69440** (-2.03)		1.12	-.17192* (-1.81)	1.12
IM Test	471.49***			581.76***	
Wooldridge test	11.394***			13.165***	
Adj R <sup>2</sup>	0.51			0.52	
F-test	10.09*			10.08*	
Hausman	21.17*			27.04*	
B-P LM test	5171.10*			5213.74*	
Year FE	Yes			Yes	
Firm FE	Yes			Yes	
Cluster SE	Yes			Yes	

Notes: This table reports empirical results of Eqs. (1) and (2). Asterisks indicate significance at 1% (\*\*\*), 5% (\*\*), and 10% (\*). T-Statistics are based on robust standard errors.

In the table 1.1 Column (2) presents the results with Return on Capital Employed (ROCE) as dependent variable while as Columns (4) of the table takes Return on Net Worth (RONW) as the dependent variable. Further, in both Columns (2) and (4) the results presented include Average Revenue Period (ARP) as independent variable along with the other control variables. It must be noted that columns (3) and (5) of the table report the variance inflation factors (VIFs) of the models with ROCE and RONW as dependent variables respectively. The Adjusted R<sup>2</sup> for both models is estimated to be around 50% based on the results reported in table. Furthermore, the F-test and Breusch-Pagan Lagrange Multiplier (B-P LM) test statistics in columns (2) and (4) of the table are significant, indicating that both the FE and RE models give superior estimates than the OLS model. We use the traditional Hausman test to determine the best fit model among FE and RE, knowing that alternative panel data models will yield better results than OLS. The test statistics of the Hausman test in both column (2) and (4) are significant, showing that the FE model is best suited to capture the results of the link between ARP and financial performance, as shown in table. Besides, both the IM and Wooldridge tests have significant test statistics at the 1% level of significance, demonstrating presence of heteroscedasticity and autocorrelation in both columns. In addition, the VIFs in the table are not greater than 10, indicating that multicollinearity is not an issue. The model's primary flaw is the occurrence of heteroscedasticity and autocorrelation, both of which have been addressed by producing cluster-robust standard errors, as recommended by Petersen (2009).

Thus, the findings of the table 1.1 puts forth that the coefficient on ARP is positive and statistically significant at 1% level of significance with both metrics of business profitability (ROCE and RONW). Therefore,

alternative hypothesis is supported by these findings. These findings suggest that if companies increase their daily receivables or give their consumers more time to pay, their profitability may improve. Several researchers have found a similar link between ARP and corporate profitability (Altaf and Shah, 2018; Bhunia and Das, 2015; Chaklader and Shrivastava, 2013).

These findings are consistent with the developing market economic phenomena, which is characterised by a strong knowledge asymmetry between buyer and seller, as well as limited financial development leaving enterprises reliant on trade credit from their suppliers. Furthermore, the observed link supports the concept that extending trade credit to customers minimises information asymmetry between the buyer and seller because the extended receivable period allows customers to assess the product's quality before paying. This viewpoint is consistent with the quality guarantee theory and trade-credit financing theory, which state that suppliers who offer trade credit have more control over their clients since they can cut off supplies if they do not pay on time. This increased control over clients minimises the amount of bad debt and so boosts the company's profitability. Furthermore, granting trade credit can be utilised as a promotional technique, avoiding price competition. This viewpoint is consistent with the product differentiation theory, which states that investing in receivables tends to develop a group of loyal customers who provide future advantages in the form of increased profitability due to guaranteed future sales. Moreover, according to market power theory, trade credit can be used as a push marketing tactic because it encourages customers to work toward the promotion of the product. This, in turn, tends to improve sales while simultaneously lowering promotional costs and increasing company profitability.

*Table 1.2:* Impact of APP on Financial Performance

Variables	Dependent Variable: ROCE		Dependent Variable: RONW		
	(1)	(2)	(3)	(4)	(5)
APP	.01454** (2.21)		1.06	.02179*** (3.00)	1.06
GROWTH	.13753* (1.81)		1.01	.07085*** (2.56)	1.01
SIZE	5.394** (2.18)		1.24	6.1837** (2.03)	1.24
CR	-.89635*** (-3.15)		1.11	-1.115*** (-3.39)	1.11
CF	7.8848*** (4.67)		1.44	9.043*** (3.34)	1.44
LEV	-6.723** (-2.00)		1.28	-7.112* (-1.87)	1.28
AGE	-.61584* (-1.79)		1.13	-.2497* (-1.72)	1.13
IM Test	462.43***			577.57***	
Wooldridge test	11.491***			13.316***	



Adj R <sup>2</sup>	0.48		0.47	
F-test	11.12*		12.18*	
Hausman	31.07*		32.93*	
B-P LM test	4211.09*		4231.47*	
Year FE	Yes		Yes	
Firm FE	Yes		Yes	
Cluster SE	Yes		Yes	

Notes: This table reports empirical results of Eqs. (3) and (4). Asterisks indicate significance at 1% (\*\*\*) 5% (\*\*) and 10% (\*). T-Statistics are based on robust standard errors.

In the table 1.2 Columns (2) presents the results of Eq (3) that takes ROCE as dependent variable while as Columns (4) of the table presents results of Eq (4) that takes RONW as the dependent variable. Further, both Columns (2) and (4) include APP as independent variable along with the other control variables. It must be noted that columns (3) and (5) of the table report the variance inflation factors (VIFs) of the models with ROCE and RONW as dependent variables respectively.

The Adjusted R<sup>2</sup> for both models is estimated to be around 48% based on the results reported in table. Moreover, the F-test and Breusch-Pagan Lagrange Multiplier (B-P LM) test statistics in columns (2) and (4) of the table are significant, indicating that both the FE

and RE models give superior estimates than the OLS model. We use the traditional Hausman test to determine the best fit model among FE and RE, knowing that alternative panel data models will yield better results than OLS. The test statistics of the Hausman test in both column (2) and (4) are significant, showing that the FE model is best suited to capture the results of the link between APP and firm profitability. The results confirm that there exists a positive relationship between APP and firm performance which implies that deferring payments to suppliers increases the financial performance of sample firms as it aids a firm in lowering transaction costs, overcoming financial limits and enhances financial performance.

Table 1.3: Impact of ICP on Financial Performance

Variables	Dependent Variable: ROCE		Dependent Variable: RONW		
	(1)	(2)	(3)	(4)	(5)
ITR		-.422*** (-9.44)	1.04	-.3309*** (-6.41)	1.04
GROWTH		0.137** (1.99)	1.01	0.055** (1.95)	1.01
SIZE		3.414*** (2.48)	1.23	1.945*** (2.67)	1.23
CR		-0.762*** (-2.87)	1.10	-1.079*** (-3.43)	1.10
CF		6.917*** (2.56)	1.42	8.255*** (3.47)	1.42
LEV		-4.851* (-1.75)	1.28	-1.133*** (-3.09)	1.28
AGE		-1.001*** (-3.11)	1.14	-0.2985** (-2.16)	1.14
IM Test		532.49***		601.25***	
Wooldridge test		17.013***		21.190***	
Adj R <sup>2</sup>		0.52		0.49	
F-test		11.09*		11.17*	
Hausman		30.13*		30.90*	
B-P LM test		4643.67*		4686.57*	
Year FE		Yes		Yes	
Firm FE		Yes		Yes	
Cluster SE		Yes		Yes	

Notes: This table reports empirical results of Eqs. (5) and (6). Asterisks indicate significance at 1% (\*\*\*) 5% (\*\*) and 10% (\*). T-Statistics are based on robust standard errors.

The result of Eq (5) and (6) are presented in table 1.3 where Columns (2) present the results of equation with ROCE as dependent variable while as Columns (4) of the table present the results of equation RONW as the dependent variable. Further, in both Columns (2) and (4) the results presented include ICP as independent variable along with the other control variables. It must be noted that columns (3) and (5) of the table report the variance inflation factors (VIFs) of the models with ROCE and RONW as dependent variables respectively.

The Adjusted R<sup>2</sup> for both models is estimated to be around 50% based on the results reported in table. besides, the F-test and Breusch-Pagan Lagrange Multiplier (B-P LM) test statistics in columns (2) and (4) of the table are significant, indicating that both the FE and RE models give superior estimates than the OLS model. We use the traditional Hausman test to determine the best fit model among FE and RE, knowing that alternative panel data models will yield better results than OLS.

The test statistics of the Hausman test in both column (2) and (4) are significant, showing that the FE model is best suited to capture the results of the link between ICP and financial performance, as shown in

table. In addition, both the IM and Wooldridge tests have significant test statistics at the 1% level of significance, demonstrating heteroscedasticity and autocorrelation in both columns. Furthermore, the VIFs in the table are not greater than 10, indicating that multicollinearity is not an issue. The model's primary flaw is the occurrence of heteroscedasticity and autocorrelation, both of which have been addressed by producing cluster-robust standard errors, as recommended by Petersen (2009).

The findings in the table 1.3 confirm that there is a negative association between ICP and financial performance, thereby, supporting the idea that due to imperfect market circumstances and the lack of a precise way to forecast demand, it is necessary for Indian enterprises to keep some inventory. The negative association between ICP and business profitability also suggests that the companies in the sample have more inventory than they require. Because of the transitive, preventive, and speculative incentives, these companies may be retaining higher inventories. However, the tested enterprises benefit lesser than the cost of maintaining inventories which is in alignment to Bullwhip effect. Hence, the findings affirm the acceptance of alternative hypothesis.

*Table 1.4:* Impact of CCC on Financial Performance

Variables	Dependent Variable: ROCE		Dependent Variable: RONW	
(1)	(2)	(3)	(4)	(5)
CCC	-.01031*** (-2.77)	1.06	-.01319** (-2.03)	1.06
GROWTH	.15195*** (2.33)	1.01	.0904585*** (2.71)	1.01
SIZE	5.455772*** (2.20)	1.22	5.914103* (1.94)	1.22
CR	-.8736135*** (-3.06)	1.10	-1.096541*** (-3.33)	1.10
CF	8.0435*** (4.81)	1.40	9.47666*** (3.62)	1.40
LEV	-6.7037** (-2.00)	1.28	-7.9349** (-2.01)	1.28
AGE	-.64613* (-1.88)	1.17	-.21422* (-1.68)	1.17
IM Test	464.05***		568.03***	
Wooldridge test	11.573***		13.414***	
Adj R <sup>2</sup>	0.54		0.53	
F-test	13.41*		13.37*	
Hausman	30.01*		30.09*	
B-P LM test	4257.12*		4231.24*	
Year FE	Yes		Yes	
Firm FE	Yes		Yes	
Cluster SE	Yes		Yes	

*Notes:* This table reports empirical results of Eqs. (7) and (8). Asterisks indicate significance at 1% (\*\*\*), 5% (\*\*) and 10% (\*). T-Statistics are based on robust standard errors.



Lastly, the results of Eq (7) and (8) has been presented in table 1.4, specifically Columns (2) of the table present results of equation with ROCE as dependent variable while as Columns (4) of the table results of equation with RONW as the dependent variable. Further, in both Columns (2) and (4) the results presented include Cash Conversion Cycle (CCC) independent variable along with the other control variables. It must be noted that columns (3) and (5) of the table report the variance inflation factors (VIFs) of the models with ROCE and RONW as dependent variables respectively.

The Adjusted R<sup>2</sup> for both models is estimated to be around 53% based on the results reported in table. besides, the F-test and Breusch-Pagan Lagrange Multiplier (B-P LM) test statistics in columns (2) and (4) of the table are significant, indicating that both the FE and RE models give superior estimates than the OLS model. We use the traditional Hausman test to determine the best fit model among FE and RE, knowing that alternative panel data models will yield better results than OLS.

The test statistics of the Hausman test in both column (2) and (4) are significant, showing that the FE model is best suited to capture the results of the link between CCC and financial performance, as shown in table. Furthermore, both the IM and Wooldridge tests have significant test statistics at the 1% level of significance, demonstrating heteroscedasticity and autocorrelation in both columns. In addition, the VIFs in the table are not greater than 10, indicating that multicollinearity is not an issue. The model's primary flaw is the occurrence of heteroscedasticity and autocorrelation, both of which have been addressed by producing cluster-robust standard errors, as recommended by Petersen (2009).

The findings in table 1.4 affirms a negative relation between CCC and financial performance of the sample firms. This phenomenon can be attributed to a variety of probable causes. For example, as previously stated, Indian companies underutilize short-term loans as a source of working capital financing. The CCC is lengthened by relying significantly on long-term funds, resulting in a lot of funds being blocked and inactive. Besides, raising interest costs, carrying costs and lowering profitability. When a company uses short-term credit to finance working capital, the duration of the CCC is reduced, financial costs are reduced and the company has more financial flexibility. Furthermore, lowering the CCC frees up cash flow which can be used to fund a company's day-to-day operations, lowering finance costs even more. In addition, the liberated cash can be used to make early payments to suppliers, allowing a company to benefit from discounts for timely payments. This event would result in further lower costs and higher profits for the company. Furthermore, the funds released can be used to fund buffer inventories,

which will help to maintain consistent sales and boost financial performance.

## VIII. SUMMARY OF FINDINGS AND CONCLUSIONS

This study contributes to the existing literature on working capital by investigating the impact of working capital management on the financial performance of the sample firms, which are from Automobile sector, Pharmaceutical, FMCG, Consumer Durables, Metal, Oil and Gas, and Real Estate. In order to achieve the objectives of the study, the researchers have taken Cash Conversion Cycle and its components such as ARP, APP and ICP as independent variable. The researchers used RONW and ROCE as proxy for financial performance, besides, the study also used Growth, Firm size, Firm age, cash flow, Current Ratio, Leverage and Cash flow.

The overall findings put forth by the study indicate that working capital management has a significant impact on the financial performance of the sample firms in terms of ARP, APP, ICP, and CCC. The findings presented by the study confirm that Average Receivable Period (ARP) and Average Payable Period (APP) positively impact the financial performance of the sample firms statistically in a significant manner. However, on the other hand, the results also affirm that Inventory Conversion Period (ICP) and Cash Conversion Cycle (CCC) negatively impact the financial performance of the sample firms statistically in a significant manner.

Thus, it can be concluded on the basis of above results that the independent variables of the study do influence the dependent variables such as Return on Capital Employed (ROCE) and Return on net worth (RONW). These findings explicitly confirm the relationship between the variables, therefore, management must make sure to manage the various aspects of working capital, thereby, enhancing the profitability of the firms.

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# Regulatory Awareness and Understanding, Organizational Culture and Compliance on the Procurement Process of National Government Agencies (NGAs) in Region XII

By Marc Danielle V. Escoto & Alma Lyn S. Miase

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**Abstract-** Procurement compliance plays a vital role in public sector governance by fostering transparency, accountability, and the effective use of public resources. Previous studies have indicated that individual awareness and organizational culture impact compliance behavior; however, there is limited evidence in Region XII (South Cotabato), Philippines. This quantitative study examined how awareness and organizational culture influence procurement compliance among government agencies in South Cotabato. Data were gathered using a structured questionnaire distributed to procurement personnel. To analyze the relationships between awareness, organizational culture, and compliance outcomes, descriptive statistics, Pearson correlation, and multiple linear regression were utilized. The findings indicated that both awareness and organizational culture significantly influence procurement compliance. A moderate positive correlation was found between awareness and compliance ( $r = 0.56$ ) and organizational culture and compliance ( $r = 0.59$ ), suggesting that a better understanding and a supportive organizational environment led to improved adherence to procurement regulations.

**Keywords:** *government procurement, organizational culture, procurement compliance, health workforce education, philGEPS.*

**GJMBR-C Classification:** *JEL Code: H57, D73*



REGULATORY AWARENESS AND UNDERSTANDING, ORGANIZATIONAL CULTURE AND COMPLIANCE ON THE PROCUREMENT PROCESS OF NATIONAL GOVERNMENT AGENCIES NGAS IN REGION XII

*Strictly as per the compliance and regulations of:*



# Regulatory Awareness and Understanding, Organizational Culture and Compliance on the Procurement Process of National Government Agencies (NGAs) in Region XII

Marc Danielle V. Escoto <sup>a</sup> & Alma Lyn S. Miase <sup>a</sup>

**Abstract-** Procurement compliance plays a vital role in public sector governance by fostering transparency, accountability, and the effective use of public resources. Previous studies have indicated that individual awareness and organizational culture impact compliance behavior; however, there is limited evidence in Region XII (South Cotabato), Philippines. This quantitative study examined how awareness and organizational culture influence procurement compliance among government agencies in South Cotabato. Data were gathered using a structured questionnaire distributed to procurement personnel. To analyze the relationships between awareness, organizational culture, and compliance outcomes, descriptive statistics, Pearson correlation, and multiple linear regression were utilized. The findings indicated that both awareness and organizational culture significantly influence procurement compliance. A moderate positive correlation was found between awareness and compliance ( $r = 0.56$ ) and organizational culture and compliance ( $r = 0.59$ ), suggesting that a better understanding and a supportive organizational environment led to improved adherence to procurement regulations. To enhance procurement practices, it is crucial to raise staff awareness and develop a compliance-focused organizational culture. Government agencies should incorporate targeted training into Individual Development Plans (IDPs), especially in areas related to pre-procurement planning, documentation, and compliance with the Philippine Government Electronic Procurement System (PhilGEPS). Additionally, to bolster procurement oversight and operational efficiency, it is important to address staffing limitations, promote transparent leadership, and invest in automated tracking systems.

**Keywords:** government procurement, organizational culture, procurement compliance, health workforce education, philGEPS.

## I. INTRODUCTION

Governments aim to enhance procurement compliance for transparency, corruption prevention, and improved public expenditure value. Higher adherence to procurement policies is thought to strengthen management and elevate best

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practices in government organizations (Jaafar, 2016). Research has explored the connections between procurement policy awareness (Dagohoy, 2023), organizational culture (Nguyen, 2016), and regulatory adherence (Mithamo, 2011). In the Philippines, the Government Electronic Procurement System (PhilGEPS) serves as the central portal for public procurement, providing comprehensive information on procurement opportunities. Established under the Government Procurement Reform Act (Republic Act No. 9184), PhilGEPS enables posting bids, notices, awards, and contracts to boost transparency and efficiency. Compliance with PhilGEPS is vital for procurement governance, but non-compliance persists. In 2022, 57 agencies failed to meet PhilGEPS posting requirements, the top non-compliance concern per the Development Academy of the Philippines - Technical Secretariat and Resource Institution, issued in 2023. Agencies often neglect to post Invitations to Bid, Requests for Quotation, and Notices of Award, which ensure public scrutiny and equitable supplier access to information. Challenges include timely and accurate document posting, managing transaction volumes, and resolving technical issues while navigating complex procurement laws. A lack of regulatory awareness among procurement personnel creates inefficiencies, affecting service quality, transparency, and competition (Navarro, 2023). Familiarity with procurement principles significantly impacts individual behavior. Research shows that knowledge is crucial for adopting government procurement, outweighing the importance of financial resources (Sönnichsen, 2020). Organizational culture profoundly influences procurement processes, affecting efficacy and ethical standards through implicit norms (Gyamfi, 2021). Cultivating a culture of ethics, openness, and responsibility promotes legal procurement practices. A study in Obuasi found that involvement and adaptability influenced compliance, while consistency was less significant (Gyamfi, 2021). An adaptable culture enhances procurement compliance, yet reliance on informal decision-making hampers efficiency (Jones, 2010). Promoting a culture prioritizing rule compliance is crucial to ensure effective procurement reforms.





Understanding compliance factors in the procurement processes of National Government Agencies (NGAs) in South Cotabato Region XII, Philippines, fosters transparency, accountability, and practical resource use. Organizations seeking enhanced compliance with procurement practices can adopt several strategies. These include investing in training and development for staff, equipping them with the expertise to navigate complex processes and stay updated on regulations. Strengthening oversight mechanisms enhances detection and resolution of non-compliance through robust audits and reviews of regular procurement activities. Streamlining procurement processes by simplifying procedures and reducing bureaucratic hurdles facilitates protocol adherence. Fostering a culture of transparency and integrity reinforces compliance by emphasizing ethical conduct and incentivizing adherence. Leveraging technology, like procurement management software, enhances compliance by automating tasks and improving efficiency monitoring. Collaboration among stakeholders -government, industry, and civil society- fosters collective problem-solving for systemic compliance challenges. Embracing a culture of continuous improvement ensures procurement practices evolve with changing regulations and organizational needs, supported by stakeholder feedback and lessons from past experiences.

This study contributes significantly to public procurement, governance, and education. It highlights the critical role of targeted training programs in enhancing procurement compliance. The research emphasizes integrating training on key procurement activities-pre-procurement planning, proper documentation, and PhilGEPS posting guidelines- into the Individual Development Plans (IDPs) of Bids and Awards Committee (BAC) members, BAC Secretariat, and Technical Working Groups. Insights into the value of regular workshops and refresher courses for End-Users are also provided, deepening their understanding of procurement procedures and ethical standards. Additionally, it underscores the need for accessible, expanded training opportunities, especially for the growing number of younger government employees lacking sufficient background in procurement processes.

This study provides practical insights to enhance procurement efficiency and compliance. It highlights how staffing constraints affect performance and underscores the need to evaluate workloads, hire skilled personnel, cross-train staff, and utilize temporary hires during busy periods. The research also discusses leadership, stressing the importance of transparency and accountability through open communication, anonymous reporting, and prompt resolution of procurement issues. It also advocates investing in automated procurement tracking systems to improve

oversight, minimize manual errors, and ensure timely PhilGEPS submissions. Standardized planning tools like procurement calendars and checklists are offered as effective strategies for maintaining organized and compliant processes. The study contributes to the researcher's academic growth and the literature by comprehensively understanding procurement dynamics, regulatory compliance, and organizational behavior in the public sector. Disseminating findings through academic publications, policy briefs, and conferences enhances the researcher's profile and supports evidence-based policymaking. It also lays the groundwork for future research, serving as a reference for exploring leadership influence, policy implementation challenges, and digital transformation in procurement. Future studies can expand on these contributions by refining methodologies to advance transparency, efficiency, and accountability in public sector procurement.

## II. LITERATURE REVIEW

To address this issue, we will explain how non-compliance, specifically PhilGEPS posting non-compliance, in government procurement, relates to agency theory. Information asymmetry occurs when the principal cannot observe the agent's compliance with procurement laws and regulations, especially after the fact. The principal cannot verify PhilGEPS posting compliance, which promotes transparency in government transactions. (Bergen, 1992) Argue that self-interest may make the agent reluctant to share information, potentially leading to false claims. In cases of non-compliance, an employee might falsely assert that PhilGEPS postings have been met. The principal cannot determine whether this claim is factual or an attempt to cover non-compliance. Additionally, information asymmetry arises from the lack of visibility in procurement spending. Government agencies often lack detailed information at the item level regarding expenditures, purchasers, suppliers, and compliance with the Approved Procurement Plan (APP). Studies and reports highlight underspending visibility issues across various government organizations (Cuenca, 2020; Navarro, 2017), and spending visibility is particularly problematic in government settings (Monsod, 2016). This is partly due to the slow adoption of e-procurement systems (Calleja, 2015). However, Essig (2012) suggests that government procurement faces obstacles related to inadequate management information, exacerbated by multiple distinct financial and procurement systems that hinder data integration. This study significantly contributes to public procurement, governance, and education. It highlights the crucial role of targeted training programs in improving government agencies' procurement compliance. By integrating training on key activities- like pre-procurement planning,

documentation, and PhilGEPS guidelines- into the Individual Development Plans (IDPs) of Bids and Awards Committee (BAC) members, BAC Secretariat, and Technical Working Groups, the research emphasizes their importance. The study also reveals the benefits of regular workshops and refresher courses for End-Users to enhance their understanding of procurement procedures and ethical standards. Additionally, it addresses the growing need for accessible training for younger government employees lacking adequate procurement knowledge. This study offers insights to enhance procurement efficiency and compliance. It shows how staffing constraints impact performance and emphasizes the need to evaluate workloads, hire qualified staff, cross-train, and use temporary personnel during peak times. The research underscores the role of leadership in fostering transparency and accountability through open communication, anonymous reporting, and swift issue resolution. It also highlights the benefits of investing in automated procurement tracking systems that improve oversight, minimize manual errors, and ensure timely PhilGEPS submissions. Standardized tools like procurement calendars and checklists also help keep processes organized and compliant.

#### a) Hypothesis Development

##### i. Regulatory Awareness and Understanding

Regulatory awareness links to historical and contemporary regulatory processes, originating from "red tape." While "regulatory awareness" is not attributed to a specific author, exploring "red tape" offers insights into regulatory challenges. The term first appeared under Charles V, King of Spain, in the early 16th century when he used red tape to improve administrative procedures within his realm (Dickson, 2015). This practice binds important documents, distinguishing them from ordinary matters and expediting discussions in the Council of State. The use of red tape quickly spread among European monarchs, reflecting its role in streamlining bureaucracy. The "regulatory state" concept emerged in the late 20th century in response to public sector reforms in industrialized nations. Scholars examined shifts in state functions and governance styles, with the regulatory state representing changes in institutional structures and policy mechanisms used by governments to regulate economic and social activities. While serving as an analytical framework, "regulatory state" highlights the significant effects of regulatory changes on governance (Yeung, 2010). Historically, regulating economic activities arose from recognizing market failures that necessitated state intervention. Governments aimed to correct market inefficiencies to enhance functionality, with the regulatory state emerging as a response to these issues, emphasizing the need for comprehensive regulation to protect public welfare, ensure safety, and maintain economic stability. Government procurement regulation includes laws

governing how public authorities award contracts, founded on efficiency, transparency, equality, and value for money (Trepte, 2005). Regulatory awareness involves understanding and complying with these legal frameworks to ensure fairness and transparency during procurement. Effective programs enhance compliance by informing employees of relevant regulations and their implications. Moreover, organizations with strong compliance cultures invest in ongoing training and communication to promote a culture of compliance from top management to frontline employees.

*H1: There is no significant relationship between regulatory awareness and understanding and compliance in the procurement process.*

##### ii. *Organizational Culture*

The relationship between compliance and culture, viewed through Neo-Institutional Theory and the Competing Values Model, emphasizes how external pressures and internal dynamics shape organizational behavior (Cameron, 2016). Compliance manifests through different isomorphism forms: coercive isomorphism arises from pressures to comply with laws and regulations, driven by the need to adhere to rules for legitimacy (Interligi, 2010). Mimetic isomorphism occurs when uncertainty leads organizations to imitate successful peers, adopting industry best practices to ensure survival. Normative isomorphism is influenced by professional norms, requiring adherence to ethical codes for legitimacy and respect. Institutional logic encompasses belief systems that guide behavior within an institution, shaping organizational culture by dictating appropriate behavior. For example, a culture emphasizing innovation follows norms that encourage creativity and align practices with cultural values. Decoupling occurs when organizations adopt formal compliance structures to appear legitimate while internally differing practices align with cultural values. The Competing Values Model illustrates how organizational cultures approach compliance: clan culture relies on shared values, adhocracy fosters adaptive compliance, promoting innovation, market culture emphasizes strict adherence to rules for competitiveness, and hierarchy prioritizes order through detailed procedures. Integrating both models reveals the balance of external and internal pressures on organizations. Neo-Institutional Theory focuses on external coercive, mimetic, and normative pressures, while the Competing Values Model highlights internal dynamics influencing compliance implementation. In a hierarchical culture, compliance is systematic and controlled, while in an adhocracy, it adapts to foster innovation. Legitimacy is core to Neo-Institutional Theory; the Competing Values Model shows how cultures strive for it. Market culture seeks legitimacy through performance, ensuring strict compliance, while clan culture embeds compliance in values. Organi-

zations lacking a compliance-focused culture may see reduced regulatory awareness, leading to non-compliance or misconduct. Organizational culture also affects how regulatory requirements are communicated and followed.

*H2:* There is no significant relationship between organizational culture and compliance in the procurement process.

### III. METHODOLOGY

This quantitative study examined how awareness and organizational culture affect procurement compliance in South Cotabato's national government agencies. The sample included 42 respondents from various national government agencies in Region XII, South Cotabato. The questionnaires were organized with unique identification numbers for efficient tracking during data entry. This numbering helped reference individual responses and reduced the chance of data errors. It also facilitated quality control, allowing for the identification of inconsistencies and duplicate entries. After assigning numbers, the researcher reviewed each response for completeness and internal consistency. Incomplete answers were flagged for follow-up, ensuring dataset integrity. Likert scale responses were converted into numerical values for analysis, using descriptive statistics to summarize data characteristics. Measures like the mean indicated central tendencies, while percentages showed response distributions. Standard deviation illustrates data variability. For inferential analysis, Pearson correlation assessed the relationship between independent and dependent variables, determining how changes in one variable corresponded. This provided insights into potential associations, aiding hypothesis testing. A correlation test assessed the relationships between variables, while frequency counts analysed respondents'

demographics. A weighted mean evaluated compliance levels, organizational culture, and awareness of procurement compliance. A Kolmogorov-Smirnov Test checked data normality. As the data were not normally distributed, a nonparametric test was used. Spearman's rho correlation assessed the relationship between awareness and compliance and organizational culture and compliance, with all tests conducted at a 0.05 significance level.

### IV. RESULTS AND DISCUSSIONS

#### a) Level of Awareness with Procurement Compliance

According to Table 1, compliance with procurement activities is moderate. This reflects high adherence to the End-User, BAC Secretariat, BAC Members, and BAC Technical Working Group guidelines. While this suggests a fundamental understanding of procurement rules, improvements are necessary in training, guidelines, and monitoring for full compliance. The statement "I have encountered challenges in understanding procurement requirements" received the highest mean score, while "I feel confident in my ability to comply with procurement regulations" received the lowest. These findings indicate a lack of clarity and confidence in procurement processes. The high average score for the former statement suggests many find procurement rules complicated. In contrast, the low score reflects apprehension about meeting regulatory standards, posing risks of non-compliance and inefficiencies. This highlights the need for better training, more straightforward guidelines, and improved support systems. Addressing these issues is vital for ensuring compliance, operational efficiency, and enhancing employee morale and performance. Recent studies show that challenges like human errors require comprehensive training and seminars to equip users effectively (Cruz, 2023).

*Table 1: Level of Awareness with Procurement Compliance*

Indicators	Mean	Remarks
1. I am aware of the procurement rules and guidelines. I understand the procedures. My organization provides adequate training on procurement compliance.	3.88	High
2. I feel confident in my ability to comply with procurement regulations.	3.85	High
3. I have encountered challenges in understanding procurement requirements	3.41	High
4. Time constraints hinder full compliance with procurement processes.	3.90	High
5. My organization provides clear guidance when compliance issues arise.	3.92	High
<b>Level of Awareness</b>	<b>3.89</b>	High

#### b) Organizational Culture with Procurement Compliance

Table 2 shows high alignment between organizational culture and compliance with PhilGEPS posting requirements. This indicates a strong commit-

ment to compliance systems and leadership, yet highlights the need for a more inclusive culture. Employees should feel empowered, informed, and involved. To improve compliance from moderate to high,

further investment in training, enhanced communication, and increased ethical awareness is necessary. The statement "Compliance with PhilGEPS posting is strictly monitored" received the highest mean score, while "Employees have a clear understanding of the ethical standards in procurement" received the lowest. This underscores a firm adherence to PhilGEPS requirements and suggests effective regulatory oversight. Conversely, the low score for understanding ethical standards indicates a concerning lack of ethical awareness among procurement personnel. This points to a potential gap between procedural compliance and understanding

ethical principles, increasing the risk of unethical behavior despite technical compliance. Findings highlight the need to balance regulatory oversight with thorough ethics education to uphold integrity in procurement. Moreover, this situation creates information asymmetry that could allow agents to hide actions, complicating compliance verification, particularly for platforms like PhilGEPS focused on transparency (Bergen, 1992). The lack of spending visibility worsens this issue, as insufficient insight into expenditure limits effective monitoring (Cuenca, 2020).

*Table 2:* Organizational Culture and Compliance with PhilGEPS Posting Requirements

Indicators	Mean	Remarks
1. The organization's culture supports compliance with procurement policies.	3.97	High
2. There is a strong commitment from leadership to ensure compliance with procurement regulations.	4.12	High
3. Compliance with PhilGEPS posting is strictly monitored.	4.14	High
4. Employees feel encouraged to report procurement compliance issues.	3.93	High
5. The organization provides sufficient resources to ensure compliance with PhilGEPS requirements.	3.90	High
6. Employees have a clear understanding of the ethical standards in procurement.	3.76	High
7. There is open communication regarding procurement concerns and compliance.	3.94	High
8. Organizational policies align with national procurement regulations.	4.17	High
9. Training and development programs promote a culture of compliance.	3.96	High
10. The organization fosters accountability in procurement decision-making.	4.11	High
<b>Overall Mean</b>	<b>3.96</b>	High

c) *Compliance Level with Procurement Activities*

Table 3 shows that procurement compliance is generally rated High, indicating strong adherence to established rules and procedures. This reflects the commitment to proper processes and regulatory standards. The positive assessment suggests that stakeholders, such as the End-User, Bids and Awards Committee (BAC) Secretariat, BAC Members, and BAC Technical Working Group, view procurement practices as effective and compliant, due to systematic procedures, consistent monitoring, and efforts toward transparency. However, it is essential to continually assess areas for improvement, enhance ethical standards, and implement capacity-building initiatives to maintain and boost compliance across all levels.

The categories "Completion and Acceptance" and "Documentation and Reporting" scored highest, while "Pre-Procurement Planning" had the lowest score. These results highlight that "Completion and Acceptance" and "Documentation and Reporting" are the strongest aspects, with clear and effective protocols for finalization and documentation. Conversely, the low

score for "Pre-Procurement Planning" indicates shortcomings in initial phases, suggesting inadequate focus on needs assessment, market analysis, and procurement strategy formulation. Poor planning can lead to inefficiencies and compliance issues, making it vital to improve this area with training, more straightforward guidelines, and strategic involvement. This aligns with studies pointing to challenges in canvassing, market research, and documentation, highlighting a need for improvement (Dagohoy, 2023).



*Table 3: Level of Compliance with Procurement Activities*

Indicators	Mean	Remarks
1. Pre-Procurement Planning	4.14	High
2. Procurement Preparation	4.43	High
3. Publication (Advertisement/of Invitation to Bid)	4.27	High
4. Pre-Procurement Conference	4.29	High
5. Pre-Bid Conference	4.31	High
6. Submission And Receipt of Bids	4.50	Very High
7. Bid Opening Evaluation	4.39	High
8. Post Qualification	4.47	High
9. Awarding Of Contract	4.48	High
10. Implementation And Monitoring	4.44	High
11. Completion And Acceptance	4.57	Very High
12. Documentation And Reporting	4.57	Very High
<b>Level of Compliance</b>	<b>4.44</b>	High

*d) Significant Relationship Between the Level of Awareness and the Level of Compliance*

In Table 4, the correlation between awareness and compliance in the procurement process, with a p-value of 0.000, indicates that awareness is a key driver of compliance. The correlation coefficient of  $rs = 0.6746$  signifies a moderate positive correlation, suggesting that improvements in awareness likely lead to better compliance behavior. Individuals with a deeper understanding of procurement rules and ethical standards will likely adhere to proper practices. Thus, efforts to enhance compliance should concentrate on raising awareness among all procurement personnel. This may include strengthening training programmes, creating user-friendly materials, and fostering a culture of transparency and accountability. By prioritizing awareness, organizations can expect higher compliance rates, reduced risks of irregularities, more efficient operations, and improved alignment with legal and ethical standards.

*e) Significant Relationship Between the Extent of Organisational Culture and the Level of Compliance with the Procurement Process*

Also, in Table 4, the statistical outcome shows a p-value of 0.000, below the significance threshold of

0.05, indicating a significant relationship between the organization's culture and adherence to the procurement process. This suggests that organizational culture is vital for effective compliance with procurement rules. Moreover, the correlation coefficient of  $rs = 0.5852$  indicates a moderate positive correlation, demonstrating that compliance tends to increase as the quality of organizational culture improves. Cultivating a strong organizational culture- characterized by ethical behavior, accountability, and transparency- can enhance adherence to procurement regulations. Therefore, organisations should prioritize cultural values like integrity, discipline, and responsibility that support compliance. This can be achieved through exemplary leadership, ongoing training, performance incentives, and clear communication of expectations. Embedding compliance with the organizational culture becomes a shared norm rather than a procedural obligation, leading to more consistent and sustainable procurement practices.

*Table 4: Significant Relationship Between the Level of Awareness and the Level of Compliance*

Variables	Mean	$r_s$	Degree of Relationship	$p$ -value*	Remark
Awareness	3.90	0.6746	Positive Moderate Relationship	0.0000	Significant
Compliance	4.53				

\*Tested at 0.05 level of significance

A survey of 42 procurement stakeholders from National Government Agencies in South Cotabato, Region XII revealed high compliance with procurement regulations, particularly in Completion and Acceptance, Documentation, and Bid Submission stages. However, pre-procurement planning was noted as a weaker area that needed improvement. Respondents were moderately aware of procurement policies, with gaps in early planning and documentation, indicating a need for

additional training. Organizational culture moderately supports compliance with evident leadership commitment, but ethics understanding, employee engagement, and communication also need strengthening. Statistical analysis showed moderate positive correlations between awareness and organizational culture with procurement compliance, indicating that greater awareness and a strong culture improve adherence to standards. The study underscores the importance of addressing non-

compliance through enhanced training, stronger culture, and better planning for good governance. Findings revealed that most procurement members were between 25 and 34 years old, suggesting they are gaining knowledge of procurement regulations (Van Deursen, 2015). The lowest mean score for "Pre-procurement Planning" indicates an adhocracy culture (Cameron, 2016) and coercive isomorphism (Interligi, 2010). Procurement organizations must adapt to regulatory pressures like compliance or PhilGEPS posting requirements. A lack of a structured process can lead to inefficiencies and wasted resources, as in survey compliance levels, where "pre-procurement planning" received the lowest score. The implications of insufficient awareness and coercive isomorphism in adhocratic cultures include increased underspending and non-compliance risks, often arising from inadequate procurement planning. Adhocratic cultures, flexible and innovative, generally lack structured processes for efficient procurement, and external compliance pressure without a robust framework increases risks, leading to inefficiencies and missed resource optimization opportunities. The research identifies macro perspective limitations that might overlook nuanced micro-level dynamics. It acknowledges the complexities of organizational culture, which evolves and is shaped by shared values, making accurate assessment challenging, particularly for long-term implications. Therefore, while valuable, the study's insights may be limited in contexts requiring detailed cultural analyses. Future research should explore factors influencing procurement compliance, including organizational capacity, leadership commitment, regulatory enforcement, and stakeholder engagement. Investigating the applicability of this study across different Philippine regions is essential due to variations in governance, culture, and practices. Such research would enhance the understanding of procurement compliance in the country. Non-compliance with procurement regulations, especially mandatory PhilGEPS posting, may indicate systemic issues in procurement management, necessitating an examination of underlying factors like organizational awareness gaps, cultural misalignments, and structural inefficiencies. Addressing these requirements involves strengthening support mechanisms, including regular training programs, updates on regulatory changes, and proactive management of cultural risks in procurement. Clear communication channels between the Bids and Awards Committee (BAC) and end-users are crucial for alignment, transparency, and accountability throughout the procurement lifecycle.

## V. CONCLUSION

The study revealed a positive relationship between awareness, understanding, organizational culture, and compliance in procurement. It highlights the

need for adequate regulatory knowledge among government employees and a compliance-oriented culture to improve adherence to procurement laws. Compliance levels improve significantly when public sector personnel understand procurement rules—especially RA 9184 and PhilGEPS—and work in a culture valuing accountability, transparency, and ethics. These aspects reinforce behavior and decision-making in the procurement process. Therefore, the researcher rejects the null hypothesis, confirming that awareness, understanding, and culture influence procurement compliance, with important implications for public sector management and training initiatives. Leadership support and reforms that promote ethical norms and clarity in procurement can enhance compliance outcomes. Overall, the study deepens the understanding of procurement's behavioral and cultural dimensions and supports improvements in public sector practices through targeted education and reforms.

### *Conflict of Interest Statement*

The author declares that there is no conflict of interest regarding the publication of this paper.

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This research received no specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## *Glossary of Abbreviations*

APP - Approved Procurement Plan

BAC - Bids and Awards Committee

CVM - Competing Values Model

DAP - Development Academy of the Philippines

e-procurement - Electronic Procurement

IDP - Individual Development Plan

*IDP - Individual Development Plan*

IDPs - Individual Development Plans  
NGAs - National Government Agencies

NGAs - National Government Agencies

PGFES - Philippine Government Electronic Procurement System  
RA 9184 - Republic Act No. 9184 (Government

RA 9784 - Republic Act  
Procurement Reform Act)

*r* - Pearson Correlation Coefficient



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# Adaptive Financial Controlling in Times of Crisis: Evidence from Eastern European Retail

By Valeria Medvetska

**Abstract-** In the context of unprecedented geopolitical, economic, and supply chain disruptions in Eastern Europe over the past decade, the role of financial controlling in retail has undergone a fundamental transformation. This article offers a comprehensive, practitioner-driven analysis of adaptive financial controlling in the high-volatility environment of the Ukrainian and broader Central and Eastern European (CEE) retail sector. Drawing from my experience as a Key Account Manager in leading multinational and local retail companies- including managing through the collapse of major clients, currency devaluations, and war- I present a novel adaptive controlling cycle specifically tailored for markets exposed to extreme uncertainty.

The research employs a mixed-methods approach, integrating operational data from the Ukrainian home appliance market (2018–2025), benchmarking against Poland and Lithuania, and qualitative insights from industry peers and published reports (GfK, Euromonitor, PwC). Key performance indicators such as Days Sales Outstanding (DSO), inventory turnover, gross margin, SKU optimization, and crisis response speed are analyzed before and after the adoption of adaptive controlling techniques.

**Keywords:** *financial controlling, crisis management, adaptive strategy, retail, scenario planning, ukraine, central and eastern europe, portfolio diversification, business intelligence.*

**GJMBR-C Classification:** JEL Code: M41, G32



ADAPTIVE FINANCIAL CONTROLLING IN TIMES OF CRISIS: EVIDENCE FROM EASTERN EUROPEAN RETAIL

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Findings show that traditional, annual-budget-based controlling is inadequate for modern Eastern European retail realities. By shifting to real-time data integration (using BI dashboards), weekly scenario-based planning, cross-functional crisis teams, and flexible risk mitigation tools (such as portfolio diversification and dynamic payment terms), it is possible to maintain business continuity, reduce losses, and even achieve growth in times of crisis. For example, following the abrupt exit of Eldorado- formerly a dominant retail client- I led my team in executing an intensive portfolio rebalancing, dynamic SKU optimization, and revised credit policy that restored over 65% of lost turnover within one quarter. Similar strategies enabled us to leverage the rapid market expansion of Epicentr K and capitalize on the “store-in-store” retail format, even as supply disruptions persisted.

Comparative analysis with Poland and Lithuania confirms that Ukrainian retail, while less mature in some aspects, often achieves faster operational pivots and higher rates of innovation in crisis management. A SWOT analysis highlights both the strengths and vulnerabilities of this adaptive model, while case evidence demonstrates its applicability for emerging and developed markets alike.

This article aims to bridge the gap between academic theory and real-world management, providing actionable frameworks for retail executives, financial

controllers, and business leaders operating under conditions of volatility and uncertainty.

**Keywords:** financial controlling, crisis management, adaptive strategy, retail, scenario planning, ukraine, central and eastern europe, portfolio diversification, business intelligence.

## I. INTRODUCTION & RESEARCH GAP

The past decade has been marked by profound turbulence and transformation for the retail sector in Eastern Europe. From the aftermath of the 2014–2015 geopolitical crisis and repeated waves of currency devaluation to the COVID-19 pandemic and, most dramatically, the full-scale war in Ukraine beginning in 2022, retail businesses have been forced to reimagine their operational, financial, and strategic foundations. In this environment, the ability to anticipate shocks, adapt rapidly, and manage financial risk has become a defining factor for survival- and, for a select few, for sustainable growth.

My own professional journey as a Key Account Manager for leading brands and retail networks in Ukraine has been shaped by this sequence of shocks. Where once annual budgets, static assortment planning, and relationship-based sales models sufficed, today's reality demands a new level of flexibility, data-driven decision-making, and proactive risk management. The home appliance sector, in which I have worked for over a decade, provides a microcosm of these challenges: dramatic swings in demand, sudden changes in distribution channels, inventory shortages, and the need to constantly reassess client portfolios in light of emerging risks.

### a) Crisis as the New Normal

It is no exaggeration to state that crisis management has become the “new normal” for Eastern European retail. This is not merely a rhetorical flourish, but a daily operational reality. Supply chain blockages, destroyed logistics hubs, sudden regulatory changes, and rapidly shifting consumer behavior- each of these has tested the robustness of traditional financial controlling systems. In my experience, even the most well-crafted annual budget becomes obsolete within weeks when confronted with such volatility.

### b) Limitations of Traditional Controlling

The classic models of financial controlling- rooted in annual budgets, periodic variance analysis,

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and hierarchical decision-making- are increasingly inadequate in this context. Many Ukrainian and CEE retailers, myself included, have learned this lesson the hard way. Rigid budgeting left us unable to respond to sudden shocks. Siloed organizational structures delayed critical decisions. By the time “last quarter’s numbers” were available, the business reality had already changed.

c) *Acceleration of Digital and Scenario-based Approaches*

Against this backdrop, there has been an accelerating shift toward digitalization and scenario-based planning. Business intelligence (BI) dashboards, real-time inventory monitoring, rolling forecasts, and weekly scenario reviews are no longer “nice to have”- they are essential. In my own practice, the adoption of BI tools such as Power BI and Tableau enabled the integration of sales, inventory, receivables, and cash flow data, creating a single source of truth for decision-making. Cross-functional crisis teams replaced siloed planning; scenario-based models replaced static annual plans.

d) *The Ukrainian Retail Market: A Living Laboratory*

Ukraine’s retail market, while less mature than those of Western Europe, has become a living laboratory for adaptive financial management. According to GfK and Euromonitor, the market for home appliances and consumer electronics has experienced dramatic contraction and recovery cycles over the past five years. The exit or bankruptcy of major players (such as Eldorado), the rapid expansion of new formats (like “store-in-store” concepts led by Epicentr K), and the entry of global brands have created a highly competitive, unpredictable environment. In this setting, financial controlling is no longer the exclusive domain of CFOs and accountants: it has become a frontline discipline for commercial and operational leaders alike.

e) *International Perspective and Benchmarking*

While the bulk of academic literature on retail controlling remains focused on stable, Western markets, a growing body of evidence highlights the unique challenges and opportunities of the CEE region. Comparative studies with Poland, Lithuania, and Romania reveal both commonalities (in the need for digitalization and process innovation) and differences (in the pace of adoption and crisis resilience). In my own benchmarking, I found that while Polish retailers lead in BI adoption, Ukrainian companies are often faster to innovate under duress, implementing radical changes that would take years elsewhere.

f) *Research Gap: Bridging Theory and Practice*

Despite this growing complexity, there remains a significant gap between academic theory and real-world practice. Most published research emphasizes process optimization, cost control, and digital

transformation in steady-state conditions. Few studies capture the lived experience of managers forced to improvise, pivot, and reallocate resources on a weekly or even daily basis. Even fewer offer actionable frameworks that integrate both technology and human judgment for crisis management in emerging markets.

g) *Aim and Objectives of the Article*

This article is my attempt to bridge this gap. Drawing on both operational data and personal management experience from 2018–2025, I set out to:

- Develop a practical, adaptive financial controlling cycle tailored for volatile, crisis-prone retail markets in Eastern Europe;
- Benchmark the Ukrainian experience against peer markets in Poland and Lithuania, identifying both best practices and unique pitfalls;
- Provide detailed case evidence -including the collapse and recovery after Eldorado’s exit, the rise of Epicentr K, and lessons from international retail;
- Offer a comprehensive SWOT analysis of the adaptive model, highlighting its strengths, vulnerabilities, and pathways for future improvement;
- Deliver actionable recommendations for retail executives, KAMs, and financial controllers seeking to survive and grow amidst continuing uncertainty.

In sum, this article seeks to advance both scholarly understanding and managerial practice, helping close the gap between theory and the daily realities of financial controlling “on the front lines” in Eastern European retail.

## II. LITERATURE REVIEW

The academic and professional discourse on financial controlling in retail has evolved significantly over the past two decades, with an accelerating focus on digitalization, risk management, and scenario-based planning. Yet, a persistent gap remains between mainstream theory- largely developed in stable, mature markets- and the practical realities faced by retailers in volatile environments such as Ukraine and Central and Eastern Europe (CEE). This review synthesizes both classical and modern literature, highlighting the strengths and limitations of existing frameworks and their relevance to the Eastern European context.

### 1. Classical Foundations of Financial Controlling

The roots of financial controlling lie in postwar managerial accounting, with foundational works by Anthony and Govindarajan (2017), Drury (2022), and Horváth (2021) emphasizing budgeting, variance analysis, cost control, and hierarchical decision-making. These models prioritize stability, predictability, and incremental optimization- principles well-suited for the relatively slow-moving, low-volatility environments of

Western Europe and North America in the late 20th century.

- *Budgeting and Variance Analysis*

Traditional budgeting remains the cornerstone of corporate financial control. According to Drury (2022), the annual budget serves as both a planning tool and a basis for performance evaluation. Variance analysis provides retrospective insights into deviations from planned targets, enabling corrective action (Horváth, 2021).

- *Cost Control and Profitability*

The classical literature emphasizes cost leadership and margin optimization as primary levers for profitability. Standard cost systems, activity-based costing, and contribution margin analysis have been widely adopted in multinational retail organizations (Anthony & Govindarajan, 2017).

While these models have provided structure and discipline to generations of managers, they suffer from inherent rigidity. In fast-changing or crisis environments, the lag between data collection, reporting, and decision-making can prove fatal.

## 2. The Digital Turn: BI, Dashboards, and Real-Time Analytics

The past decade has witnessed a dramatic shift towards digitalization in financial controlling. Consulting firms (Deloitte, 2023; EY, 2023) and academic researchers alike have documented the rapid adoption of business intelligence (BI) platforms, real-time dashboards, rolling forecasts, and cloud-based analytics.

- *BI and Data Integration*

BI tools such as Power BI, Tableau, and Qlik enable the integration of sales, inventory, receivables, and cash flow data into dynamic dashboards. These systems provide “single source of truth” visibility, enabling more rapid and accurate decision-making (Deloitte, 2023).

- *Rolling Forecasts and Scenario Planning*

Traditional annual budgeting has increasingly been replaced by rolling forecasts and scenario-based planning. According to McKinsey (2023), weekly or even daily scenario reviews have become standard in industries exposed to volatility, such as retail and FMCG. EY (2023) emphasizes the use of predictive analytics and Monte Carlo simulations to anticipate shocks and test resilience.

- *AI and Predictive Modelling*

Recent literature highlights the potential of AI and machine learning to improve demand forecasting, automate anomaly detection, and optimize assortment planning (PwC, 2023; GfK, 2024).

Despite these advances, several barriers to full adoption persist- especially in emerging markets. These

include high upfront investment costs, limited digital skills, organizational resistance, and concerns about data security.

## 3. Crisis Management and Financial Controlling in Retail

A distinct but growing branch of literature examines financial controlling under crisis conditions. Boin and 't Hart (2022) analyze the importance of rapid decision cycles, distributed authority, and real-time information sharing during shocks. Williams and Dobson (2023) provide case studies from global retailers responding to the COVID-19 pandemic, emphasizing the need for cross-functional crisis teams and continuous “plan-do-check-act” loops.

For the CEE region, research by Kovalchuk (2022) and the European Retail Academy (2023) documents how supply chain blockages, regulatory changes, and abrupt shifts in consumer demand have forced managers to abandon static planning in favor of adaptive, scenario-driven approaches. However, most of these works are descriptive and lack practical frameworks for implementation.

## 4. The CEE Perspective: Gaps, Barriers, and Innovations

- *Slow Digitalization*

GfK (2023) and Euromonitor (2024) confirm that the pace of BI and analytics adoption in Ukraine and neighboring countries lags behind Western Europe, owing to both financial constraints and a shortage of digital talent.

- *Organizational Resistance*

Kovalchuk (2022) notes that many Ukrainian retailers struggle to break down functional silos. Change management and staff retraining remain major obstacles to agile controlling.

- *Crisis as a Catalyst*

Paradoxically, repeated crises have accelerated innovation in some cases. Retailers such as Epicentrum, Comfy, and Foxtrot have pioneered rapid decision-making models, weekly scenario reviews, and dynamic portfolio rebalancing- often out of necessity rather than strategic choice.

- *Benchmarking Against Poland and Lithuania*

Comparative studies (PwC, 2023; Deloitte, 2023) reveal that Polish retailers are ahead in digital transformation and process automation, but Ukrainian managers are often faster to improvise under pressure.

## 5. Literature Gap and Research Needs

*Despite this Evolving Landscape, Several Gaps Persist:*

- *Overemphasis on Stable Markets*

The majority of published frameworks are ill-suited for “crisis-as-normal” environments. There is a

lack of case-based, practitioner-driven models from Ukraine and the broader CEE region.

- *Insufficient Integration of Human and Digital Factors*

While technology is critical, the literature often underestimates the importance of cross-functional teams, leadership, and hands-on management in successful controlling transformations.

- *Limited Analysis of Portfolio Diversification and Credit Risk*

Much research focuses on cost and process optimization, with less attention to portfolio concentration risk, payment terms, and the impact of client defaults—critical factors in my own experience.

## 6. This Article's Contribution

*This Article Seeks to Address these Gaps by:*

- Presenting a real-world, adaptive controlling cycle grounded in lived management experience during multiple crises in Ukraine;
- Providing comparative KPI analysis across Ukraine, Poland, and Lithuania, with supporting operational data;
- Delivering actionable frameworks and best practices for practitioners facing uncertainty and disruption in retail markets.

## III. MY ADAPTIVE CONTROLLING CYCLE: A PRACTITIONER'S MODEL FOR TURBULENT MARKETS

The full-scale invasion of Ukraine in 2022 became not only a humanitarian tragedy but also a watershed moment for the business community. For me and my colleagues in the retail and home appliance sector, it was the ultimate stress test for financial controlling. All textbook solutions—annual budgets, quarterly variance reviews, and even digital dashboards—proved necessary, but not sufficient, for survival in an environment where reality changed daily. The need for a new, truly adaptive approach was clear.

### a) Origins of the Model: Learning through Crisis

My adaptive controlling cycle did not emerge in a boardroom, but on the “front lines” -during weeks of supply chain paralysis, sudden client defaults, and daily price shocks. The sequence of overlapping crises since 2014 had already forced Ukrainian managers to develop improvisational skills. However, it was the war and resulting business disruptions that compelled us to formalize this experience into a repeatable cycle, blending technology, rapid cross-functional teamwork, and scenario-driven decision-making.

### Step 1: Real-Time Data Integration and Visualization

Before the crisis, data management in most Ukrainian companies—including those I worked with—remained fragmented. Reports were generated in Excel,

with significant delays and frequent errors. In early 2022, my team and I prioritized the integration of all key business data—sales, inventory, receivables, and cash flow—into a unified Power BI dashboard. This transformation provided two critical advantages:

- *Single Source of Truth*

Every stakeholder, from supply chain managers to CFOs, now had access to real-time, consistent data. Discrepancies between departments vanished; trust and speed increased.

- *Early Warning Signals:*

Automated alerts were set for anomalies in inventory turnover, overdue receivables, or sudden drops in sales. This made it possible to act before problems spiraled out of control.

*Lesson Learned:* Digitalization is as much about changing mindsets as installing new software. Our initial challenge was overcoming “Excel culture” and building trust in the new system. Dedicated training sessions and hands-on support were essential.

### Step 2: Weekly Scenario Planning and Stress Testing

Annual plans and even monthly forecasts quickly became obsolete during the crisis. We replaced them with weekly scenario planning meetings, where cross-functional teams would simulate multiple “what if” situations:

- What happens if another major retailer closes?
- What if border delays extend another month?
- How will currency swings affect our margins next week?

Every scenario was documented, and action plans were prepared in advance. For example, when risk signals appeared in Epicentr K's sales performance, we immediately prepared alternative allocation models and promotional strategies.

*Lesson Learned:* Scenario planning is only effective when it becomes a habit. It's not enough to create documents; the entire commercial team must be empowered to act on them.

### Step 3: Cross-Functional Crisis Teams

In the past, financial and commercial planning operated in silos. The crisis destroyed these boundaries. I organized weekly “crisis response teams” composed of representatives from finance, sales, supply chain, and IT. These teams:

- Reviewed KPIs and dashboard alerts together
- Debated action plans, weighing trade-offs between liquidity, sales, and customer service
- Made rapid, delegated decisions—often within hours, not days

For example, during the Eldorado collapse, our team immediately identified surplus stock, negotiated

accelerated promotions with Foxtrot and Comfy, and redirected logistics resources to priority accounts.

*Lesson Learned:* The speed and quality of decisions improved dramatically when information was shared and accountability was distributed.

#### Step 4: Dynamic Policy Adjustment- Payment Terms, Portfolio, and Assortment

Flexibility in policy became our key defensive weapon. In stable times, payment terms and assortment matrices might change quarterly. During crisis, they were revised weekly or even daily. Notable examples include:

- *Payment Terms:*

After Eldorado's default, all remaining major clients were required to provide bank guarantees or shift to prepayment, especially for high-risk or slow-moving categories.

- *Portfolio Diversification:*

We made it a strict rule that no single client could account for more than 35% of total turnover. Regular portfolio analysis became mandatory.

- *SKU Optimization:*

The number of active SKUs was reduced from 85 to 63 in one quarter, focusing on high-margin, fast-moving products.

*Lesson Learned:* The "one size fits all" approach to clients and products is a luxury volatile markets cannot afford.

#### Step 5: Rapid Execution and Continuous Monitoring

Once decisions were made, execution had to be immediate. We moved inventory between ware-

houses, launched short-term promotions, and implemented new payment rules within 24-48 hours. The BI dashboard was reviewed every Monday. If KPIs fell outside tolerance, immediate action was triggered.

*Lesson Learned:* Execution is where most companies fail, not planning. We succeeded by assigning clear responsibility and holding brief, daily check-ins.

#### Step 6: Feedback Loop and Continuous Learning

After each "mini-crisis," the team conducted lessons-learned sessions. We documented what worked, what failed, and how processes could be improved. These insights fed directly into the next cycle of planning.

For example, one key finding was that staff were initially reluctant to challenge established sales practices. After several group training sessions, team members grew more comfortable raising concerns and suggesting alternative scenarios.

*Lesson Learned:* Continuous learning- not just digital tools- is the true foundation of resilience.

#### b) Key Best Practices and Practical Rules

- Always run at least three "what if" scenarios each week.
- Set "hard" portfolio caps to prevent overexposure to any one client.
- Prioritize data integrity and system trust before digital expansion.
- Build cross-functional teams empowered to make real decisions.
- Make execution and follow-up as rigorous as planning.

*Summary Table:* Adaptive Controlling Cycle vs. Traditional Model

Feature	Traditional Controlling	Adaptive Controlling Cycle
Planning Horizon	Annual/Quarterly	Weekly/Daily
Data Integration	Manual, Excel	Real-time, BI Dashboards
Decision-Making	Hierarchical	Cross-functional, distributed
Payment & Portfolio Policy	Static	Dynamic, scenario-driven
SKU/Assortment Review	Infrequent	Ongoing, responsive
Crisis Response Speed	Weeks	Hours/Days
Learning & Feedback	Rare, after crisis	Integrated, continuous

#### c) Lessons Learned: Personal Reflections

Reflecting on the past three years, I am convinced that no digital tool or consulting framework can replace the value of hands-on, adaptive management. Technology is an enabler, not a cure-all. Real resilience comes from people- empowered, informed, and ready to act.

The adaptive controlling cycle I have developed with my teams is not a theoretical construct. It is a living, evolving system- tested in real-world crises and constantly improved. I believe this model is not only

applicable to Ukraine or CEE, but offers lessons for any market facing volatility, disruption, or sudden shocks.

## IV. METHODOLOGY AND COMPARATIVE ANALYSIS

#### a) Research Design and Data Sources

This research is grounded in a mixed-methods approach, integrating quantitative performance data, qualitative managerial experience, and comparative benchmarking with peer markets in Central and Eastern



Europe. My goal was not to create a theoretical abstraction but to develop a practitioner-driven, field-tested controlling model- one that could survive the turbulence of the Ukrainian market while providing universal lessons for other crisis-prone economies.

i. *Key Data Sources Include*

- *Operational Data:* From my work as a Key Account Manager (Whirlpool/Beko Europe, Eldorado, 2018-2025), including weekly BI dashboard reports, payment and inventory analytics, and scenario planning logs.
- *Market Analytics:* From GfK, Euromonitor, and PwC, offering cross-market benchmarks for KPIs such as Days Sales Outstanding (DSO), inventory turnover, gross margin, and share of prepayment shipments.
- *Qualitative Insights:* From semi-structured interviews with commercial, financial, and supply chain managers in Poland and Lithuania (2023- 2024).
- *Published Case Studies:* And best practices, especially in digital transformation and risk management in CEE retail.

*Data triangulation* was applied to validate findings, ensuring that managerial “gut feel” was always

KPI Metric	Ukraine (2023)	Poland (2023)	Lithuania (2023)
BI Platform Adoption (%)	58	71	65
Days Sales Outstanding (DSO)	44	37	39
Inventory Turnover (days)	54	49	46
Gross Margin (%)	20.8	22.1	21.5
Prepayment Shipments (%)	38	22	16
SKU Optimization Rate (%)	26	18	14
Crisis Response Speed (days)	7	10	9
Weekly Scenario Planning	Yes	Sometimes	Sometimes

Source: GfK, PwC, company operational data, 2023–2024

*Interpretation:* Ukrainian retail, forced to adapt by repeated shocks, has achieved exceptional speed and flexibility in crisis response (7 days on average), while aggressively optimizing portfolios (SKU base down by 26% in the sample period). Polish and Lithuanian peers outperform on margin and digital maturity but tend to move more slowly under pressure.

c) *Case Evidence and Real-World Best Practices*

i. *Epicentr K: Market Expansion and Innovation*

In the wake of Eldorado's collapse, Epicentr K rapidly expanded its market share in the home appliance sector. By the beginning of 2025, Epicentr K operated 66 active shopping centers, with 6 Nova Linia hypermarkets, despite the destruction or closure of 9 other locations due to war. The company's aggressive adoption of the “store-in-store” concept- integrating appliance zones into larger retail centers- transformed

checked against operational evidence and external benchmarks.

ii. *Sampling and Periodization*

The core period of analysis covers 2021- 2025, capturing the transition from relative stability through the shock of war, the bankruptcy of dominant retail clients, and the subsequent adaptation of market leaders. Additional reference points from 2014–2020 and Western European comparators are included for context.

iii. *Sampling Strategy*

- Weekly operational snapshots (sales, inventory, receivables, margin)
- Crisis and recovery periods (e.g., Eldorado collapse Q2 2023)
- Comparative data slices (Ukraine, Poland, Lithuania, as available from public and private sources)
- b) *Comparative KPI Table: Ukraine, Poland, Lithuania (2023–2024)*

The table below synthesizes core controlling metrics, illustrating both the unique challenges and surprising strengths of the Ukrainian market.

the consumer experience and created new revenue streams for vendors.

*Impact:* My team's strategy involved immediate reallocation of promotional and stock resources to Epicentr K and other rising players. Within six months, these actions contributed to recapturing more than 65% of turnover lost from the Eldorado shock. GfK data for 2024 confirmed that, while the market had not fully returned to pre-war levels, the share of Epicentr K in key appliance categories increased by over 12%, and the “store-in-store” format was cited as a leading driver of resilience.

ii. *Case: Payment Terms and Portfolio Diversification*

Before 2022, it was common for dominant clients to receive the most favorable payment terms, sometimes 60+ days. This concentration risk became catastrophic when Eldorado defaulted in 2023, closing

over 100 stores and leaving unpaid debts. In response, my team instituted a strict upper limit: no client would exceed 35% of total portfolio. Payment terms were universally tightened, with prepayment or bank guarantees required for all but the most trusted accounts.

*Lesson:* Diversification is not an academic ideal- it is an operational necessity in volatile markets.

*d) Best Practices from Poland: Biedronka's Agile Risk Management*

Poland's Biedronka- Europe's largest discount retailer-provides a leading example of crisis agility. During pandemic and supply chain shocks, Biedronka's management:

*e) SWOT Analysis: Adaptive Controlling Cycle in Eastern European Retail*

Strengths	Weaknesses
Real-time scenario planning and rapid response	High learning curve for staff
BI dashboards for early risk detection	Upfront technology investment
Cross-functional, empowered teams accelerate execution	Potential for "analysis paralysis" with too much data
Portfolio caps and SKU focus reduce vulnerability	Temporary disruption during transitions
Continuous feedback drives innovation	May not suit centralized/cautious organizations
Opportunities	Threats
Wider AI and predictive analytics adoption	Geopolitical instability, war, and supply shocks
Development of private label and niche categories	Currency fluctuations and macroeconomic crises
Regional benchmarking and "shared learning"	Market exits by global players
Expansion of omni-channel and e-commerce	Ongoing staff shortages and digital skills gap

*f) Analytical Summary*

This comparative, mixed-method approach validates the adaptive controlling cycle not as a theoretical construct, but as a working system-grounded in data, lived experience, and industry best practice. The evidence shows that while Ukrainian and CEE retailers face unique threats, they are also at the forefront of innovation in crisis management, offering valuable lessons for global peers.

## V. RESULTS: TRANSFORMATION, KPI IMPACT, AND MANAGERIAL LESSONS

### 1. Transformational Shifts: From Crisis to Adaptive Management

The adoption of the adaptive controlling cycle represented a paradigm shift for both my team and the wider organization. Previously, our financial management was dictated by annual planning, static client portfolios, and a culture that rewarded growth in sales volume above all else. The war, the collapse of major clients, and severe market shocks forced us to reprioritize- placing liquidity, risk management, and resilience at the core of decision-making.

- Automated inventory and sales data flow across 3,000+ stores via real-time BI
- Used predictive analytics to shift stock to high-demand locations within 24 hours
- Built a network of local suppliers to reduce import dependency
- Maintained strict credit policies even under market pressure

This multi-layered, tech-enabled approach minimized out-of-stocks and protected margin, as confirmed by McKinsey (2023) and Polish trade press.

### Key Elements of Transformation Included:

- Data Integration:* Migration to BI dashboards, elimination of fragmented Excel reporting, real-time visibility into every KPI
- Scenario Planning:* Weekly "war room" sessions to simulate potential crises, from logistical blockades to currency devaluation and client bankruptcy
- Portfolio Diversification:* Setting a hard cap of 35% for any single client's portfolio share; mandatory monthly review of channel balance
- Dynamic Payment Terms:* Immediate shift to prepayment or bank guarantees for at-risk clients; no more "automatic" 60-day credit for top buyers
- SKU Optimization:* Streamlining from 85 to 63 active SKUs, with ongoing reviews to prioritize margin and inventory velocity

### Managerial Lesson:

No transformation succeeds without people. Building buy-in, retraining staff, and empowering decision-makers at every level proved as crucial as any technological investment.

### 2. KPI Outcomes: Before and After Adaptive Controlling

To measure the effectiveness of our adaptive cycle, I compared core performance metrics from pre-

crisis (2021) and post-crisis (2023) periods. The following table summarizes the results:

*Table 1: Key Controlling KPIs Before and After Adaptive Approach (Whirlpool/Beko Europe, Ukraine, 2021–2023)*

Metric	Pre-crisis (2021)	Post-crisis (2023)
Receivables DSO (days)	66	44
Inventory turnover (days)	66	54
Gross margin (%)	18.5	20.8
Share of dominant client (%)	55	33
Number of active SKUs	85	63
Share of prepayment shipments	10	38

Source: Author's operational data and management reporting

#### Analysis:

- *Receivables DSO*: Improved by 33% (from 66 to 44 days), freeing up cash and reducing credit risk.
- *Inventory Turnover*: Accelerated, reflecting faster movement of goods and lower storage costs.
- *Gross Margin*: Increased by 2.3 percentage points, despite ongoing price wars and inflation, thanks to disciplined assortment management and focused promotions.
- *Portfolio Concentration Risk*: Was sharply reduced: no client now exceeds 33% of sales.
- *Prepayment Shipments*: Nearly quadrupled, dramatically reducing bad debt exposure.
- *SKU Rationalization*: Delivered further liquidity and efficiency gains.
- 3. *Case Study: Portfolio Diversification and Recovery after Eldorado*

The abrupt exit of Eldorado- once responsible for more than half our turnover- tested the limits of our new model. The initial shock triggered a severe liquidity crunch and surplus inventory, especially in slow-moving categories.

#### Response Actions:

- *Immediate Inventory Audit*: Surplus SKUs were identified, and a rapid reallocation plan was

executed, shifting goods to other retail partners and through online channels.

- *Accelerated Negotiations*: Promotional incentives and favorable payment terms (for reliable partners) were rolled out to Comfy, Foxtrot, and Epicentr K, enabling them to absorb additional volume.
- *Credit Policy Overhaul*: Universal application of bank guarantees and prepayment requirements for all new contracts, regardless of size or history.

#### Outcomes:

Within a single quarter, we restored more than 65% of lost turnover. Epicentr K's willingness to pilot "store-in-store" concepts provided an agile alternative, and the expansion of their network (to 66 active shopping centers by early 2025) helped stabilize channel mix. By the end of 2024, the share of Epicentr K in home appliances grew by over 12%, according to GfK data.

#### 4. SKU Optimization: Margin, Liquidity, and Customer Value

SKU rationalization was not simply about cutting SKUs, but about focusing on those that drove both margin and inventory velocity.

*Table 2: SKU Performance Before and After Optimization*

KPI	Pre-optimization (2021)	Post-optimization (2023)
Number of SKUs	85	63
Average Margin (%)	17.2	19.6
Inventory Days per SKU	61	47
Out-of-Stock Incidents	24/month	10/month

#### Impact:

- Higher margins, fewer slow-movers, reduced inventory holding costs, and improved on-shelf availability.
- Customers noticed faster replenishment, leading to improved NPS (Net Promoter Score) by +7 points in targeted categories.

#### 5. Dynamic Payment Policy: Risk Mitigation in Practice

Before 2022, payment terms were often a negotiation tool to win volume. This approach backfired during liquidity shocks. Our new adaptive policy differentiated terms by risk profile and inventory velocity.

**Results:**

- DSO dropped from 66 to 44 days
- Bad debt write-offs decreased by more than 60% year-on-year
- Reliable partners, such as Epicentr K and Comfy, received modest flexibility in return for larger share-of-wallet commitments and robust financial health.
- 6. *Best Practices: Weekly Cross-Functional “War Rooms”*

One of the most effective innovations was the institution of weekly “war room” sessions, bringing together sales, finance, supply chain, and IT. Each meeting included:

- Review of key BI dashboard KPIs (DSO, stock days, margin, on-shelf availability)

- Rapid scenario simulations (“what if we lose another major account?” “what if imports stall?”)
- Decision and delegation of actions, with next-week accountability

This approach collapsed decision cycles from weeks to days, accelerated response to market shocks, and increased staff engagement.

**7. *Regional Comparison and Lessons from Poland***

Poland's retail sector- particularly Biedronka- offered valuable lessons. While Polish companies benefited from more robust digital infrastructure and process automation, their crisis response was slower due to higher bureaucracy and rigid legacy systems. In contrast, *Ukrainian teams* (mine included) moved faster to diversify portfolios and shift inventory, albeit with fewer digital resources.

*Table 3: Regional KPI Comparison, Ukraine vs. Poland (2023)*

KPI	Ukraine (2023)	Poland (2023)
Crisis Response Speed	7 days	10 days
BI Adoption (%)	58	71
SKU Optimization Rate	26%	18%
Prepayment Shipments (%)	38	22%
Portfolio Cap Policy	Yes	No

**8. *Human Factor and Change Management***

None of these achievements would have been possible without investing in people:

- Retraining staff on BI dashboards and data-driven decision-making
- Shifting the mindset from “sell at all costs” to “protect liquidity and margin”
- Encouraging open dialogue across functions, so warning signs were not missed

***Managerial Reflection:***

I observed that teams which practiced regular cross-training and scenario planning adapted faster to change, made fewer mistakes, and delivered higher KPIs across the board.

**9. *Summary: What Worked, What Didn’t******Success Factors:***

- Real-time, transparent data and early alerts
- Rapid scenario planning and decision-making
- Disciplined, dynamic payment and assortment policies
- Empowerment and cross-functionality

***Challenges:***

- Resistance to change, especially from long-tenured staff
- Temporary sales dips during portfolio rebalancing
- Need for constant training and support

**10. *The “Adaptive Controlling Dashboard”: A Real-Time Management Solution***

A central enabler of our adaptive controlling model is the *Adaptive Controlling Dashboard*- an interactive management panel designed for real-time oversight and decision-making. In crisis conditions, when the business environment can change overnight, it is essential to have all critical metrics and risk signals visible at a glance, allowing managers to respond rapidly and make well-informed choices.

***How does this Dashboard Work in Practice?*****• *Real-Time KPI Widgets:***

The dashboard displays a series of live “widgets” or metric blocks that are continuously updated. Key indicators include:

- *DSO (Days Sales Outstanding):* The average time receivables remain unpaid- a crucial measure of liquidity risk.
- *Margin:* The current gross margin percentage, monitored by product group or overall.
- *SKU Count:* The number of active products in the portfolio, enabling immediate control over assortment complexity.
- *Stock outs:* Real-time alerts on which items are out of stock and at which locations.

- o *Portfolio Shares:* The relative weight of each major client or channel in the company's revenue mix, highlighting concentration risk.

- *Scenario Planner Section*

The dashboard includes a dedicated area for running "what-if" scenarios. For example, a manager can simulate the impact on KPIs if a top client fails to pay, or if currency exchange rates suddenly shift. The scenario planner instantly projects the consequences on cash flow, margin, and stock levels- turning risk analysis into a routine management tool rather than a crisis response.

- *Weekly Trend Charts and Alerts*

Embedded charts show the weekly or monthly evolution of each key indicator. Trends in turnover, overdue receivables, margin, and stockouts are visualized, with color-coded alerts (e.g., red for warning, green for normal) to signal emerging risks or positive developments. This ensures that problems are detected early, before they escalate.

- *Integration with CRM and ERP*

Unlike traditional, siloed reporting tools, the adaptive dashboard is fully integrated with both CRM (customer relationship management) and ERP (enterprise resource planning) systems. This allows automatic, real-time synchronization of sales, logistics, financial, and customer data, creating a unified source of analytics for all departments.

The adaptive dashboard transforms financial controlling from a reactive, retrospective function into a proactive, strategic asset. Instead of waiting days or weeks for manual reports, the commercial, finance, and supply chain teams all work from the same up-to-date information. Problems can be identified and resolved before they become critical, and cross-functional coordination is dramatically improved. The Adaptive Controlling Dashboard is not just a technical solution; it is the operational "nerve center" of crisis management- supporting both daily business and extraordinary situations with actionable, transparent, and timely insights.

*Results show that even in extreme volatility, retail organizations can regain control, protect margin, and build new paths to growth- if they embrace adaptive, data-driven, and people-centered controlling practices.*

## VI. DISCUSSION

The findings of this study highlight both the challenges and successes of adopting adaptive financial controlling in the Ukrainian and wider CEE retail sector during an era of unprecedented disruption. In this section, I will interpret the key results, compare them to the established literature, explore the practical barriers and enablers encountered in real business environ-

ments, and draw out broader lessons for both academia and management.

### 1. Bridging Theory and Practice: Where Literature Meets Reality

As shown in the Literature Review, much of the global research on financial controlling is rooted in assumptions of market stability and incremental change. In contrast, my experience demonstrates that the Eastern European retail environment is characterized by sudden shocks, resource constraints, and continuous improvisation. For example, while Drury (2022) and Horváth (2021) emphasize the virtues of annual budgets and centralized cost control, these tools rapidly lost relevance when client bankruptcies, war, and logistics crises became weekly realities.

Our results reinforce the growing consensus among practitioners (Deloitte, 2023; EY, 2023) that *digitalization and scenario-based planning are no longer optional*, but core competencies. The successful implementation of real-time dashboards and scenario planners mirrored global best practices- yet, the pace and scope of change in Ukraine was often faster, out of necessity rather than choice. This observation is in line with recent CEE-specific studies (Kovalchuk, 2022; GfK, 2024) that underscore the market's agility and the ability to "leapfrog" traditional stages of process maturity.

### 2. Practical Barriers: Organizational, Cultural, and Technical

Despite the successes described in the Results section, several persistent barriers complicated the adaptive controlling journey.

- *Cultural Resistance*

A significant obstacle was the entrenched "Excel culture" and reluctance among long-tenured staff to trust automated dashboards or embrace real-time transparency. Overcoming this required both formal training and informal championing by cross-functional leaders.

- *Skills Gap and Staff Shortages*

Especially during 2022–2023, the war and economic crisis led to high staff turnover. Recruiting and upskilling employees capable of using BI tools was an ongoing challenge.

- *Technology Costs and Integration*

While off-the-shelf BI solutions exist, full integration with legacy CRM and ERP systems demanded investment and, often, painful process reengineering. This was particularly acute for mid-sized and local retailers.

- *Short-Term Disruptions:*

Every major change- be it tightening payment terms, cutting SKUs, or shifting inventory between channels- led to temporary dips in sales or customer

satisfaction. These were unavoidable, but the long-term benefits outweighed the initial friction.

### 3. Comparative Analysis: Ukraine vs. Poland and Lithuania

The cross-country KPI tables show that, despite a relative lag in digital adoption, Ukrainian retailers achieved much faster response times in crisis situations compared to Polish or Lithuanian peers. This agility can be attributed to a "survival mindset" honed by years of instability.

- *Poland*

Benefits from more robust systems and higher BI penetration, but faces greater organizational inertia. Strategic decisions often move slowly due to complex hierarchies.

- *Lithuania*

Occupies a middle ground—faster than the West, but not as bold or improvisational as Ukraine.

Interestingly, certain innovations—such as setting a strict upper cap on client portfolio share, and linking payment terms directly to real-time risk assessment—were more prevalent in Ukraine than in more mature markets. This reflects both the necessity of dealing with client defaults and the willingness to experiment in the face of existential threats.

### 4. The Human Factor: Change Management as Core Competence

No controlling cycle, however sophisticated, can succeed without the commitment of people. The shift from volume- and growth-driven incentives to margin- and liquidity-driven metrics was perhaps the most radical aspect of our transformation. Success depended on:

- Empowering cross-functional teams to make decisions and take ownership of results
- Rewarding data-driven, risk-aware behavior—not just sales figures
- Fostering a culture of open communication and regular scenario planning

A major learning was that regular, structured feedback sessions—where staff could discuss what worked and what did not—were as important as the technical aspects of the dashboard itself.

### 5. Unexpected Outcomes and Lessons

Some of the most valuable lessons emerged not from planned initiatives, but from the unexpected consequences of crisis adaptation:

- *Staff Engagement Increased:* As teams gained confidence in the new tools and processes, overall job satisfaction and retention improved. People felt they were "in control" again, not just reacting to chaos.

- *Customer Relationships Evolved:* Tougher credit policies were accepted by reliable partners, who recognized the industry-wide need for risk management. Short-term pain led to long-term trust and more balanced negotiations.

- *Market Share Opportunities:* While the bankruptcy of a dominant client was a short-term disaster, it created opportunities for competitors (like Epicentr K) to innovate, expand, and capture share—provided they could manage the risks.

### 6. Strategic Implications for Retailers

Based on the results and my practical experience, several strategic recommendations emerge.

- *Invest in Digital Tools, but do not Neglect People:* Technology enables speed and transparency, but only people deliver change.
- *Embrace Scenario Planning as an ongoing Discipline:* Make it a weekly habit, not a crisis-only reaction.
- *Diversify Portfolios and Cap Exposure to Dominant Clients:* Set strict upper limits and review monthly.
- *Link Payment Terms and Assortment Strategies To Real-Time Risk Assessment:* Be prepared to adjust both rapidly, even at the expense of short-term sales.
- *Benchmark Internationally, But Localize Innovations:* Learn from global leaders, but tailor solutions to local market volatility and constraints.

### 7. Opportunities and Threats: Looking Ahead

*Opportunities:*

- Further adoption of AI for predictive analytics, especially in demand planning and risk management.
- Development of omni-channel strategies and e-commerce, which proved more resilient during physical store disruptions.
- Deeper regional collaboration for shared learning and benchmarking.

*Threats:*

- Ongoing geopolitical and macroeconomic instability.
- Talent drain and continued staff shortages in analytics and controlling.
- Dependence on global supply chains and currency fluctuations.

### 8. Contribution to Theory and Practice

This article not only supports, but extends, the existing literature on financial controlling in emerging markets. It provides a concrete, practitioner-driven framework for adaptive management, grounded in the unique challenges of Ukraine and the wider CEE region. The insights and best practices described here can

inform both further academic research and immediate managerial action, especially in times of high uncertainty

## VII. CONCLUSIONS & IMPLICATIONS

This study set out to investigate the evolution and practical impact of adaptive financial controlling in the context of extreme volatility and crisis, using the Ukrainian retail market as both laboratory and proving ground. Through a combination of operational data analysis, comparative benchmarking, and first-hand management experience, I have developed, implemented, and evaluated a practitioner-oriented adaptive controlling cycle. The results offer actionable lessons for retailers, financial managers, and scholars seeking to understand or thrive in turbulent environments.

### 1. Key Findings: The Power of Adaptivity

The research confirms that traditional financial controlling frameworks, rooted in annual budgeting and post-factum variance analysis, are no longer sufficient in environments where disruption is frequent and often severe. The shift to an adaptive model- anchored in real-time data, weekly scenario planning, cross-functional crisis teams, and flexible risk mitigation- enabled my team to:

- Reduce receivables DSO and bad debt risk by over 30%
- Streamline inventory turnover and cut slow-moving SKUs, boosting liquidity and margin
- Restore lost turnover within a single quarter after the exit of a dominant client
- Improve the resilience and engagement of staff in the face of adversity

Crucially, these improvements were achieved not simply through technology, but by transforming management processes and empowering people.

### 2. Managerial Implications: Practical Recommendations

For Practitioners, Several Clear Implications Emerge:

- *Invest In Real-Time Data Integration and BI Dashboards*

Timely, accurate information is the bedrock of rapid, effective decision-making. Managers must champion both the systems and the culture needed to trust and use digital tools.

- *Institutionalize Scenario Planning*

Crisis cannot be treated as an occasional aberration; “what if?” reviews must become a core routine for every commercial and financial team.

- *Diversify Client And Product Portfolios*

Relying on a single dominant customer, or an over-broad range of slow-moving SKUs, creates unacceptable risk. Portfolio analysis and rebalancing must be regular and disciplined.

- *Link Payment and Assortment Policies to Risk Signals*

Move away from blanket terms and toward dynamic, data-driven rules- tightening or loosening conditions based on real-time client performance.

- *Foster a Culture of Empowerment and Cross-Functional Collaboration*

The best results come when information and authority are shared across departments, and when staff are trained to anticipate, not just react to, risks.

### 3. Theoretical Implications and Contributions

The adaptive controlling cycle articulated here extends the literature on crisis management and financial controlling in several ways.

- It demonstrates the practical viability of shifting from static, hierarchical models to flexible, scenario-based approaches, even in organizations with limited resources.
- It provides an original, empirically-grounded dashboard framework, emphasizing not just technology but the integration of people and process.
- It highlights the value of benchmarking and “shared learning” across markets with similar volatility- especially within the CEE region.

### 4. International Perspective

While this study is rooted in the Ukrainian experience, its findings have broader relevance. The cross-country comparison with Poland and Lithuania suggests that adaptive controlling practices can offer competitive advantage even in more mature markets, particularly as global volatility increases. At the same time, local context matters: the willingness to experiment and adapt quickly, seen in Ukraine, may be harder to replicate in more hierarchical or risk-averse environments.

Internationally, retailers and manufacturers are already grappling with the same forces- supply chain disruptions, geopolitical risk, currency swings- that shaped this research. The principles and practices outlined here can thus inform both global players and local champions seeking greater resilience.

### 5. Limitations and Future Research

As with any case-driven, practice-based study, certain limitations apply:

- The findings are most directly relevant to organizations of similar size, market structure, and exposure to crisis risk as those analyzed here.
- While operational data was triangulated and supplemented with industry benchmarks, some conclusions rely on personal management experience.

- Not all innovations could be rigorously controlled or benchmarked due to the fast-moving, high-pressure context.

Future Research should Build on this Foundation by:

- Testing the adaptive controlling cycle in other emerging markets, industries, and crisis scenarios
- Investigating the long-term effects of digital transformation on organizational resilience
- Exploring the interplay between adaptive controlling and other strategic functions, such as supply chain or human resource management
- Final Reflections: Toward Resilient, People-Centered Controlling

Perhaps the most profound lesson of this journey is that resilience is as much a human quality as an organizational one. Technology, process, and data are critical- but without engaged, empowered teams, no dashboard or scenario plan will be enough. In the end, the capacity to adapt, learn, and collaborate at speed is the defining competitive advantage in times of crisis.

The adaptive controlling cycle developed and refined through crisis has enabled my organization- and can enable others- to navigate shocks, seize new opportunities, and emerge stronger from adversity. It is my hope that these findings will serve not only as a practical manual for managers, but as a stimulus for further academic exploration of what it means to manage, control, and thrive under uncertainty.

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# Financial Obligations on Work Stress, Work-Life Balance and Work Commitment of Bank Employees

By Christie D. Ambing & Dr. Kenneth L. Sanido

**Abstract-** The impact of financial obligations within the context of the General Santos City bank employees was studied to determine how it affected work stress, work-life balance, and work commitment. With emerging market dynamics and the evolving employee value proposition, this research filled a relevant gap in the study by exploring the impact of financial obligations on employee well-being and organizational behavior in the banking industry in the locality. Data was collected from a sample of 185 employees from six of the major banks using a quantitative descriptive correlational design. The study found that while financial obligations were low overall, certain debt sources, such as credit card debts and loans, indicated moderate levels. Higher financial obligations had a significant association with increased work stress and decreased work-life balance, but counterintuitively had a positive association with work commitment. These findings highlighted the nuanced effects of financial stressors on overall performance and illustrated the need for organizational interventions directed towards employee well-being and productivity.

**Keywords:** *financial obligations, work stress, work-life balance, work commitment, financial stress, bank employees, general santos city.*

**GJMBR-C Classification:** *JEL Code: J28*



FINANCIAL OBLIGATIONS ON WORK STRESS WORK LIFE BALANCE AND WORK COMMITMENT OF BANK EMPLOYEES

*Strictly as per the compliance and regulations of:*



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Christie D. Ambing <sup>a</sup> & Dr. Kenneth L. Sanido <sup>a</sup>

**Abstract-** The impact of financial obligations within the context of the General Santos City bank employees was studied to determine how it affected work stress, work-life balance, and work commitment. With emerging market dynamics and the evolving employee value proposition, this research filled a relevant gap in the study by exploring the impact of financial obligations on employee well-being and organizational behavior in the banking industry in the locality. Data was collected from a sample of 185 employees from six of the major banks using a quantitative descriptive correlational design. The study found that while financial obligations were low overall, certain debt sources, such as credit card debts and loans, indicated moderate levels. Higher financial obligations had a significant association with increased work stress and decreased work-life balance, but counterintuitively had a positive association with work commitment. These findings highlighted the nuanced effects of financial stressors on overall performance and illustrated the need for organizational interventions directed towards employee well-being and productivity. The study was also particularly useful for policy makers and bank administrators concerned with improving the working conditions of General Santos City.

**Keywords:** financial obligations, work stress, work-life balance, work commitment, financial stress, bank employees, general santos city.

## I. INTRODUCTION

### a) Background of the Study

For employees across diverse sectors, the burden of financial responsibilities has always been associated with stress. In banking, where work was centered on finances and involves myriad uncertainties, the repercussions of financial stress can be particularly acute (Kim et al., 2021).

Due to being one of the most stressful and demanding industries, the banking sector was constantly dealing with the challenges of financial obligations, which affect employee stress, work-life balance (WLB), work commitment, and general organizational effectiveness. Given the high job demands and long hours that bank employees were required to put in, there was little to no flexibility, which made achieving WLB almost impossible, further affecting commitment towards work and towards the organization as a whole (Smith et al., 2019; Tang et al., 2020).

However, underlying all these issues was the fact that the entire global financial ecosystem was

perpetually shifting due to changes in the economy, advancements in technology, and shifts in regulations. These factors not only altered the financial behaviors of people and organizations, but also added to the complexities involved in fulfilling financial obligations in the modern world (Hastings & Lutmar, 2023). The Philippine economy has seen profound changes in the consumer spending patterns and debt levels of the populace in recent years (BSP, 2022). This growth posed challenges for the banking sector. Employees at a Philippines-based bank may be struggling with meeting financial expectations while simultaneously trying to balance their personal finances.

The overwhelming impacts of financial pressures on employee wellness and productivity have been documented. Stress from finances was associated with greater levels of anxiety, depression, and other health issues (Prawitz et al., 2020). Moreover, financial stress created barriers for individuals attempting to manage their work and home, which introduced conflict and dissatisfaction in both domains (Berdahl & Moore, 2018). In the banking industry where professionals were not only dealing with clients' money but also providing financial guidance, the pressure stemming from economic reality of having to achieve set financial goals was likely to amplify these challenges (Sekola et al., 2019).

Furthermore, the interdependence among financial responsibilities, job-related stress, work-life balance, and organizational citizenship behavior has recently attracted some attention. As an example, Zhang et al. (2018) documented that employees burdened with heavy financial responsibilities were likely to develop work-related stress, which was in part linked to maladaptive coping mechanisms like avoidance and rumination. In another example, Liu et al. (2020) studied the impact of financial obligations on the work-life balance of bank employees. Their findings showed that employees with greater financial obligations had a poorer work-life balance, and this impact was worsened in the presence of inadequate support from the organization. There seems to be a gap in literature regarding the relationship of financial obligations with work stress, work-life balance, managerial work-life balance and work commitment, especially in the context of the banking sector in the study area. Local banks, while attempting to tackle work-life integration issues, did face questions concerning the impact of these

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integration initiatives on employee commitment in that sector (Smith et al., 2022).

Given the significance of the banking sector in General Santos City and its impact on the local economy, understanding the role of financial obligations towards work stress, work-life balance, and work commitment was crucial for organizational success. By investigating the impact of financial obligations on work stress, work-life balance, and work commitment, this study sought to contribute to the existing literature and provide practical recommendations for enhancing employee well-being and organizational effectiveness within the banking industry in General Santos City.

## II. REVIEW OF RELATED LITERATURE

### a) Work Stress

Work related stress was a common phenomenon that can greatly impact an individual's mental, physical and occupational health. Stress levels of bank employees and its consequences have been studied particularly regarding this issue (Wang 2019).

Chen et al. (2018) studied factors contributing to work stress for bank employees, noting the workload, job insecurity, interpersonal conflicts, and finances as major markers of concern. These findings highlighted the contributions of both work-related and personal factors to employee stress levels in the banking industry.

In addition, Wang and Zhang (2019) studied the impacts of work stress on the performance of bank employees. Their results indicated a negative impact of increased work stress on performance levels; employees under high stress were less likely to perform optimally.

Also, Li and Liu (2021) assessed the role of work stress on the intention of employees to leave the organization within the banking sector. The results showed that employees under high work stress were more likely to want to leave their positions, therefore identifying a pattern of stress and turnover in banking organizations.

### b) Work-Life Balance

A reasonable work-life balance (WLB) refers not only to the balance between work-related activities and rest, family, leisure, or other personal activities, but also embraced all dimensions of personal development (Greenhaus & Allen, 2019). It has been pointed out by researchers that work-life balance was highly subjective in nature, whereby the individual's satisfaction, fulfillment, or conflict in managing competing demands was the tricky component (Shockley et al, 2018). Moreover, work-life balance was more than just the absence of conflict; it entailed experiences and engagement in work and personal life that were positive and meaningful (Greenhaus & Allen, 2019).

Different factors have been identified towards achieving balance in one's personal and professional

life. These factors included organizational factors like job characteristics, organizational culture, and support policies (Kalliath& Brough, 2019); individual characteristics which embodied personality traits and coping strategies such as work values (Zhou & Wang, 2020); and contextual factors like gender roles, socioeconomic status and cultural norms (Crouter et al, 2019). Changes in technology, along with remote work and flexible schedules, have also altered the trajectory of work-life balance (Raghuram et al, 2021)

Achieving work-life balance was beneficial in many ways to individuals, organizations, and society as a whole. Work-life balance positively influenced the mental health and well-being of an employee, while increasing job satisfaction and lessening turnover intentions (Shockley et al., 2018). Moreover, organizations that promoted work-life balance initiatives reported enhanced organizational performance and increased competitiveness, since employee engagement, productivity, and retention improved (Kalliath & Brough, 2019). In addition, the community suffered less from stress and burnout while enabling greater social and communal participation, thereby improving the quality of life for everyone (Allen et al., 2019).

Even with increasing appreciation towards work-life balance, its achievement and implementation faced numerous challenges. Work-life conflict was still an issue for some demographic groups, such as parents, caregivers, and other marginalized groups (Crouter et al., 2019). Additionally, the merging of personal life with professional life due to work globalization and technology rose issues of work intensification and reduction of leisure time (Raghuram et al., 2021). Emerging complexities of work-life balance required innovative solutions relying on individual, organizational, and societal factors, so more research can be done on their interplay. Longitudinal research was essential for measuring the impact of work-life balance interventions on well-being, career progression, and overall life satisfaction over time.

### c) Work Commitment

Work commitment or organizational commitment captured a very important dimension of the employee's behavior and attitude dichotomy within the organization. It showed the degree of an employee's identification and loyalty with the organization. Researchers have tried to understand over the years different aspects, predecessors, results, and processes of defining work commitment.

Work commitment was generally described having three primary components- affective, continuance and normative commitment (Meyer & Allen, 1991). Affective commitment represented feeling of attachment and identification towards the organization, while continuance commitment reflected perceived costs an employee leaving the organization. Normative

commitment, on the other hand, involved an obligation or responsibility to stay with the organization (Meyer et al., 2002).

A number of more recent works have examined these dimensions deeper and their consequences. For example, in the more recent study by Meyer, Stanley and Herscovitch (2019), they observed that affective commitment was positively correlated with job satisfaction and intention to stay, while showing weakest relation with outcomes was continuity commitment. Moreover, it was also found that normative commitment has a moderating effect on the relationship between affective commitment and turnover intention which showed its significance for understanding employee retention (Freedman and Longhini, 2021).

Understanding the development of organizational commitment for employees remained an ongoing area of research. More recent work has focused on different social and organizational factors such as leadership style, organizational culture, job characteristics, and other social exchange relations as antecedents.

Transformational leadership was considered one of the most beneficial types of leadership because it has been linked to greater organizational commitment (Avolio & Bass, 2018). Transformational leaders stimulated their subordinates' passion and enthusiasm which created trust, loyalty and identification with the organization (Ng et al., 2020). On the other hand, Tepper (2018) described an opposite approach called abusive supervision which fostered adverse impact to organizational commitment because employees felt mistreated and disengaged from work.

Organizational culture can also impact the level of commitment an employee has towards the organization. Supportive organizational culture was often positive, which promotes trust and fairness. Brown et al. (2022) found that such organizational culture strengthened affective commitment and decreased intention to leave the organization. Moreover, Brown et al. (2022) confirmed that organizational culture positively affected retention and decreased absenteeism and turnover rates. Along with positive organizational culture, autonomy, task significance, and feedback have also shown to be positively related to work commitment as they added to level of meaningfulness and satisfaction of work (Hackman & Oldham, 2018).

Work commitment impacted both individual and organizational outcomes. Higher levels of commitment have been found to increase job satisfaction, performance, retention as well as decrease absenteeism and turnover rates (Meyer et al., 2002).

Recent studies have delved further into the impacts of work commitment across different settings. To illustrate, a meta-analysis conducted by Allen et al. (2021) revealed that affective commitment had a greater impact on job performance relative to other types of

commitment such as continuance or normative commitment. In the same manner, a longitudinal study done by Riketta and Dick (2020) showed that work commitment over time forecasted later job satisfaction and intention to leave the organization.

In addition to the outcomes mentioned above, work commitment has been associated with organizational citizenship behavior (OCB). Employees with high levels of work commitment were more likely to perform voluntary, helpful activities that went beyond their job description which aids the organization (Podsakoff et al., 2018). It further demonstrated why increasing employee work commitment contributed to the efficiency and success of the organization.

Work commitment as a construct was accurately measured because it benefited both the research and practical fields. Different tools and scales have been designed to measure various aspects of organizational commitment.

The most frequently used scale is the Organizational Commitment Questionnaire (OCQ) by Porter et al. (1974), which differentiated between and measures affective, continuance, and normative commitment. A growing body of literature suggested that commitment scales do not capture the multifaceted nature of commitment which has prompted the need to create other forms of measurement.

As an example, Meyer et al. (2022) explained how the Comprehensive Organizational Commitment Scale (COCS) worked, which attempted to capture various forms and levels of organizational commitment and integrated them into one single measurement. This scale enhanced understanding of organizational commitment and its components deepens and broadens the evaluation.

Commitment to work still attracted intense interest, and one of the most actively researched phenomena of organizational behavior, including its dimensions, antecedents, consequences, and ways to measure it. Recent literature has greatly contributed in understanding the commitment to work and its consequences for individual and organizational performance. Looking ahead, research in this direction further clarified work commitment and its significance on employee behaviors and organizational performance.

*d) Relationship of Financial Obligations to Work Stress, Work-Life Balance, and Work Commitment Among Bank Employees*

The relationship between financial obligations and such outcomes as work stress, work-life balance, and work commitment has been explored by several researchers studying employee well-being in the banking industry. The relationship has been a primary focus of many specialized studies, exposing the intricate network of financial obligations and these key outcomes to explain how strongly finance-related stress factors



strained employees and shape d their feelings and attitudes. (Smith, 2022).

Zhang and Wang (2018) studied the connection between work stress and financial obligations of bank employees, as well as coping strategies, suggesting that coping strategies could mediate the relation. Their study concluded that individuals experiencing higher financial obligation levels tend to show more overall stress, and this association was partly mediated by avoidance and rumination, which were maladaptive coping strategies.

In addition, the work of Liu et al. (2020) analyzed how financial responsibilities related to the work-life balance of bank employees while focusing on the impact of organizational support. The findings showed that employees with high financial obligations experienced poor work-life balance, and this situation worsened in the presence of lack of organizational support, emphasizing the role of positive organizational environments in alleviating the effects of financial burdens.

Also, a study conducted by Smith and Jones (2022) focused on the relationship between financial obligations and work engagement with bank employees, considering the moderating impact of job satisfaction. The results indicated that employees with high financial obligations had low organizational commitment, and this relationship was explained due to lower satisfaction, which mediated the relationship, illustrating the strong impact of financial burdens on modern workers' attitudes towards their employers.

Taken together, the existing literature captured the complex dynamics of financial obligations and stress, work-life balance, and work commitment in the context of bank employees. With these relationships understood, organizations have the opportunity to create specific policies and relief programs aimed at addressing financial burdens to aid these employees and promote their well-being and engagement with the banking system.

### III. METHODOLOGY

This study was guided by a quantitative approach. A quantitative research approach focused on the collection and analysis of numerical data in order to explore phenomena and relationships, stressing the use of statistical methods to test hypotheses and generalize results to a larger population (Creswell, 2017).

Furthermore, a descriptive correlational method was employed to examine the relationship between dependent and independent variables. This method was suitable for evaluating the relationship of financial obligations to work stress, work-life balance, and work commitment of the respondents.

To gather data, the researcher administered a survey questionnaire adapted from existing studies.

These methods aided in assessing the levels of financial obligations, work stress, work-life balance, and work commitment of bank employees in General Santos City.

#### a) Sampling Method

The respondents of the study were the employees of the banks or banking institutions operating in the City of General Santos as of October 2024.

The study employed a purposive sampling technique in determining the respondents, a non-probability sampling method where respondents were deliberately chosen based on specific characteristics relevant to the research objectives (Palinkas et al., 2015). The researcher established the respondents in this study on the following criteria: (a) must be a bank employee in General Santos City; and (b) must have a loan or debt.

Using quota sampling, a total of one hundred thirty (130) bank employees or 70% of the total population were selected as respondents.

### IV. RESULTS AND DISCUSSIONS

**Table 1:** Demographic Profile of the Bank Employees in General Santos City

Variable	Frequency	Percentage
<b>1.1 Age</b>		
29-39	55	42.31
23-28	40	30.77
40-50	22	16.92
51-61	13	10.00
Total	130	100.00

#### 1.1 Age

The majority of the respondents fell within the age group of 29–39 years (42.31%), followed by 18–28 years (30.77%), and 40–50 years (16.92%). A smaller portion belonged to the 51–61 age group (10.00%).

This suggested that the banking workforce in General Santos City was relatively young, with over 70% of employees under the age of 40. This aligned with the trend observed by Twenge (2010), where younger professionals dominated customer service and administrative roles in financial institutions, often balancing career growth and family formation.

Variable	Frequency	Percentage
<b>1.2 Sex</b>		
Female	80	61.5
Male	50	38.5
Total	130	100

#### 1.2 Sex

The data revealed a female-dominated workforce, with 61.5% female and 38.5% male participants. This gender distribution was consistent with

local and global trends in the banking sector, where women often outnumbered men in front-line roles, although men still dominated executive and managerial positions (World Bank, 2021). The predominance of female respondents may also influence how financial stress and work-life balance were experienced, given traditional gender roles in financial care giving and household management (Del Boca et al., 2020).

Variable	Frequency	Percentage
<b>1.3 Civil Status</b>		
Single	68	52.3
Married	60	46.2
Legally Separated	2	1.5
Total	130	100

### 1.3 Civil Status

In terms of civil status, 52.3% were single, 46.2% were married, and 1.5% were legally separated.

This indicated a balanced distribution of relationship statuses, which may affect financial obligations differently. Single employees may experience stress from supporting extended family or preparing for future security, while married employees might face additional responsibilities related to children or shared financial burdens (Voydanoff, 2005).

Variable	Frequency	Percentage
<b>1.4 Educational Attainment</b>		
Bachelor's degree	74	56.9
Master's degree	36	27.7
Doctorate degree	20	15.4
Total	130	100

### 1.4 Educational Attainment

Asked regarding their highest educational attainment, the respondents answered that most of them were degree holders (56.9%) with master's degree (27.7%) and doctorate degree (15.4%) following.

This suggested that a significant number of bank employees have attained higher education, which may influence their earning capacity, financial obligations, and career commitment (Becker, 1993). The presence of postgraduate degree holders also reflected aspirations for upward mobility in the industry.

Variable	Frequency	Percentage
<b>1.5 Number of Dependents</b>		
0-3	67	51.5
None	45	34.6
4-6	18	13.8
Total	130	100

### 1.5 Number of Dependents

A substantial portion of respondents (51.5%) reported having 0-3 dependents, while 34.6% had no dependents, and 13.8% had 4-6 dependents.

These figures revealed that most employees carried some degree of financial obligation, with a significant minority supporting multiple dependents. The number of dependents was a critical factor when analyzing financial stress and time allocation between work and personal responsibilities (Allen et al., 2000).

Variable	Frequency	Percentage
<b>1.6 Tribe</b>		
Cebuano	59	45.4
Tagalog	19	14.6
Ilocano	18	13.8
Illonggo	17	13.1
Bisaya	8	6.2
Kapampangan	6	4.6
Waray	2	1.5
Tausug	1	0.8
Total	130	100

### 1.6 Tribe

The findings identified a diverse set of ethnic backgrounds. The dominant groups of Cebuano (45.4%) and Tagalog (14.6%) had the highest representation, followed by Ilocano (13.8%), Illonggo (13.1%), and Bisaya (6.2%). Lesser but still considered minority groups such as Kapampangan (4.6%), Waray (1.5%) and Tausug (0.8%) made up the tail. This cultural diversity depicted the overall demographic distribution in General Santos City and posed possibilities on families' financial responsibilities given that different tribes may have diverse paradigms concerning supported extended family members, remittances or funds volunteered for community events (Agadjanian & Menjivar, 2008).

Variable	Frequency	Percentage
<b>1.7 Bank Classification</b>		
Government	75	57.7
Private	55	42.3
Total	130	100

### 1.7 Bank Classification

The results of the survey stratified by the respondents' bank classification showed that 57.7% of the respondents reported working for government banks, while 42.3% were employed in private banks. From this data, it can be interpreted that government banking institutions formed a considerable part of the banking occupational structure in General Santos City. This observation could indicate that a government job was more stable and offered better benefits, which was often considered ample reason to accept employment (Borst, Kruyken, & Lako, 2019).

Variable	Frequency	Percentage
<b>1.8 Position Level</b>		
Entry-level Position (Teller, CS Representative, Junior Loan Officer)	86	66.2
Mid-level Position (Personal Banker, Asst. Branch Manager, Loan Officer)	31	23.8
Top-level Position (Branch Manager, Regional Manager, etc.)	10	7.7
Senior-level Position (Branch Manager, Relationship Manager, Senior Loan Officer)	3	2.3
Total	130	100

### 1.8 Position Level

As for the job title, the bank also reported having a larger proportion of junior employees, which comprised 66.2% of all respondents. This comprised persons earmarked for posts as Bank tellers, Customer Service (CS) Representatives and Junior Loan Officers. Mid-level positions came at 23.8%, while Senior and Top-level positions made up the remaining 10% in total.

This type of distribution suggested that the organization had embraced a pyramid organizational

structure commonly found in most financial institutions (Drucker, 1999). The concentration in lower tiers may influence work dynamics, such as workload distribution, stress exposure, and opportunities for career growth. Entry-level employees may be more vulnerable to financial pressure due to comparatively lower income levels (Lu et al., 2019), potentially impacting their work-life balance and stress levels.

Variable	Frequency	Percentage
<b>1.9 Number of Years Employed</b>		
6 years –10 years	52	40.00
More than 1 year – 5 years	45	34.62
Less than 1 year	19	14.62
11 years –15 years	6	4.62
More than 20 years	5	3.85
16 years – 20 years	3	2.31
Total	130	100.00

### 1.9 Number of Years Employed

A significant portion of the workforce (40%) reported having worked for 6 to 10 years, followed by 34.62% with 1 to 5 years of employment. Only a small fraction (3.85%) had been in the industry for more than 20 years.

This distribution suggested a relatively young and mid-tenure banking workforce in General Santos

City. It aligned with findings by Deery and Jago (2015), who emphasized that mid-career professionals often faced heightened financial obligations (e.g., loans, family expenses), which may influence their stress and commitment levels.

Variable	Frequency	Percentage
<b>1.10 Purpose of Loan</b>		
House	34	26.2
Car	28	21.5
Health	25	19.2
Education	17	13.1
Gadgets	15	11.5
Travel	14	10.8
Loan/Repay	12	9.2
Investment	10	7.7
None	10	7.7
Business	9	6.9
Others	6	4.6
Wedding/Special	4	3.1

### 1.10 Purpose of Loan

When asked about the purpose of loan acquisition, the most cited reasons of the respondents were housing (26.2%), car purchase (21.5%), and health needs (19.2%). Educational purposes (13.1%) and gadgets (11.5%) also emerged as relevant financial commitments.

These results revealed that the majority of bank employees prioritized essential life needs- shelter, mobility, and health- over discretionary spending. Housing loans, in particular, were long-term obligations that can exert financial pressure, potentially affecting an employee's psychological well-being and job performance (Brown, Taylor, & Price, 2005).

*Table 5.11:* Priority in Acquiring a Loan

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation
Health	130	1	10	3.89	3.224
Gadget	130	1	10	6.21	2.638
Car	130	1	10	5.31	2.623
House	130	1	10	4.33	2.777
Education	130	1	10	4.15	2.555
Travel	130	1	10	6.44	2.276
Invest	130	1	10	4.95	2.399
Business	130	1	10	5.85	2.264
Repay	130	1	10	6.09	2.900
Wedding	130	1	10	7.76	2.664
Priority	130	5.20	5.50	5.4969	.02767
Valid N (list wise)	130				

### 5.11 Priority in Acquiring a Loan

The high prioritization of health, housing, and education indicated that employees largely directed financial resources toward essential and security-related needs. Health, in particular, ranked as the most urgent financial concern and top priority. This finding was in line with the observation of Kim and Garman (2004), who noted that health-related financial stress can have a direct and detrimental impact on job satisfaction and productivity.

Similarly, loans for housing and education signified long-term investments in personal and family well-being. These were consistent with Maslow's

hierarchy of needs, which posited that individuals sought to satisfy physiological and safety needs before pursuing higher-level goals (Maslow, 1943). In the context of employment, financial obligations linked to these basic needs may create pressures that influence both work stress and commitment.

On the other hand, wedding-related expenses and travel were among the least prioritized, suggesting that employees considered these as discretionary rather than essential. The low prioritization of such non-urgent expenses may reflect a conservative financial outlook, where resources were reserved for critical and high-return uses (Joo & Grable, 2004).

*Table 2:* Level of Financial Obligations of Bank Employees in General Santos City

Indicator	WM	Description
Borrowings from family, friends, and co-workers.	1.14	Low Debt Level
Borrowings from money lenders.	1.42	Low Debt Level
Loan from GSIS, SSS, or Pag-ibig.	1.53	Moderate Debt Level
Loan from banks and other financial institutions.	1.56	Moderate Debt Level
Loan from the bank cooperative.	1.38	Low Debt Level
Loan from credit card.	1.69	Moderate Debt Level
Loan from pawnshop.	1.15	Low Debt Level
<b>Mean</b>	<b>1.41</b>	<b>Low Debt Level</b>

The overall mean WM of 1.41 fell under the category of Low Debt Level, indicating that, on average, bank employees in General Santos City managed

relatively low financial burdens across multiple borrowing sources. This finding was consistent with financial prudence expected of professionals in the

banking sector, who were presumed to have higher financial literacy and access to structured loan options (Lusardi & Mitchell, 2014).

The highest mean was recorded for credit card debt ( $WM = 1.69$ ), suggesting that while still categorized as a moderate level, revolving credit presented a notable source of financial obligation. This aligned with studies noting that credit card use, even among financially literate individuals, can be a stressor if not managed properly (Norvilitis et al., 2006).

Loans from banks ( $WM = 1.56$ ) and government agencies such as GSIS, SSS, and Pag-ibig ( $WM = 1.53$ ) were also at moderate levels. These were common, structured, and often long-term financial commitments, indicating a degree of planned borrowing, often for housing or education purposes, as discussed in previous sections of this study.

Borrowings from informal sources like family, friends, and pawnshops yielded the lowest means,

indicating that employees were less reliant on these sources, possibly due to the professional stigma or higher personal consequences associated with informal debt (Adams & Webley, 2001).

The relatively low overall debt level may contribute to lower financial stress among employees, potentially enhancing their work-life balance and commitment to their organizations. According to Kim and Garman (2003), manageable levels of debt were associated with reduced absenteeism and improved work outcomes, while high debt correlated with stress-related disengagement.

However, the moderate debt level in formal institutional sources (e.g., banks and credit cards) suggested that certain segments of the workforce may still be vulnerable to financial pressure.

**Table 3:** Level of Work Stress among Bank Employees in General Santos City

Indicator	WM	Description
I have felt fidgety or nervous as a result of my job.	2.82	Neutral
Working here makes it hard to spend enough time with my family.	3.14	Neutral
My job gets to me more than it should.	3.05	Neutral
I spend so much time at work, I can't see the forest for the trees.	3.12	Neutral
There are lots of times when my job drives me right up the wall.	2.97	Neutral
Working here leaves little time for other activities.	3.29	Neutral
Sometimes when I think about my job I get a tight feeling in my chest.	2.87	Neutral
I frequently get the feeling I am married to the company.	2.93	Neutral
I have too much work and too little time to do it.	3.08	Neutral
I feel guilty when I take time off from job.	2.78	Neutral
I sometimes dread the telephone ringing at home because the call might be job-related.	2.82	Neutral
I feel like I never have a day off.	2.88	Neutral
Too many people at my level in the company get burned out by job demands.	3.08	Neutral
<b>Mean</b>	<b>2.99</b>	<b>Neutral</b>

The results presented in the table indicated that the overall mean weighted mean (WM) for work stress indicators among the respondents was 2.99, or "Neutral". This suggested that, on average, bank employees neither strongly agreed nor strongly disagreed with the statements related to work-related stress.

Among the specific indicators, the highest mean was recorded for the item "Working here leaves little time for other activities" ( $WM = 3.29$ ), followed by "Working here makes it hard to spend enough time with my family" ( $WM = 3.14$ ), and "I spend so much time at work, I can't see the forest for the trees" ( $WM = 3.12$ ).

These indicators suggested that the demands of the job significantly interfered with personal time and social obligations, highlighting the strain on work-life balance, a key stressor supported by existing literature.

Similarly, indicators such as "I have too much work and too little time to do it" ( $WM = 3.08$ ) and "Too many people at my level in the company get burned out by job demands" ( $WM = 3.08$ ) further reinforced the notion that role overload and occupational burnout were prevalent concerns.

Conversely, the lowest mean score was observed in the item "I feel guilty when I take time off from job" ( $WM = 2.78$ ). While still within the "Neutral"

range, it suggested a relatively lower level of internalized guilt or pressure regarding taking breaks from work. This may reflect either a cultural norm where time off was accepted or a coping mechanism among employees to maintain psychological balance amidst high job demands.

Overall, the findings presented a moderate but concerning level of work stress, where employees showed signs of emotional and temporal strain, but may not yet perceive it as severe or unmanageable.

*Table 4:* Level of Work-Life Balance of the Bank Employees

Indicator	WM	Description
<b>4.1 Nature of Work</b>		
This job is matching with my skill set.	3.60	Agree
This job requires a lot of planning and skill.	3.62	Agree
The job needs interpersonal skills to achieve the targets.	3.76	Agree
The job does not give me the freedom to take my own decision to suggest apt investment plans.	3.01	Neutral
I am happy with the nature of work assigned by the organization.	3.56	Agree
This organization helps me to grow professionally.	3.88	Agree
I believe that my job has societal benefits.	3.87	Agree
<b>Mean</b>	<b>3.61</b>	<b>Agree</b>

#### 4.1 Nature of Work

The data in the table indicated that bank employees generally experienced a positive alignment between their job roles and their personal and professional expectations, as evidenced by a mean score of 3.61 ("Agree"). Indicators such as "This organization helps me to grow professionally" (WM =

3.88) and "I believe that my job has societal benefits" (WM = 3.87) suggested that the nature of work contributed positively to their sense of purpose and satisfaction. This aligned with Hackman and Oldham's (1976) Job Characteristics Model, which posited that meaningful work contributed to higher job satisfaction and better work-life balance.

Indicator	WM	Description
<b>8.2 Work Flexibility</b>		
Strict login rules are followed in the workplace.	3.85	Agree
My superior is not empathetic to understand whenever I need time off.	2.75	Neutral
I can share my work with my colleagues in case of emergency.	3.50	Agree
The job provides me the option of work from home.	2.42	Disagree
Job rotation practice is not encouraged.	2.37	Disagree
<b>Mean</b>	<b>2.98</b>	<b>Neutral</b>

#### 4.2 Work Flexibility

The mean score for work flexibility was 2.98, falling under the "Neutral" category. While employees agreed with the enforcement of strict login rules (WM = 3.85) and expressed a willingness to share work in emergencies (WM = 3.50), they disagreed with the availability of remote work options (WM = 2.42) and job

rotation practices (WM = 2.37). The data indicated limited flexibility, which could hinder efforts to achieve work-life balance. Research by Allen et al. (2013) emphasized that flexibility in work arrangements was critical for balancing professional and personal responsibilities, especially in high-demand sectors like banking.

Indicator	WM	Description
<b>4.3 Compensation</b>		
I get remuneration as per the Industrial standards.	3.30	Neutral
I get compensated for my extra efforts in the organization.	3.21	Neutral
The organization provides medical benefits to me and my dependents.	3.08	Neutral
The organization does not take care of employee welfare schemes.	2.54	Neutral
I work in such a place that is supportive of my family commitments.	3.36	Neutral
<b>Mean</b>	<b>3.10</b>	<b>Neutral</b>

#### 4.3 Compensation

With a mean of 3.10, the compensation dimension also fell within the "Neutral" range. While respondents expressed moderate satisfaction with the organization's support for family commitments (WM = 3.36), concerns were evident regarding employee welfare schemes (WM = 2.54) and recognition for extra

efforts (WM = 3.21). The neutral rating implied that while basic compensation was adequate, it may not be sufficient to alleviate financial stress or enhance work-life quality, particularly relevant in the context of financial obligations that may push employees to endure work-related strain.

Indicator	WM	Description
<b>4.4 Organizational Support</b>		
My casual leave is not easily sanctioned by my manager.	2.85	Neutral
Medical leave is allowed when it is needed.	4.05	Agree
Organization provides paid paternity/maternity leave.	3.95	Agree
This organization does not encourage the employees to be physically fit.	2.51	Neutral
The organization offers personal counselling for enhancing mental health.	3.05	Neutral
On-site child care facility is not provided.	3.22	Neutral
<b>Mean</b>	<b>3.27</b>	<b>Neutral</b>

#### 4.4 Organizational Support

The overall mean for organizational support was 3.27, still within the "Neutral" range, although two indicators were rated as "Agree": availability of medical leave (WM = 4.05) and provision of paternity/maternity leave (WM = 3.95). This suggested a moderate level of institutional support, especially in formal policy areas.

However, indicators like denial of casual leave (WM = 2.85) and lack of physical wellness programs (WM = 2.51) highlighted gaps in day-to-day support. Eisenberger et al. (2002) argued that perceived organizational support was pivotal in reducing job stress and improving employee commitment, underscoring the mixed outcomes seen here.

Indicator	WM	Description
<b>4.5 Personal Life</b>		
I can have at least 8 hours of sleep.	3.18	Neutral
I always manage to have food on time.	3.22	Neutral
I can't spend quality time with my loved ones.	3.13	Neutral
I am able to make myself free to attend the social gatherings.	3.24	Neutral
My personal life is not moving according to my expectations.	3.05	Neutral
<b>Mean</b>	<b>3.16</b>	<b>Neutral</b>
<b>Over-all Mean</b>	<b>3.22</b>	<b>Neutral</b>

#### 4.5 Personal Life

The personal life component received a mean rating of 3.16, which also indicated a "Neutral" perception. While employees managed basic needs like sleep (WM = 3.18) and timely meals (WM = 3.22), the responses reflected limited time for social and familial engagement- e.g., "I can't spend quality time with my

loved ones" (WM = 3.13) and "My personal life is not moving according to my expectations" (WM = 3.05). This supported the idea that personal domains were compromised under the weight of occupational demands, particularly in service-oriented sectors where customer interaction and performance metrics were constant (Voydanoff, 2005).

*Table 5:* Level of Work Commitment of the Bank Employees

Indicator	WM	Description
<b>5.1 Affective Commitment</b>		
I am extremely glad that I chose this company to work for over others I was considering at the time I joined.	3.76	Agree
I talk up this company to my friends as a great company to work for.	3.63	Agree
I am proud to tell others that I am part of this company.	3.86	Agree
<b>Mean</b>	<b>3.75</b>	<b>Agree</b>

### 5.1 Affective Commitment

The mean score for affective commitment was 3.75, interpreted as "Agree", which reflected a generally positive emotional attachment of employees to their organization. High scores on indicators such as "I am proud to tell others that I am part of this company" (WM = 3.86) and "I am extremely glad that I chose this

company to work for over others" (WM = 3.76) suggested that employees identified strongly with the bank they work for. This type of commitment was associated with job satisfaction and a sense of belonging, which, according to Meyer and Allen (1991), was a significant predictor of employee retention and engagement.

Indicator	WM	Description
<b>5.2 Active Commitment</b>		
I work for the company because it provides me with many on-the-job training opportunities.	3.72	Agree
I work for the company because it is a good chance to realize my goals.	3.57	Agree
I work for the company because I can make full use of what I have learned here.	3.59	Agree
I work for the company because of the challenging job.	3.42	Neutral
I work for the company because there are many opportunities for promotion.	3.49	Neutral
<b>Mean</b>	<b>3.56</b>	<b>Agree</b>

### 5.2 Active Commitment

The active commitment component received a mean score of 3.56 ("Agree"), indicating that employees were engaged and motivated by the developmental opportunities provided by the organization. Respondents agreed with statements like "I work for the company because it provides me with many on-the-job training opportunities" (WM = 3.72) and "I work for the company because I can make full use of what I have learned here" (WM = 3.59). These findings reflected that employees perceived the organization as a platform for

personal growth and goal achievement, which was essential for sustained organizational performance (Becker, 1960).

However, two items under this component- opportunities for promotion (WM = 3.49) and the challenge of the job (WM = 3.42)- received "Neutral" responses, indicating moderate uncertainty or dissatisfaction in these areas. This suggested that while training and current job roles were appreciated, long-term career advancement might be perceived as limited.

Indicator	WM	Description
<b>5.3 Normative Commitment</b>		
I consider it my obligation to work for the same company all the while.	3.42	Neutral
I would like lifetime employment if possible.	3.20	Neutral
I would do any job as long as I work here.	3.23	Neutral
<b>Mean</b>	<b>3.28</b>	<b>Neutral</b>

### 5.3 Normative Commitment

Normative commitment, or the sense of obligation to remain with the organization, received a mean score of 3.28, interpreted as "Neutral". Employees were less inclined to strongly agree with statements like "I consider it my obligation to work for the same company all the while" (WM = 3.42) and "I would like lifetime employment if possible" (WM = 3.20). This

indicated a weaker sense of moral obligation to stay with the organization, which may reflect broader societal trends where lifetime employment was no longer seen as a primary goal (Jaros, 1997). This neutrality suggested that employee loyalty may be contingent on tangible benefits rather than a deeply internalized commitment.

Indicator	WM	Description
<b>5.4 Value Commitment</b>		
When my colleagues learn something new, they tell me about it.	3.45	Neutral
My colleagues share information they have with me.	3.63	Agree
My colleagues think it is important that I know what they are doing.	3.44	Neutral
My colleagues regularly tell me what they are doing.	3.32	Neutral
<b>Mean</b>	<b>3.46</b>	<b>Neutral</b>
<b>Over-all Mean</b>	<b>3.51</b>	<b>Agree</b>

#### 5.4 Value Commitment

Value commitment, which referred to the degree of alignment with and support from coworkers in achieving organizational goals, scored a mean of 3.46—also interpreted as “Neutral.” Although employees agreed that “My colleagues share information they have with me” (WM = 3.63), other items, such as “My colleagues regularly tell me what they are doing” (WM =

3.32) and “My colleagues think it is important that I know what they are doing” (WM = 3.44), received slightly lower ratings. This suggested a moderate level of collaboration and information sharing among colleagues. A lack of strong value commitment could hinder team cohesion and efficiency, which were crucial in banking operations (O'Reilly & Chatman, 1986).

*Table 6:* Relationship Between Obligations and Work Stress

Variables	Pearson r	Sig. (2-tailed)	Interpretation
Financial Obligations and Work Stress	0.623	0.000	Significant (Strong)

As presented in Table 10, the analysis yielded a Pearson correlation coefficient (r) of 0.623 with a p-value of 0.000. This result indicated a strong positive relationship between financial obligations and work stress, which was statistically significant at the 0.01 level (2-tailed). Employees who carried heavier financial burdens, such as loan repayments, household expenses, and education costs, were more likely to experience higher levels of psychological strain at work. This result aligned with the theoretical framework of Kahn and Byosiere (1992), who identified financial

concerns as potent stressors in occupational settings. Financial stressors can deplete an individual's coping resources, making managing daily work demands and challenges more difficult

Furthermore, the strong correlation suggested that financial wellness was a critical factor in managing employee stress levels. When employees were burdened by debt or financial instability, their cognitive focus may shift from work responsibilities to personal financial concerns, ultimately affecting productivity, motivation, and performance.

*Table 7:* Relationship Between Financial Obligations and Work-Life Balance

Variables	Pearson r	Sig. (2-tailed)	Interpretation
Financial Obligations and Work-Life Balance	-0.587	0.000	Significant (Strong Negative)

A strong negative correlation ( $r = -0.587$ ,  $p < 0.01$ ) existed between financial obligations and work-life balance, which meant that there was a significant relationship, but it was an inverse (negative) relationship. This implied that as financial obligations increased, the ability of employees to maintain a healthy work-life balance decreased.

This finding was consistent with the work of Greenhaus and Allen (2011), who emphasized the concept of resource drain—the idea that stressors from

one life domain (e.g., financial issues) can deplete the emotional and cognitive resources needed to manage another domain (e.g., family or social life).

Furthermore, the data suggested that employees with high financial obligations may face emotional conflicts when choosing between job demands and family expectations. This could lead to feelings of guilt, dissatisfaction, or burnout, which further erode the work-life balance and contribute to diminished overall well-being.

*Table 8:* Relationship Between Obligations and Work Commitment

Variables	Pearson r	Sig. (2-tailed)	Interpretation
Financial Obligations and Work-Life Balance	0.472	0.000	Significant (Moderate)

A moderate positive correlation ( $r = 0.472$ ,  $p = 0.000$ ) was found between financial obligations and work commitment.

The moderate positive correlation indicated that employees with higher financial obligations were more likely to exhibit stronger work commitment. This may be because financial pressure served as a motivator for

employees to remain dedicated to their jobs, driven by the necessity to maintain a steady source of income.

This phenomenon supported Becker's (1960) side-bet theory, which proposed that individuals became more committed to an organization when they perceived they had invested substantially, whether through time, resources, or personal stakes such as

financial obligations. The fear of losing the benefits of stable employment, such as salary and benefits, can increase job attachment even if intrinsic satisfaction was not high.

In essence, the findings suggested that financial pressure can foster a pragmatic form of work commitment, whereby employees prioritized job security as a means of financial stability. This highlighted the need for organizations to recognize not only the financial needs of their employees but also to cultivate intrinsic motivators that promote deeper, more enduring forms of commitment.

## V. CONCLUSIONS

In light of the findings of this study, the following conclusions were:

1. Financial obligations have a significant, moderate positive relationship with work commitment. Workers who faced greater financial responsibilities tended to demonstrate increased commitment or attachment towards a job, which seemed driven by the necessity to attain a stable income. This form of commitment, likely out of necessity, rejected the null hypothesis that there was no significant relationship between financial obligations and work commitment among bank employees.

## VI. RECOMMENDATIONS

Based on the conclusions of the study, the following were the recommendations:

1. For banking and financial institutions, it was suggested that the human resources departments may take greater concern for their employees' financial welfare by integrating counseling, debt relief classes, and investment strategy seminars into targeted financial wellness programs.
2. For bank employees, the study suggested that they may pursue personal financial literacy and wellness programs to comprehend their financial obligations better.
3. For other employees in similarly arranged or high-pressure sectors, it was recommended that they make use of lessons learned in this study and take initiative in managing financial stressors through personal budgeting, workplace communication, and participation in wellness programs. Employees in other industries were encouraged to conduct similar
4. For future researchers, it was suggested that subsequent research be conducted on the connection between the financial responsibilities and the psychological aspects of an individual's life by diving deeper into other moderating factors like coping strategies, emotional understanding, or support systems within the organization.





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# The Saving and Investing Behaviours of Members of Large Credit Cooperatives in General Santos City: Their Risk Attitude, the Cooperative's Investment Schemes, and Corporate Earnings

By Princess Justine M. Dugasan & Marissa G. Dela Cruz

**Abstract-** This study examined the saving and investing behaviors of members of large credit cooperatives in General Santos City, focusing on the influence of members' risk attitudes, cooperative investment schemes, and expected corporate earnings. The findings revealed that the majority of members possessed high educational attainment, stable full-time employment, and fell within the middle-income bracket-factors that contributed to financially prudent and consistent saving and investing habits. Members displayed a generally conservative approach to risk, favored low - to moderate-risk financial products, and demonstrated increased financial activity when cooperative earnings were perceived to be strong.

Trust in the cooperative, particularly in its investment schemes and financial stability, emerged as a critical factor influencing both saving and investing decisions. Automatic savings mechanisms, incentives, and transparent financial reporting further reinforced positive financial behavior.

**Keywords:** *risk attitude, investment schemes, corporate earnings, saving behavior, credit cooperatives.*

**GJMBR-C Classification:** *JEL Code: D14, G11*



*Strictly as per the compliance and regulations of:*



# The Saving and Investing Behaviours of Members of Large Credit Cooperatives in General Santos City: Their Risk Attitude, the Cooperative's Investment Schemes, and Corporate Earnings

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**Abstract-** This study examined the saving and investing behaviors of members of large credit cooperatives in General Santos City, focusing on the influence of members' risk attitudes, cooperative investment schemes, and expected corporate earnings. The findings revealed that the majority of members possessed high educational attainment, stable full-time employment, and fell within the middle-income bracket-factors that contributed to financially prudent and consistent saving and investing habits. Members displayed a generally conservative approach to risk, favored low - to moderate-risk financial products, and demonstrated increased financial activity when cooperative earnings were perceived to be strong.

Trust in the cooperative, particularly in its investment schemes and financial stability, emerged as a critical factor influencing both saving and investing decisions. Automatic savings mechanisms, incentives, and transparent financial reporting further reinforced positive financial behavior. Statistically significant relationships were found between members' financial behaviors and their risk attitudes, the cooperative's investment offerings, and expectations of corporate earnings. Additionally, socioeconomic factors—especially education and employment—played a vital role in shaping financial decision-making. The findings underscored the importance of trust, financial literacy, and well-structured investment options in fostering proactive and sustained financial engagement among cooperative members.

**Keywords:** risk attitude, investment schemes, corporate earnings, saving behavior, credit cooperatives.

## I. INTRODUCTION

Saving and investment behaviors are influenced by traditional practices, economic conditions, and limited access to formal financial services. While the country has seen some economic growth, financial inclusion and investment awareness still vary, especially between urban and rural areas. A big number of Filipinos still keep their savings at home because of mistrust in banks or simply no access to formal institutions, with about 57% of Filipinos unbanked, according to a 2019 Bangko Sentral ng Pilipinas (BSP) study.

In rural areas, informal savings groups like *paluwagan* are quite common, where members pool

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money and take turns getting the lump sum. While informal ways still dominate, there's a growing trend of people using bank savings accounts, especially in cities, helped by the rise of digital banking. However, interest rates on these savings accounts are very low, and many people see them as safe but not really profitable places to save money.

For higher-income people or those who are more financially literate, time deposits offer better returns. Real estate is also a popular investment, seen as a stable long-term wealth builder. Many Filipinos also invest in real estate for its increasing value and potential rental income.

The stock market and mutual funds are less common, but they are getting more popular among the financially educated, especially through online trading platforms. Insurance products, particularly life insurance with investment parts, are popular because they provide both protection and growth. Gold, as a traditional store of value, is still widely used, especially among older gens, as a hedge against inflation and economic instability.

A study by Asia Foundation and BSP (2021) noted that many Filipinos place a high value on family and community. This cultural trait strongly affects saving behavior, with people often prioritizing family obligations (like supporting parents, children's education, or religious duties) over their own personal financial goals. The same study also found that financial decisions are often communal, with family members making joint choices about how to save and invest.

While traditional saving methods remain common, there's growing interest in formal saving channels like bank accounts, mutual funds, and cooperatives. Cooperatives play a big role in promoting financial inclusion, especially in underserved rural areas, by providing accessible, community-driven savings platforms, affordable loans, and financial education.

Still, despite investment schemes offered by cooperatives, there's a gap in understanding what really influences members to participate in these schemes - especially about their attitudes towards risk and their socioeconomic background.



Generally, as noted in several articles, figuring out why individuals decide to save money isn't an easy thing. It's caused by many situational factors that each person faces (Nyhus, 2018). Talking about motives, one of the key economic theories that explain saving is the behavioral life-cycle hypothesis (BLCT) by Modigliani and Brumberg (1954). According to this theory, people save a part of their income to pay for future consumption, especially when they're no longer working. In this idea, the main motivation to save is wanting to collect money for retirement. So, the theory assumes people have three income accounts: current income, current assets, and future assets (Tsukahara, 2013).

In this light, looking into saving and investing behaviors of cooperative members in relation to their attitudes toward risk, socioeconomic status, and use of investment schemes gives useful insights into how decisions are made financially within cooperative groups. Through empirical studies and case examples, we can better understand how these factors affect members' financial health and the sustainability of cooperatives. These insights are important for coop leaders, policymakers, and researchers trying to promote financial resilience and inclusivity within these systems.

This study mainly dives into the link between cooperative members' risk attitudes, socioeconomic profiles, and investment schemes within coop settings, and how these relate to their saving and investing behaviors. It explores how members' risk preferences and socioeconomic status shape their financial decisions and how the cooperative can use investment schemes to serve different risk levels and financial goals.

The goal of this research is to provide a better understanding of the connection between saving and investing behaviors of coop members, considering their risk attitudes, the coop's investment schemes, and corporate earnings.

## II. REVIEW OF RELATED LITERATURE

The saving and investing behaviors of members within cooperatives are essential for the financial health and sustainability of the organization. This review aims to explore the existing literature concerning the saving and investing behaviors of members of Large Credit Cooperatives in General Santos City, focusing on their socioeconomic status, risk attitude, cooperative's investment schemes, and the expected corporate earnings. By synthesizing relevant studies and theoretical frameworks, this review seeks to provide insights into cooperative financial management strategies and member engagement initiatives.

### a) Cooperative Principles

Cooperative principles guide the financial behavior of members within cooperatives. Birchall (2018) discusses the fundamental principles of cooperatives, such as democratic control and member ownership, which influence members' saving and investing decisions. Understanding these principles helps in analyzing the financial behavior of members of Large Credit Cooperatives in General Santos City and designing policies aligned with cooperative values.

### b) Saving and Investing Behavior

The term 'Saving' has been conceptualized to mean the commitment of sacrificing current consumption to allow for accumulation of capital that will yield additional return in the future (Gersovitz, 1988). In general terms savings is a preventive measure taken to reserve present financial resources in order to meet future financial commitments resulting from unpredictable and uncertain income inflows. Thus, savings remain a vital tool for achieving long-term life goals and act as a safe haven for people, particularly in circumstances where income is irregular.

Saving and investing behaviors are crucial aspects of financial management. These behaviors are considered a noble practice that needs to be nurtured in every individual. One of the most reliable indicators of individual achievement and economic progress is savings (Chowa & Ansong, 2010). Several empirical studies have been conducted globally on these behaviors. Scholars have acknowledged multiple factors that impact individuals' choices regarding saving and investing. Studies show that among these factors are financial literacy, risk and return perception or risk tolerance, peer influence, personal income and financial situation of savers (Riana, D. 2022) (K. S. Hebbel and L. Serven, 2000). Other sociodemographic factors, including education, liquidity, and gender also significantly affect saving behavior. However, age does not significantly affect saving behavior, according to the sample of the study (Pasaribu, Madeta, Farsa and Margaretha, 2022).

Furthermore, according to the results of the study conducted by (Jagongo and Mutswenje, 2014), the most important factors that influence individual investment decisions were: reputation of the firm, firm's status in industry, expected corporate earnings, profit and condition of statement, past performance, firm's stock price per share, feeling on the economy and expected dividend by investors.

Previous literature has recognized numerous significant influencers for individual savings behavior. Among others are self-dominance, parental socialization, peer influence and financial literacy (Alwi et al., 2015), sociodemographic factors including education, income, and gender (Pasaribu et al., 2022), family background, attitude, financial literacy, and locality

(Kassim et al., 2019), financial self-efficacy, financial management practice, and financial knowledge (Ismail et al., 2020), and financial self-efficacy and attitude toward saving (Saber, 2022).

An important theory about saving is life-cycle saving hypothesis developed by (F. Modigliani and R. E. Brumberg, 1954), (M. Friedman, 1957). The theory indicates that people will work to accumulate their wealth until retire and will not accumulate more wealth after retirement age. Reference (A. F. Shorrocks, 1957) extended the model to include income, age, risk and return as saving decision factors. In order to gain a greater understanding of the individual motivations, institutional mechanisms, and structural determinants that guide savings decisions among low-income households, another research study was conducted by Kea and Kim 2012 in which they concluded that Individual factors such as obligation to family, upbringing and employment experiences also affect participants' attitudes toward savings.

In addition to that, there are some studies further exploring the factors influencing the behavior of investors towards risk and return to their saving and investing decision. According to Elankumaran and Ananth (2013), four major factors have greater influence on the behavior of investors, viz., low risk, informational asymmetry, high return and objective knowledge. They found that return from saving asset and income level of savers are main factors for saving form determinant, and savers tend to save more into higher return asset. Financial literacy also plays as a major determinant of saving and investing behavior. This statement is in line with the research by Baihaqqy et al. (2020) that in most communities, financial literacy helps make investment decisions. The same result was shown by Viantara et al. (2019) that financial literacy significantly affects investment decisions and can be used to support investment activities and it acts as an intervening variable that strengthens investment decision-making.

The significance of savings and investment to each individual is conventional and well established in the literature. Research has demonstrated that a sound savings and investing culture has a favorable correlation with each household's financial well-being and has a significant impact on each household's financial stability and independence. (Mandell, & Klein, 2009; Oquaye, Owusu & Bokpin, 2020; Prawitz, Garman, Sorhaindo, Neill, & Kim, 2006, Loibl, Kraybill, & DeMay, 2011). As gathered by Loibl et al. (2011), consistent saving efforts can lead to the household's financial stability and independence. Indeed, it has been discovered that saving and investing are essential to a community's economic development and prosperity, even at the level of the individual household.

Saving and investing in numerous kinds of assets is a challenging activity that attracts people from all walks of life. It is the employment of funds with the

aim of earning income or capital appreciation (Pandian 2001). The motivation of an investor to invest is complex and depends upon a number of factors. Researchers across different countries have analysed the behaviour of investors and have attempted to enhance our understanding of why people manage investments in different ways. It is believed that decisions of an investor were based on modern portfolio theory and the efficient market hypothesis. However, researchers have proved that most of the investors do not pick their stocks and portfolio based on the three criteria of modern portfolio theory – expected return, standard deviation and correlation. Analysis of their portfolio revealed that they hold few stocks and fail to diversify (Kiran and Rao, 2004). In fact, the investor's portfolio practices, preferences, risk perceptions, intentions, pattern of investment, their awareness level, factors affecting their investment behaviour and the problems faced by them need to be examined in order to understand their saving and investment behaviour.

Understanding the elements that impact saving behavior is essential to promoting positive saving behaviors and anticipating financial issues (Dowling et al., 2009). Since managing money is more complex than making or earning money, money management is vital for everyone. Each individual must know how to handle their finances, mainly saving and investing (Ismail et al., 2020)

### c) Risk Attitudes

Theoretical frameworks from behavioral economics give some good insights into how people's attitudes toward risk affect their financial decisions. Prospect Theory (Kahneman & Tversky, 1979) and behavioral finance theories (Thaler, 1980) explain how individuals perceive and react to risk. In cooperatives, members' risk attitudes are shaped by things like social norms, trust in coop management, and financial literacy (Bhushan, 2016).

Prospect Theory, proposed by Kahneman and Tversky (1979), suggests people don't really decide based on absolute outcomes but more on perceived gains and losses compared to a reference point. This explains stuff like loss aversion, where people are more sensitive to losses than gains that are equal. When it comes to cooperatives, members' risk attitudes might be influenced by how they see possible losses or gains from cooperative investments. For example, members might get more risk-averse when thinking about investments that could lead to losing their coop shares or dividends.

Saving and investing behavior is closely tied to people's attitudes about risk. Studies have shown risk attitudes play a big role in shaping financial decisions like saving and investing (K. C. Phan and J. Zhou, 2014). People with different risk attitudes show different

willingness to take financial risks, which affects how they split their money between saving and investing.

A person's investment intention is also strongly affected by their attitude toward investing, social norms, and perceived control over behavior. The study also found strong evidences that psychological factors like overconfidence, excessive optimism, psychology of risk, and herd behavior do affect people's attitudes towards investment (K. C. Phan and J. Zhou, 2014).

Moreover, research points out that risk attitudes are shaped by a mix of personal traits and environmental stuff. Factors like gender, age, marital status, career, education, financial literacy, and cognitive ability all impact risk attitudes and behaviors (Burns & Dwyer, 2007). For example, men tend to take more financial risks than women, older adults usually avoid risks, and freelancers are often more willing to take risks.

Within cooperatives, members' risk attitudes are influenced by more than just individual psychology. Social norms in the coop community can shape what members think is an acceptable risk and how they invest. Trust in coop management also matters a lot - if members trust the leaders' decisions, they're more likely to take risks. Plus, financial literacy plays a big role in understanding risk and evaluating investment chances properly (Bhushan, 2016).

Also, environmental factors like family status, social changes, and other outside influences can shape a person's risk attitude towards saving and investing (Burns & Dwyer, 2007). Family background, education, and societal shifts can quietly impact risk attitudes, affecting how people make financial choices and manage their portfolios.

Understanding how these theories and factors mix with cooperative dynamics is important for analyzing members' risk attitudes and financial behaviors in credit cooperatives in General Santos City. By looking at Prospect Theory, behavioral finance, social norms, trust, and financial literacy, coop managers and policymakers can come up with better strategies to encourage smart decisions and reduce risks in cooperative investments. This deeper understanding of members' risk attitudes helps coops design financial products and services that fit members' preferences, which in the end supports the coop's financial stability and long-term sustainability.

#### *d) Income Level*

Income is one of the most prominent factors that influence how people save and invest. Studies show that credit cooperative members who have higher incomes are more likely to join investment schemes offered by coops, since they have the money to take on more investment risks. On the other hand, lower-income members usually prioritize saving rather than investing, because they want financial security more than trying to grow wealth.

Alcaraz (2017), in a study about rural cooperatives in Mindanao, found that members with higher monthly incomes were way more likely to get involved in riskier, high-return investments offered by the coop, like shares or bonds. Meanwhile, members with lower incomes preferred safer, low-risk savings products, since they need financial security and easy access to their money.

Santos & Dela Cruz (2018) looked at coop members in Metro Manila and found similar results. Their research showed that wealthier members - especially those with steady, formal jobs - tended to invest in cooperative-managed mutual funds or bonds, while low-income members mostly stuck to short-term, low-risk savings accounts.

#### *e) Educational Attainment*

Financial literacy and knowledge which is closely tied to education, play a really important role in how people make investment decisions. Members who have higher education usually tend to understand better the investment opportunities and risks that come with it, and this makes them more willing to put money in cooperative schemes.

Garcia (2019), in a study about cooperative members in Cebu, found that those with higher educational backgrounds were more likely to try different investment products that the cooperative offers. These include stuff like long-term savings plans, cooperative shares, and mutual funds. The study also pointed out how important it is to have financial literacy programs, especially for members who don't have a lot of education.

Mendoza (2017) looked into the link between education and financial habits of cooperative members in the Visayas. The study showed that college-educated members felt more confident exploring the cooperative's investment options, specially those that are riskier. On the other hand, members with just basic education tended to stick more to simple savings products.

#### *f) Employment Status*

The job status of coop members got a big impact on how they decide where to put their money. Folks with regular jobs, like those with stable monthly income, usually got more extra cash to invest-so they more open to long-term or kinda risky investments. But those who's self-employed or got unpredictable income mostly stick with savings that's easier to access and less risky.

Tan (2020) did a study about the investment behavior of credit coop members in Metro Manila and found out that those with fixed salaries, like employees, was more likely to join investment offers from the coop. On the flip side, people with small biz or working informal jobs mostly played it safe and went for savings that has sure returns.

Over in the rural side of Luzon, Diaz (2018) found that farmers and small-time biz owners, who don't always earn the same every month, was less likely to go for coop investments that don't promise stable returns. They usually prefer to just save for emergencies or go with low-risk options.

#### *g) Risk Tolerance*

How much risk a person can take really plays a big part in how coop members choose to invest their money. Folks who's more okay with takin' chances usually go for those high-return but also riskier stuff-like coop shares, mutual funds or bonds n' such.

Villanueva (2018) did a study in Quezon City and noticed that younger members, mostly in their 20s n 30s, had more guts when it comes to investing. They ain't too scared of losses and sees investment as a way to grow their money fast. But the older folks? They kind of play it safe, sticking' with savings or time deposits that don't bounce around too much.

Also, Garcia (2019) pointed out that people who are already more stable money-wise tend to take more risks. Like, members who got good income and higher education, they felt more comfy throwing' their cash into risky investments. But those who's still struggling' or got less income usually don't want to gamble too much with their savings.

#### *h) Expected Corporate Earnings*

What people expect from a cooperative's earnings-like how much profit they think the coop going to make-can really mess with how much they save or invest. If members think the coop is going to do good and earn big, they usually feel safer 'bout putting' their money into it. Basically, the more they expect to earn, the more they're likely to save or even go for riskier investments hoping' for higher returns. This is kind of backed up by Shefrin & Statman (2000), who said folks' beliefs 'bout making' money really shapes whether they put their cash in or not.

Cox (2001) did a study showing' that credit union members who thought their coop would do well financially were more open to joining' those high-interest savings plans. Same with Kiser (2003), who said if people think earnings going to be strong, they more likely to put their money in those coop-run investing' programs-especially when they see them as steady and not too risky.

Also, people don't just throw their money in just because. They think ahead-like, if the coop going to grow, they want in. Viana and Silveira (2017) found that when members expect a coop to do good in the future, they get more interested in savin' and investing'. It's like trusting' your money will work for you cause the coop's going to do the right thing with it.

And there's also this point from El Basyuni and his group (2021) that says expectations matter even more in places where people care a lot about the coop's

success as a group. If members feel like the earnings will be shared fair or used smart, they'll be more down to invest. But if they think profits are low or risky, they might just keep their money out, or put it somewhere safer.

#### *i) Gender and Investment Risk*

It's been seen that gender got something' to do with how people deal with risk when it comes to investing. Like, most studies out there shows that men, on average, are more likely to go for risky investments. Women, on the other hand, usually be more careful and stick to the safer side.

In a study done by Tan (2020), it was noticed that there's really a difference in how men and women invest, especially among cooperative members in Metro Manila. The research found that male members was more into putting money on high-risk stuff like equity shares and cooperative bonds. Meanwhile, the female members preferred safer options, like savings plans and insurance products.

#### *j) Trust in Cooperative Management*

Trustin' the people who run the cooperative really do matter when it comes to members deciding' if they want to invest or not. If folks feel like the leadership is honest, clear, and knowing' what they doing', then they more likely to get involved in them investment programs.

Mendoza (2017) looked into this in the Visayas and found that members who had trust in their coop leaders was more open to trying' riskier investments. They seen the cooperative as something' they could count on, so they didn't mind making' big financial commitments for the long haul.

Same kind of thing was seen by Alcaraz (2017) in Mindanao. Members who had high trust in how their coop was being' managed was more willing to invest in the coop's own funds. But if the coop isn't transparent or if the management wasn't really doing' a good job, people tend to back off. That lack of trust really stops them from takin' that investment step.

#### *k) Financial Education Programs*

There's been more attention on how financial literacy affect the way people save and invest. Many researchers show that when cooperatives starts giving financial education to their members, more people tends to get involved with investment stuff. These kinds of programs helps members understand the ups and downs of different investment choices, and makes them more likely to take part.

In Luzon, Diaz (2018) notice that rural cooperatives who tried doing financial literacy programs actually had more members joining in on investments. It helped people learn about the different types of investments, and after that, a lot of them felt more confident to try investing, especially through their coop.

Same goes with the study by Santos & Dela Cruz (2018), where they focused on coops in Metro Manila. They saw that when members got educated on money matters, they were more likely to invest in what the coop was offering. This was specially true for low-income members, who before didn't have much access or understanding when it comes to financial things.

Looking at all these studies together, it shows that things like how much someone earns, their level of education, if they got a job or not, and how they feel about taking risks, really matters in how they save or invest. Members who earn more and had more schooling tend to invest more with their coop, maybe 'cause they feel more sure about handling risks and know more about it. But also, how much they trust the coop and the people running it also makes a big difference if they decide to invest or not.

Basically, teaching people about finances really works, especially for folks who don't make much or didn't learn this stuff before. Based on the findings, coops should really keep focusing on teaching their members and making them feel safe and trusted if they want to get more people involved in investing with them.

#### *I) Empirical Studies on Risk Attitudes of Cooperative Members*

Research that looks into how cooperative members deal with risk gives us more understanding about how they behave financially. Bhatt and Kumar (2019) done surveys with cooperative members to figure out their risk attitudes, and they found out that people got different levels of risk aversion, and this depends on stuff like their background and how the coop is run. Carmichael & MacKenzie (2019) also looked into how risk attitude affects members' investment choices in coops.

Bhatt and Kumar (2019) was mainly trying to figure out how people in coops feel about taking financial risks and what makes them feel that way. Their surveys showed that risk aversion really depends on age, education, and income. Like, younger folks and those who studied more usually more okay with taking risks, while older ones and people earning less prefer playing it safe. They also say that the way coops are governed, like if members get to have a say in decision-making, it affects how risky members are willing to be.

Same kind of findings came from Carmichael & MacKenzie (2019). They used interviews and looked at investment data from members, and they saw that if someone was more chill with taking risks, they were more likely to put money into new or higher-risk ventures the coop offers. But people who don't like risk much usually go for safer bets, even if the return is smaller. The takeaway from their study is that knowing how comfy members are with risk helps a lot when designing investment stuff that fits them better.

So, in general, these kinds of studies show us that understanding how coop members feel about financial risk is important to figure out how they make money decisions. If coops know what affects members' attitudes toward risk, they can plan better-like making good policies, smarter investment options, or even running financial education programs. By paying attention to how different members think about risk, coops can make things fairer and welcoming for everyone, and this could help them stay strong and keep growing for the long run.

#### *m) Investment Schemes in Cooperatives*

Investment schemes can affect how people save and invest, depending on how they were designed, and what kind of risks and rewards come with it. These days, cooperatives be trying out new and creative ways of investing so they can spread out their money and maybe get better returns. Mazzarol et al. (2015) talked about different kinds of strategies coops been using-like putting money into venture capital funds, social impact stuff, and projects that focus on sustainable growth. These don't just make profit, but also match with what coops believe in and what members care about.

One big strategy now is social impact investing. This means putting funds into things that don't just make money, but also helps people and the environment too. It's about using investments to fight poverty, help the planet, or support fairness in society. When coops do this, they ain't just chasing profit-they also sticking to their values, like helping the community and being responsible. That's a big deal for coops who say they care about more than just the bottom line.

Also, coops been looking into sustainable development projects as part of their new investment ideas. These projects aim to protect the environment, build up local economies, and help create fairer communities. Things like solar panels, organic farming, or green buildings is some examples. By choosing to support projects that care about nature and people, coops show they really walkin the talk when it comes to sustainability and being good stewards of resources.

But it ain't just about doing good. These types of investments also bring in money for the members. Plus, by spreading out where the money goes, coops can avoid putting all their eggs in one basket-meaning they can lower the risks that come with old-school investing. On top of that, this stuff helps coops reach their bigger goals like growing communities, pushing social values, and keeping everything sustainable for the future.

So, when coops go for these kinds of investments, it shows they are thinking ahead with how they handle money. Mazzarol et al. (2015) gives some real good info on the kinds of stuff coops are trying out-venture capital, social impact, and green projects. These don't just boost profit, they also stick with coop

values like helping the community, caring for the earth, and giving members more say. But members and the coop gotta be careful, too. They need to think about what they wanna achieve, how much risk they okay with, and how this stuff might affect their finances overall. If done right, investing in new ways can help coops grow strong and do good at the same time.

*n) Cooperative Size and Member Behavior*

Several studies have evaluated the role of cooperative size in shaping members' financial behavior. While one might assume that larger cooperatives would encourage higher saving and investment activity due to better services and trust, evidence suggests that size does not always correlate significantly with individual financial decisions.

According to Espanto and Dorado (2019), in a study conducted among members of Calamba-based cooperatives, factors such as income, age, and financial literacy significantly influenced saving behavior, but the size of the cooperative (small, medium, or large) did not show a statistically significant effect. This finding suggests that regardless of cooperative size, member behaviors toward saving are more personally and economically driven than institutionally driven.

Risk attitude is a critical factor in financial decision-making, especially in investing. However, the link between cooperative size and risk tolerance is ambiguous. Nwankwo, Ewum, and Asoya (2013) found that the savings behavior and willingness to invest were influenced more by members' personal risk profiles than by the structural or financial scale of the cooperative. Their study in Nigeria indicated that cooperative size was not a statistically significant determinant of risk attitude or investment decision-making.

A broader study by Kipai, Gudda, and George (2022) explored the performance of small, medium, and large cooperatives in Kenya. While larger cooperatives had more complex investment portfolios, member-level participation in these schemes was not significantly different from those in smaller cooperatives, once controlled for variables like income and education.

This supports the idea that investment engagement is driven more by member capacity and understanding, not cooperative size. As such, conclusions about investment behavior should not be generalized solely based on size classification.

Casado-Montilla et al. (2023) examined efficiency and member involvement in cooperatives across different sizes. The findings showed that while large cooperatives had stronger balance sheets, this did not translate into significantly higher levels of member engagement in financial activities such as savings or investing. Members of small and medium cooperatives were just as likely to save or invest when factors like trust, transparency, and education were equalized.

*o) Synthesis*

In sum, this study will reveal how different factors work hand in hand to shape the saving and investing behaviors of Large Credit cooperative members in General Santos City. It's clear that members' risk attitudes, the cooperative's investment schemes, and the expected corporate earnings play a major role in what decisions members make about their money. Some members are more careful and avoid risks, while others are ready to take chances for bigger rewards. What the coop offers as investment options also matters a lot, because it can either encourage or discourage members from saving or investing, depending on how attractive or risky those schemes are. Plus, if members believe the cooperative will make good profits, they tend to feel more confident and willing to put more money in.

The relationship between these factors and members' financial actions isn't simple or one-directional. Things like education, income, and occupation also come into play and change how these main factors affect members' choices. For example, someone with more education might understand risks better and feel more confident investing, while someone with less income might just not have enough money to save or invest much. Occupation also influences financial security, which then affects saving and investing habits.

So, all these factors together give a fuller picture of why members in General Santos City save and invest the way they do. It's not just about risk or the coop's offers, but also about each member's background and situation that shape their behavior. This understanding can help cooperatives design better investment programs and financial education that really fit their members' needs and encourage more active participation.

*p) Conceptual Framework*

The conceptual framework of this study explores the factors influencing the saving and investing behaviors of members of Large Credit cooperatives. The framework below is built on understanding how certain independent variables—namely members' risk attitudes, the cooperative's investment schemes, and expected corporate earnings—affect the dependent variables, which are saving behavior and investing behavior. The framework also considers the role of intervening variables such as education, income, and occupation, which may mediate or modify the relationships between the independent and dependent variables.

*q) Hypotheses*

$H_0$ : There is no significant relationship between saving and investing behaviors of members of Large Credit Cooperatives in General Santos City and its members' risk attitude.



$H_0$ : There is no significant relationship between saving and investing behaviors of members of Large Credit Cooperatives in General Santos City and the cooperative's investment schemes.

$H_0$ : There is no significant relationship between saving and investing behaviors of members of Large Credit Cooperatives in General Santos City and the expected corporate earnings.

#### r) Research Design

This study make use of descriptive survey design to understand better the attitudes of members towards risk, their socio-economic background, the cooperative's investment options, and also the expected earnings being offered by Large Credit Cooperative in General Santos City. The main tool for collecting the needed data is a survey questionnaire, which will help the researcher gather infos directly from the chosen respondents.

There's three main variables that the research will focus on: the members' attitudes toward risk, the cooperative's investment schemes, and what corporate earnings are expected. By looking into these, the researcher hope to find out how members see risk, how they act towards it, and what kind of investment behavior they show inside the cooperative.

Respondents for this study will come from various Large Credit Cooperatives across General Santos City. Since they are directly involved with their respective coops, they are most likely to give real and useful insights into the topic.

After the survey responses are collected, the researcher will use statistical methods like the mean, the

median, and the mode to break down the data. These will help spot the common trends and patterns, so the researcher can explain the members' behaviors and mindset in a more solid, numbers-based way.

Also, the Likert Scale going to be used to interpret how much the respondents agree or don't agree with certain statements related to investment and risk. This method help to organize their opinions clearly so the researcher can sort and explain the results in a way that make sense.

#### s) Population and Sampling

This study mainly looks into a particular group of people who are active members from big Large Credit Cooperatives in General Santos City.

The participants of the study is made up of three hundred ninety (390) randomly picked active members, taken from each of the 5 Large Credit Cooperatives in the city. These individuals make up the main part of the research population, bringing with them different backgrounds, life experiences, and point of views as part of the coop community.

### III. RESULTS AND DISCUSSIONS

#### a) The Profile of the Respondents – Employees

This section presents the responses on the problem *"What is the socioeconomic profile of the members of the Large Credit Cooperatives in General Santos City in terms of education, income and occupation?"*

**Table 1.1:** The Profile of the Respondent - Employees in terms of Education

Education	Frequency	%
Less than High School	0	0
High school	0	0
Some college (no degree)	0	0
Technical certification	0	0
Associate degree (2-year)	13	3.33
Bachelor's degree (4-year)	258	66.15
Master's degree	106	27.18
Doctoral degree	13	3.33
Professional degree (JD, MD)	0	0
<b>Total</b>	<b>390</b>	<b>100</b>

Table 1.1 shows that the educational background of the members of Large Credit Cooperatives in General Santos City reflects a highly educated population, with significant implications for their socioeconomic status. According to the data, 66.15% of the 390 members have obtained a bachelor's degree, and 27.18% have completed postgraduate studies at the master's level. Only 3.33% each hold an associate or doctoral degree, while no members reported having only a high school education, vocational qualifications, or incomplete college studies. This

overwhelming representation of higher education suggests that most cooperative members are part of the professional or managerial workforce, roles that typically demand advanced academic preparation and are associated with higher income levels (World Bank, 2020). Studies has shown that individuals with higher education consistently enjoy greater earning potential and job security compared to those with lower educational attainment (ILO, 2023; UNESCO, 2019).

This concentration of degree-holding individuals points to a membership primarily drawn from the middle

to upper socioeconomic class, who are more likely to be employed in skilled or white-collar occupations. These occupations not only provide financial stability but also often offer access to credit facilities, such as those offered by cooperatives (Torres & Lopez, 2021). Education serves not just as a personal achievement

but as a powerful enabler of economic opportunity and institutional participation. Consequently, the data strongly suggest that educational attainment among cooperative members is a key indicator of both their occupational placement and income bracket, shaping the overall socioeconomic profile of the group.

*Table 1.2:* The Profile of the Respondent - Employees in terms of Income

Income	Frequency	%
₱0 - ₱10,000/month	41	10.51
₱10,001 - ₱20,000/month	13	3.33
₱20,001 - ₱40,000/month	255	65.38
₱40,001 - ₱80,000/month	40	10.26
₱80,001 - ₱150,000/month	41	10.51
₱150,000 and above/month	0	0
<b>Total</b>	<b>390</b>	<b>100</b>

Table 1.2 shows the income distribution of members of Large Credit Cooperatives in General Santos City. It indicates that it is within the lower-middle to middle-income brackets. Based on the data, 65.38% of members earn between ₱20,001 and ₱40,000 per month, which positions them squarely in the working or lower-middle class by Philippine income standards (PSA, 2022). A smaller segment, 10.26%, earns between ₱40,001 and ₱80,000 monthly, and another 10.51% report income levels between ₱80,001 and ₱150,000, suggesting a modest representation of upper-middle earners. None of the respondents reported earning above ₱150,000, indicating limited presence of high-income individuals within the cooperative. Lastly, 10.51% earn below ₱10,000 monthly, and 3.33% fall into the ₱10,001 to ₱20,000 range, possibly reflecting members who are underemployed, engaged in informal work, or early-career professionals.

This income structure aligns with broader trends observed in cooperative membership across developing economies, where access to financial services often appeals to middle-income individuals who seek alternatives to traditional banking systems (Abocejo et al., 2020). The concentration in the ₱20,001–₱40,000 bracket may also indicate stable employment in professional or government sectors, consistent with the previously noted high educational attainment among members. Studies supports the correlation between education and income, where higher levels of schooling often lead to increased earning potential and job security (ILO, 2023; OECD, 2022). The income profile of these cooperative members reinforces the idea that they largely belong to the socioeconomically stable, educated working class, with a smaller portion progressing toward upper-middle status.

*Table 1.3:* The Profile of the Respondent – Employees in terms of Occupation

Occupation	Frequency	%
Full-time	376	96.41
Part-time	0	0.00
Contract or temporary	14	3.59
Retired	0	0.00
Unemployed	0	0.00
Unable to work	0	0.00
Others	0	0.00
<b>Total</b>	<b>390</b>	<b>100</b>

Table 1.3 shows the occupation data from the Large Credit Cooperatives in General Santos City reveals that the majority of members (96.41%) are employed full-time, which suggests a largely stable and engaged workforce. This high proportion of full-time

workers indicates that most of the members have regular, secure jobs and are contributing actively to the cooperative's financial activities. It could be assumed that these individuals are likely involved in occupations that require a certain level of skill or education, providing

them with the stability necessary for cooperative membership.

In contrast, only 3.59% of members are employed on a contract or temporary basis. This could reflect people in less stable jobs, perhaps in seasonal work or short-term positions. The complete absence of part-time, retired, unemployed, or individuals unable to work categories suggests that the cooperative predominantly attracts people who are economically active, with no significant representation from those who are retired or temporarily out of the workforce. This highlights a socioeconomic group that is mostly

employed and engaged in the formal labour market, making them a solid base for the cooperative's operations (Philippine Statistics Authority, 2022).

*b) The Saving Behavior of Members of Large Credit Cooperatives in General Santos City*

This section presents the responses on the problem *"What is the saving behavior of members of Large Credit Cooperatives in General Santos City in terms of members' risk attitude, cooperative's investment schemes and expected corporate earnings?"*

*Table 2.1: Saving Behavior of members of Large Credit Cooperatives in General Santos City in terms of Member's Risk Attitude*

Indicators	Mean	SD	Description
1. Regularly set aside a portion of your income for savings, regardless of any financial risks or uncertainties.	3.78	1.08	Likely
2. Prioritize saving over spending when faced with the opportunity to invest in higher-risk, potentially higher-return financial products offered by your cooperative.	3.85	0.86	Likely
3. Save money in a cooperative savings account even if the interest rate offered is lower than what you could earn from riskier investment options.	3.78	1.07	Likely
4. Continue saving consistently in your cooperative account during periods of economic uncertainty or financial instability.	3.67	0.84	Likely
5. Maintain a steady savings habit even when the potential for high returns from investments in the cooperative seems more attractive than saving.	3.93	0.79	Likely
6. Increase your savings in the cooperative's investment schemes if they offer low-risk, stable returns.	3.67	1.03	Likely
7. If the cooperative offers higher-risk investment options with potentially higher returns, how likely are you to save more in these products.	3.82	0.80	Likely
8. Save more in the cooperative's investment schemes if you perceive the risk level of the investments to be moderate or balanced.	3.89	0.77	Likely
9. Reduce your savings in the cooperative's investment schemes if they involve higher risk, even if they promise higher returns.	3.58	0.86	Likely
10. Prioritize saving in low-risk cooperative investment products over high-risk ones if you have a conservative attitude towards financial risk.	3.72	0.95	Likely
<b>Total Mean</b>	<b>3.77</b>	<b>0.68</b>	<b>Likely</b>

Looking at the data presented in Table 2.1, the saving behavior of Large Credit Cooperative members in General Santos City shows a mostly cautious but steady approach towards financial planning and managing risks. With an overall average score of 3.77 and a standard deviation of 0.68, members are "likely" to keep consistent saving habits across different financial situations, no matter the level of risk involved. This kind of behavior points to a group of members who seem financially mature and literate, putting more value on long-term financial safety rather than quick profits (Bautista et al., 2019; PSA, 2022).

Members usually set aside part of their income for savings regularly, even when facing financial uncertainties ( $M = 3.78$ ,  $SD = 1.08$ ). They also tend to choose saving over spending, especially when deciding whether to invest in higher-risk but potentially higher-return opportunities ( $M = 3.85$ ,  $SD = 0.86$ ). This shows a disciplined attitude with money, which supports previous findings that Filipino cooperative members are

mostly risk-averse when it comes to saving (Medina & Custodio, 2017). On top of that, members still prefer saving their money in cooperative accounts even if the interest rates are lower than what riskier investments might offer ( $M = 3.78$ ,  $SD = 1.07$ ). This really shows how much they value safety and reliability.

Even when cooperative investment options look attractive because of their higher returns, many members keep their usual saving habits ( $M = 3.93$ ,  $SD = 0.79$ ), reflecting a conservative mindset. The data also suggests that members are more willing to put more money into investments seen as low-risk ( $M = 3.67$ ,  $SD = 1.03$ ) or moderately risky ( $M = 3.89$ ,  $SD = 0.77$ ), while they tend to put less money into high-risk options, even though those might offer bigger returns ( $M = 3.58$ ,  $SD = 0.86$ ). This careful attitude toward risk is similar to what's been found in other cooperative sectors, where trust and long-term stability usually matter more than risky speculation (Delgado et al., 2010).

So basically, the saving behavior of these cooperative members in General Santos City is shaped by a strong preference for low to moderate-risk investments and a steady saving pattern, even when

times are uncertain. This fits well with the wider trend among Filipino savers, who generally prefer financial stability and cautious investing, especially when dealing with trusted institutions like cooperatives.

**Table 2.2:** Saving Behavior of members of Large Credit Cooperatives in General Santos City in terms of Cooperative's investment schemes

Indicators	Mean	SD	Description
1. The investment schemes offered by my cooperative have encouraged me to increase my savings.	4.07	0.70	Agree
2. I am more motivated to save because of the investment opportunities provided by the cooperative.	4.17	0.65	Agree
3. I believe that the cooperative's investment schemes are a secure and reliable way to grow my savings.	4.06	0.70	Agree
4. The cooperative's investment options align with my financial goals and saving habits.	3.99	0.70	Agree
5. As a member of the cooperative, I feel confident that my savings will grow through the available investment schemes.	4.20	0.48	Agree
6. I am more likely to save regularly in the cooperative's savings schemes because they offer competitive interest rates.	4.10	0.72	Agree
7. I prefer saving in the cooperative's investment products because they offer safer, low-risk options compared to other financial institutions.	4.13	0.63	Agree
8. I tend to increase my savings contributions to the cooperative when they offer additional incentives, such as bonuses or dividends for savers.	4.17	0.65	Agree
9. I am more likely to save consistently in the cooperative's programs if they provide automatic deduction options from my income.	4.06	0.64	Agree
10. The positive returns and experiences I have had with the cooperative's savings schemes encourage me to save more regularly.	4.10	0.67	Agree
<b>Total Mean</b>	<b>4.11</b>	<b>0.58</b>	<b>Agree</b>

The data shows that members of Large Credit Cooperatives in General Santos City generally exhibit strong saving behaviours, particularly in response to low-risk, stable investment opportunities provided by their cooperatives. The overall mean score of 4.11 indicates that respondents agree with statements related to both risk-conscious saving habits and trust in the cooperative's financial offerings.

One of the most telling findings is that members feel highly motivated to save due to the cooperative's investment schemes ( $M = 4.17$ ,  $SD = 0.65$ ), and they also trust these schemes as a secure and reliable means of growing their savings ( $M = 4.06$ ,  $SD = 0.70$ ). This reflects a wider trend among Filipino savers who, as described in research by Tuano and Galvez Tan (2014), tend to prefer secure, familiar saving vehicles over speculative investments. Similarly, their belief that the cooperative's investment products are aligned with their personal financial goals ( $M = 3.99$ ) highlights how institutional trust can influence long-term financial behaviours (Yap et al., 2020).

The results also suggest that competitive interest rates and structured saving mechanisms like automatic deductions ( $M = 4.06$ ) play an important role in shaping consistent saving practices. This aligns with behavioural finance research, which finds that automatic features can significantly boost saving discipline by

reducing friction in decision-making (Thaler & Benartzi, 2004).

Members show a clear preference for low-risk investments ( $M = 4.13$ ) and tend to increase their savings when additional incentives such as dividends or bonuses are offered ( $M = 4.17$ ). These results support prior findings by the Asian Development Bank (2017), which observed that financial incentives and perceived safety significantly impact saving rates among cooperative members in Southeast Asia.

The data paints a picture of a financially cautious but proactive group. Members are inclined to prioritise saving, especially when the products offered by their cooperative are seen as safe, goal-aligned, and beneficial. This behaviour reinforces the cooperative model's effectiveness in promoting financial inclusion and responsible money management in regional settings like General Santos City.

**Table 2.3:** Saving Behavior of Members of Large Credit Cooperatives in General Santos City in Terms of Expected Corporate Earnings

Indicators	Mean	SD	Description
1. I expect that higher corporate earnings will encourage me to save more money through my credit cooperative.	4.24	0.57	Agree
2. I believe that the expected corporate earnings of my credit cooperative directly influence my personal saving habits.	4.21	0.55	Agree
3. I am more likely to increase my savings in the credit cooperative if I expect higher corporate earnings.	4.21	0.55	Agree
4. The performance of my credit cooperative's corporate earnings has little to no impact on my decision to save.	3.89	0.85	Agree
5. I trust that the corporate earnings of my credit cooperative will lead to better returns on my savings.	4.14	0.51	Agree
6. When I expect high corporate earnings from my credit cooperative, I feel more secure about saving with them.	4.07	0.59	Agree
7. I believe that credit cooperatives with higher expected corporate earnings provide better financial stability for savers like me.	4.04	0.62	Agree
8. I do not consider the expected corporate earnings of my credit cooperative when deciding how much to save.	3.61	0.97	Agree
9. I expect that the corporate earnings of my credit cooperative will influence the interest rates offered to savers like me.	4.14	0.63	Agree
10. I am more motivated to save with my credit cooperative when I expect it to have high corporate earnings.	4.14	0.57	Agree
<b>Total Mean</b>	<b>4.07</b>	<b>0.50</b>	<b>Agree</b>

Based on the data presented, it is evident that members of Large Credit Cooperatives in General Santos City are strongly influenced by their expectations of corporate earnings when making saving decisions. The overall mean of 4.07 indicates consistent agreement with statements relating to how anticipated financial performance affects their behaviour as savers. In particular, the highest-rated item - "I expect that higher corporate earnings will encourage me to save more money through my credit cooperative" ( $M = 4.24$ ,  $SD = 0.57$ ) - suggests that members are not only aware of the cooperative's performance but also responsive to it when deciding how much to save.

This pattern of behaviour aligns with findings from recent cooperative finance literature. According to Llanto (2020), the financial transparency and performance of cooperatives are key determinants of member trust and participation in savings and investment schemes. The fact that members also agree with statements like "I trust that the corporate earnings of my credit cooperative will lead to better returns on my savings" ( $M = 4.14$ ,  $SD = 0.51$ ) further supports the idea that perceived profitability contributes to a sense of financial security and motivation to save.

Even statements that could imply neutrality or indifference toward earnings - such as "The performance of my credit cooperative's corporate earnings has little to no impact on my decision to save" - still received a mean score of 3.89, suggesting that while some members may not consciously factor in corporate earnings, the majority still lean toward recognising its importance. This is supported by Yap et al. (2021), who

found that in cooperative contexts, even perceived stability can subtly encourage habitual saving.

The data illustrates a positive and rational saving behaviour among members, where higher anticipated earnings translate into greater savings motivation. This implies a high level of financial literacy and confidence in the cooperative structure, especially when members believe that their contributions are managed effectively and will yield tangible benefits. Such behaviours are consistent with findings across Southeast Asian cooperative systems, where financial performance, trust, and return expectations are deeply intertwined (Asian Development Bank, 2017).

c) *The Investing Behavior of Members of Large Credit Cooperatives in General Santos City***Table 3.1:** Investing behavior of members of Large Credit Cooperatives in General Santos City in terms of Members' Risk Attitude

Indicators	Mean	SD	Description
1. Invest in higher-risk financial products offered by your cooperative if you believe there is a potential for high returns.	3.78	0.97	Likely
2. Choose investment options with moderate or low risk, even if the returns are lower, because you prefer a more secure financial outcome.	3.89	0.76	Likely
3. Increase your investments in the cooperative during periods of economic growth or market stability, despite the associated risks.	3.89	0.85	Likely
4. Invest in the cooperative's financial products that carry higher risk, if you have had prior positive experiences with such investments.	3.61	1.00	Likely
5. Avoid investing in products that you perceive to be risky, even if they offer potential for higher returns, and instead prefer safer investment options.	3.79	0.81	Likely
6. Invest in the cooperative's higher-risk investment schemes if they promise potentially higher returns.	3.62	0.85	Likely
7. Choose lower-risk investment options within the cooperative if you have a more conservative attitude toward risk.	3.86	0.78	Likely
8. Adjust your investment strategy based on the risk level of the cooperative's investment schemes.	3.96	0.68	Likely
9. Invest in the cooperative's investment schemes that offer guaranteed returns if you have a low tolerance for risk.	3.92	0.84	Likely
10. Increase your investment in cooperative schemes that offer moderate risk if your risk tolerance is high and you seek higher returns.	3.75	0.78	Likely
<b>Total Mean</b>	<b>3.81</b>	<b>0.62</b>	<b>Likely</b>

The table shows that the investment behavior of Large Credit Cooperative members in General Santos City, in relation to their risk attitude, demonstrates a pattern of measured engagement-where individuals cautiously navigate between return potential and risk exposure. The average response across all indicators (Mean = 3.81, SD = 0.62) suggests that most members are likely to participate in cooperative investments but with calculated restraint based on perceived risk levels. This behavior aligns with findings in financial psychology, where risk preferences are known to be shaped by both personal disposition and socio-economic context (Van Rooij, Lusardi, & Alessie, 2011).

Members show a clear inclination toward risk-averse investment decisions. Several items strongly support this tendency: for example, respondents were likely to prefer investment options with moderate or low risk despite lower returns (Item 2: M = 3.89), and to avoid products perceived as risky (Item 5: M = 3.79). The same trend is reflected in the high mean score for favoring guaranteed-return investment schemes (Item 9: M = 3.92), and choosing lower-risk options based on a conservative mindset (Item 7: M = 3.86). These patterns resonate with the research of Weber, Blais, and Betz (2002), which indicates that individuals with lower risk tolerance tend to prioritize stability and security over the possibility of high returns.

However, the data also reflects a conditional openness to risk. Members are inclined to invest in higher-risk products if they anticipate high returns (Item 1: M = 3.78) or have had favorable past experiences

(Item 4: M = 3.61). It indicates that while the baseline risk attitude is conservative, positive reinforcement and trust in the cooperative's financial products can encourage more aggressive investment choices.

Further, the highest mean score in the dataset is found in the statement about adjusting investment strategies based on the risk level of the cooperative's schemes (Item 8: M = 3.96). This suggests that members are not only reactive but also strategically aware, tailoring their investments according to the risk landscape. Such behavior reflects what Lusardi and Mitchell (2014) identify as a marker of financial literacy-where individuals demonstrate adaptability and informed decision-making.

Additionally, members appear to scale their investments depending on macroeconomic conditions. They are more likely to invest during stable or prosperous economic periods, even when risks are present (Item 3: M = 3.89). This implies a level of risk tolerance that is context-dependent, aligning with evidence that investor confidence and risk-taking rise in tandem with market optimism and economic growth (Charness & Gneezy, 2012).

Members of Large Credit Cooperatives in General Santos City exhibit a generally conservative risk attitude, leaning toward safety and guaranteed returns. However, their behavior is not rigid- positive experiences, favorable economic environments, and clear risk-adjusted strategies can motivate them to engage in higher-risk investments. This blend of caution and conditional confidence reflects a mature,

experience-informed investing behavior, similar to patterns seen in cooperative and community-based

financial systems across Southeast Asia (Bhatt, 2015; Klapper, Lusardi, & van Oudheusden, 2015).

*Table 3.2:* Investing behavior of members of Large Credit Cooperatives in General Santos City in terms of Cooperative's investment schemes

Indicators	Mean	SD	Description
1. The investment schemes offered by my cooperative have influenced me to invest more regularly.	4.14	0.57	Agree
2. I feel that the cooperative's investment options provide me with the knowledge and tools to make informed investment decisions.	4.03	0.77	Agree
3. I trust the cooperative's investment schemes to help me achieve my financial goals.	4.06	0.64	Agree
4. The cooperative's investment schemes motivate me to take more risks with my investments.	3.99	0.65	Agree
5. I have increased my level of investment participation due to the opportunities provided by the cooperative.	4.03	0.61	Agree
6. I am more likely to invest in the cooperative's financial products because they offer attractive returns compared to other investment options.	4.03	0.68	Agree
7. I prefer investing in the cooperative's schemes because they are considered safer and less risky than other investment alternatives.	4.10	0.66	Agree
8. I am more willing to invest larger amounts in the cooperative's products when they offer bonuses or additional incentives to investors.	4.17	0.59	Agree
9. The cooperative's investment products encourage me to invest regularly, as I trust the management and stability of the cooperative.	4.14	0.57	Agree
10. I am more likely to consider investing in the cooperative's offerings if they provide flexible terms and conditions, such as accessible withdrawal options or different investment plans.	4.17	0.53	Agree
<b>Total Mean</b>	<b>4.09</b>	<b>0.54</b>	<b>Agree</b>

The data shows that the members of Large Credit cooperatives in General Santos City have a generally positive view towards the investment schemes offered by their cooperatives. With a mean score of 4.14, members agree that these schemes have encouraged them to invest more regularly. This suggests that the cooperative's offerings play a key role in motivating consistent investments, a pattern also seen in previous research, which shows that members are more likely to invest regularly when they trust the stability of the cooperative and its products (Chong & Toh, 2013).

In addition to regular investing, members also feel that the cooperative provides them with the knowledge needed to make informed decisions, with a mean score of 4.03. This aligns with studies highlighting that cooperatives that offer educational support and clear information help members become more confident in their investment choices (Suyanto, 2012). Trust is another crucial factor, as shown by the mean score of 4.06 for the statement that members trust the cooperative to help achieve their financial goals. This trust is important, since research shows that people are more likely to invest in institutions they trust (Khan & Rehman, 2010).

Moreover, incentives seem to be a significant motivator. With the highest mean score of 4.17, members are more willing to invest larger amounts when bonuses or additional incentives are offered. This shows that financial rewards can push members to invest more, which has been supported by other studies that

emphasize the role of incentives in increasing investment participation (Okeyo & Irungu, 2016). The cooperative's ability to provide flexible investment options, like accessible withdrawal terms and various plans, also contributes to the willingness to invest more, as reflected in another mean score of 4.17. These factors shows the cooperative's success in creating an attractive and secure investment environment for its members.

*Table 3.3:* Investing behavior of Members of Large Credit Cooperatives in General Santos City in Terms of Expected Corporate Earnings

Indicators	Mean	SD	Description
1. I am more likely to invest in my credit cooperative when I expect higher corporate earnings.	4.24	0.57	Agree
2. The expected corporate earnings of my credit cooperative influence my decision to invest more money.	4.24	0.57	Agree
3. I feel more confident in investing with my credit cooperative when I expect strong corporate earnings.	4.21	0.61	Agree
4. I tend to invest more when I expect my credit cooperative to have higher corporate earnings.	4.21	0.62	Agree
5. The anticipated corporate earnings of my credit cooperative play a significant role in my investment decisions.	4.21	0.61	Agree
6. When I expect low corporate earnings, I am less likely to make investments in my credit cooperative.	4.14	0.58	Agree
7. I believe that higher corporate earnings in my credit cooperative lead to better investment returns.	4.24	0.57	Agree
8. I do not consider the expected corporate earnings of my credit cooperative when deciding whether to invest.	3.86	0.87	Agree
9. I would invest more in my credit cooperative if I expected their corporate earnings to increase.	4.17	0.59	Agree
10. I adjust my investment plans based on the expected corporate earnings of my credit cooperative.	3.97	0.72	Agree
<b>Total Mean</b>	<b>4.15</b>	<b>0.50</b>	<b>Agree</b>

Based on the data in the table, it's clear that members of Large Credit Cooperatives in General Santos City show a strong connection between their investment behavior and the cooperative's expected corporate earnings. The highest mean scores, both at 4.24, show that members are more likely to invest and invest more money when they expect high earnings from the cooperative. This means members closely observe the cooperative's financial performance and base their decisions on it. According to Miller and Modigliani (1961), investors naturally respond to earnings signals when making investment choices, and it looks like cooperative members act the same way.

Also, it's not just about the amount - they feel more confident when the cooperative is doing well financially. With scores like 4.21 for confidence and tendency to invest more, it shows that strong financial forecasts build trust among members. That makes sense because people usually want to invest their money where they believe it's safe and will grow. As

stated by Khan and Rehman (2010), perceived financial stability plays a big role in investment behavior. And when earnings are low, members are less likely to invest, with a score of 4.14 confirming that poor expectations discourage investment. This behavior is common not only in cooperatives but also in other forms of investing, like stocks or businesses (Chong & Toh, 2013).

The only item with a slightly lower score is the one about not considering corporate earnings when investing, which got a 3.86. That still falls under "Agree," but it's noticeably lower than the rest, which might mean that while most members are influenced by earnings, some might base their decisions on other factors too, like loyalty or long-term goals. And finally, a mean of 3.97 shows that many members even adjust their plans depending on how well they think the cooperative will earn. This kind of adaptive investing, as mentioned by Suyanto (2012), shows that members are not passive—they actually respond to market conditions and cooperative performance.

d) *Significant Relationship Between Saving and Investing Behaviors of Members of Large Credit Cooperatives in General Santos City and its Members' Risk Attitude*

*Table 4*

Variables	Mean	$r_s$	p-value	Remarks
Saving Behavior	3.77			
Investing Behavior	3.81	0.794	0.00	Significant

The researcher wanted to see if there's a real link between how members of Large Credit Cooperatives in General Santos City save and invest

their money, and how they handle financial risk. To do this, the first step was to check the distribution of the data. Using the Kolmogorov-Smirnov Test, it was found

that the data wasn't normally distributed. Because of this, the researcher decided to use the Spearman Rank Correlation Coefficient, which is more suited for non-normal data sets (Field, 2013).

The analysis showed a p-value of 0.00, which is lower than the 0.05 significance level. This led the researcher to reject the null hypothesis. This means there is a strong and significant relationship between the saving and investing behavior of cooperative members and their attitude towards risk. In simple terms, people who are more willing to take financial risks may also be more likely to invest rather than just save, or they might save and invest differently (Lusardi & Mitchell, 2014).

This result supports what some earlier studies have said. Grable and Joo (2004) showed that

e) *Significant Relationship Between Saving and Investing Behaviors of Members of Large Credit Cooperatives in General Santos City and the Cooperative's Investment Schemes*

Table 5

Variables	Mean	$r_s$	p-value	Remarks
Saving Behavior	4.11			
Investing Behavior	4.09	0.792	0.00	Significant

The researcher aimed to know if there's a significant relationship between how members of Large Credit Cooperatives in General Santos City save and invest, and the types of investment schemes that the cooperative offers. The researcher tested the data using the Kolmogorov-Smirnov Test. The result showed that the data was not normally distributed, so the Spearman Rank Correlation Coefficient was used since it's more appropriate for this kind of data (Field, 2013).

Based on the results, the p-value was 0.00 which is less than the standard significance level of 0.05. Because of this, the null hypothesis was rejected. This means there is a strong and statistically significant relationship between the members' saving and investing behaviors and the cooperative's investment schemes. In short, the way members manage their finances seems to be influenced by what kinds of investment opportunities the cooperative provides (Lusardi & Mitchell, 2014).

This finding shows that the investment programs or schemes designed by the cooperative

individuals with higher risk tolerance often prefer financial actions that might be more risky but have higher rewards. It's likely that members in GenSan are showing the same kind of pattern - those who are okay with taking risks might be more active in investing, while those who are risk-averse just stick to safe savings.

The findings also suggest that knowing the risk attitude of cooperative members could help credit cooperatives create better financial products or strategies. According to Nguyen et al. (2019), people's financial decisions are really shaped by how they view and handle risk, so it makes sense that these attitudes would affect their saving and investing behavior too.

actually matter a lot in shaping member behavior. Members may choose to save or invest more depending on how attractive or suitable the cooperative's investment options are. According to Ryu (2019), well-structured and understandable investment programs can increase participation and trust, especially in community-based financial institutions like cooperatives.

Other studies also support this idea. For example, Robb and Woodyard (2011) mentioned that financial behavior improves when people have access to structured options and trust in the institution offering them. So, it is likely that when cooperatives in GenSan offer more flexible or appealing schemes, members are more motivated to invest or save.

The findings highlight the importance for credit cooperatives to design investment schemes that fit their members' needs and goals. When investment options are clear, accessible, and aligned with what members are looking for, it can really encourage stronger financial participation among members (Atkinson & Messy, 2012).

f) *Significant Relationship between Saving and Investing Behaviors of Members of Large Credit Cooperatives in General Santos City and the Expected Corporate Earnings*

Table 6

Variables	Mean	$r_s$	p-value	Remarks
Saving Behavior	4.07			
Investing Behavior	4.15	0.857	0.00	Significant

Based on the data, it can be said that there is indeed a meaningful relationship between how

members of Large Credit Cooperatives in General Santos City save and invest, and how they expect

corporate earnings to go. Because the data did not follow a normal distribution, which was found using the Kolmogorov-Smirnov Test, the researcher decided to use Spearman Rank Correlation Coefficient, which is more fitted for non-normal data (Zhang, 2013).

When the analysis was done, the p-value came out to be 0.00, and since this is clearly lower than the common 0.05 significance level, the null hypothesis -that says there is no relationship - was rejected. What this means is that members of these cooperatives likely base their financial decisions, like saving or investing, on what they think will happen to the organization's earnings. As explained by Brown (2017), when the p-value is low, you can be more confident that a real connection exists between the two variables being tested. This idea is also supported by Nguyen and Tran (2019), who pointed out that people's investment behaviors often change depending on their expectations of financial outcomes. Overall, this result shows that earnings expectations are an important part of financial behavior in cooperative settings.

*g) Influence of Socioeconomic Profile of the Respondents to the Level of Saving and Investing Behavior*

The socioeconomic profile of members of large credit cooperatives in General Santos City, as reflected in the data on education, income, and occupation, provides important insights into their saving and investing behaviors.

*h) Education*

The majority of respondents possess a relatively high educational attainment, with 66.15% holding a Bachelor's degree, 27.18% a Master's degree, and smaller percentages having Associate or Doctoral degrees. No respondents reported education levels below an associate degree or any professional degrees such as JD or MD.

Education has been widely recognized as a significant predictor of financial literacy and investment behavior. Higher educational attainment typically correlates with greater financial knowledge, improved risk assessment capabilities, and a higher propensity to save and invest effectively (Lusardi & Mitchell, 2014; Behrman et al., 2012). Given that the respondents are predominantly college-educated, it is likely that their saving and investing behaviors are positively influenced by their educational background, fostering more informed decision-making regarding investment schemes offered by their cooperatives.

*i) Income*

The income distribution reveals that most respondents earn between ₱20,001 and ₱40,000 per month (65.38%), with smaller proportions earning between ₱0 and ₱10,000 (10.51%), ₱40,001 and ₱80,000 (10.26%), and ₱80,001 and ₱150,000

(10.51%). No respondents reported incomes above ₱150,000 monthly.

Income level is a critical determinant of saving capacity and investment behavior. According to Keynesian economic theory and supported by empirical research, higher income enables greater discretionary funds for saving and investing, and income stability can reduce risk aversion (Dynan, Skinner, & Zeldes, 2004; Lusardi & Tufano, 2015). The concentration of respondents within the mid-income bracket suggests a moderate but potentially steady capacity for investment. The absence of very low or very high-income extremes may imply relatively homogeneous saving behaviors, with cooperatives needing to tailor investment schemes that suit this income profile, such as moderate-risk products accessible to middle-income earners.

*j) Occupation*

A vast majority of respondents (96.41%) are employed full-time, with only a small fraction (3.59%) under contract or temporary employment. No respondents are unemployed, retired, or otherwise.

Full-time employment is often associated with income stability and greater financial security, which are conducive to consistent saving and investment behavior (Mishra & Lal, 2018). The predominance of full-time workers in this study indicates that most members have reliable cash flows to participate actively in cooperative savings and investment schemes, potentially contributing to steady cooperative corporate earnings.

*k) Influence of Socioeconomic Profile on Saving and Investing Behaviors*

The data collectively suggest that the socioeconomic profile - characterized by relatively high education, moderate stable income, and steady full-time employment - likely has a significant influence on members' saving and investing behaviors within large credit cooperatives. These factors facilitate greater financial literacy, risk tolerance, and the capacity to engage with investment opportunities offered by cooperatives.

Previous studies corroborate these findings, showing that higher education and stable income correlate with enhanced financial participation and risk-taking in investment (Lusardi & Mitchell, 2014; Behrman et al., 2012). Cooperatives can thus leverage this profile to design investment products that align with members' risk attitudes and financial capabilities, ultimately supporting cooperative corporate earnings through sustained member participation.

#### IV. CONCLUSIONS

Based on the findings, the null hypothesis was rejected, indicating that the saving and investing behaviors of members of Large Credit Cooperatives in General Santos City are significantly influenced by their

socioeconomic stability, risk attitudes, the cooperatives' investment schemes, and expectations of corporate earnings. The data showed that members' education, stable employment, and income levels enable active financial engagement. Members generally displayed conservative risk attitudes, preferring long-term security while remaining flexible in their investment choices. Cooperative investment schemes - trusted and aligned with members' goals - positively affected their financial behaviors. Additionally, members' expectations about the cooperative's corporate earnings strongly influenced their saving and investing decisions. Statistical analysis confirmed these relationships, with significant p-values demonstrating that these factors meaningfully shape members' financial actions. Consequently, Large Credit Cooperatives are encouraged to maintain trusted, low-risk options, transparent reporting, and financial education to support sustainable member participation and cooperative growth.

## V. RECOMMENDATIONS

The study recommends strategic actions to help large credit cooperatives in General Santos City improve member financial engagement by aligning their services with members' risk attitudes, socioeconomic profiles, and preferences. By focusing on risk tolerance, financial literacy, transparency, and incentives, cooperatives can enhance both individual outcomes and overall performance through more responsive and sustainable financial strategies.

First, MSU Gensan Multi-Purpose Cooperative, may develop a diversified portfolio of investment schemes that cater to different levels of risk tolerance. Most members prefer low- to moderate-risk options, but some are open to higher-risk ventures under favorable conditions. Offering tiered products - ranging from guaranteed savings instruments to moderately aggressive cooperative equity shares - will allow members to choose based on their risk appetite, promoting inclusivity and engagement.

Second, given the members' strong educational backgrounds and stable employment, General Santos City Teachers and Employees Multi-Purpose Cooperative may leverage these strengths by offering targeted financial literacy workshops. These may focus on practical topics such as investment planning, risk diversification, and interpreting financial statements. This approach will empower more members to move from conservative saving to strategic investing and make informed decisions even under shifting economic conditions.

Third, since members' financial behaviors of Human Resources Multipurpose Cooperative (HUREMPCO) are strongly influenced by their perception of the cooperative's financial health, management may regularly disclose earnings,

dividends, and financial forecasts. This can be done through quarterly reports, newsletters, and townhall-style general assemblies. Increased transparency will strengthen member trust, sustain their saving behavior, and boost willingness to invest during periods of strong performance.

Fourth, to reinforce habitual saving and increase investment inflow, Husky Multipurpose Cooperative (HuskyCoop) may implement automated salary deduction systems and reward members through performance-based incentives, such as dividends, bonuses, or loyalty rewards. These systems not only simplify the saving process but also tap into the motivational power of tangible benefits, which members have shown to respond to positively.

Last, Tuna Exporters Multipurpose Cooperative (TEMPCO) may segment their financial offerings based on members' socioeconomic profiles, particularly education level, employment type, and income bracket. For example, mid-income earners with full-time jobs may benefit from flexible long-term investment plans with moderate returns, while younger professionals may be offered more dynamic and higher-yielding portfolios. This targeted approach ensures that financial products align with members' capabilities, goals, and comfort with financial risk.



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# Temporal Dynamics of Internal Financing on Financial Performance within a Corporate Governance-Sustainability Framework. Evidence from Listed Real Sector Non-Financial Firms at the Nairobi Securities Exchange (NSE)

By Akali James Agembe, Dr. Francis Nyarombe  
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**GJMBR-C Classification:** *JEL Code: G30, G32*



*Strictly as per the compliance and regulations of:*



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**Keywords:** *internal financing, corporate governance, financial performance, retained earnings, sustainability framework.*

## I. INTRODUCTION

In recent times, the concept of corporate financing has transcended the hitherto traditional focus on capital cost and profitability. Questions are now emerging questioning the potential contributions of internal financing options available to firms, such as retained earnings, towards sustainability within the corporate

governance framework, a reflection of the emerging need for responsible financing alongside efficiency (Zhang & Chen, 2017). In a sustainability landscape that favours flexible and autonomous financing decisions, retained earnings have emerged as a fitting internal funding source across firms. Evidence highlights the advantages, such as minimal environmental risks and maintenance of internal control, associated with funds acquired from retained earnings as opposed to funds accrued from debt or equity (Akhtar et al., 2021). Moreover, scholars posit that strong governance is the impetus that internal financing across firms requires for sustainability, given its potential to impact accountable and strategic reinvestment mechanisms (Herman & Zsido, 2023).

However, it is also important to acknowledge the dynamism that occurs in the relationship between internal financing and financial performance across non-financial firms. Studies, mostly employing econometric models, have demonstrated the temporal nature of such relationships, requiring that they are given ample time to evolve (Rijanto, 2018). Yet, not much evidence has been shared to show how the link between retained earnings as an internal funding source and financial performance is moderated by the quality of governance, particularly when the temporal variations are factored. Retained earnings as an internal mode of financing are particularly pertinent to firms in the Sub-Saharan Africa region. In most cases, firms in this region are constrained by their sizes and the sectors in which they operate, and are, as such, often excluded from capital markets, leaving retained earnings as the only viable source of financing (Wambua & Ariemba, 2018).

Still, research continues to show that the implications of retained earnings for firms in the region may vary depending on factors such as the period, the nature of the firm, and the specific sector. For instance, in a study conducted in manufacturing firms drawn from the Kenyan context, it was demonstrated that whereas retained earnings impacted financial performance positively, firms that had been in operation longer and had better internal controls outperformed newer firms (Oganda et al., 2020). Similarly, evidence from Morocco revealed that despite leveraging retained earnings, firms would need to re-look at governance quality in order to

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maximize the effectiveness of such funding (Amarhyouz & Azegagh, 2025).

In Kenya, despite the evolving policy infrastructure seeking to align listed non-financial firms with corporate sustainability, most of these firms, especially from the real sector, rely mainly on internal borrowing. This is notwithstanding the fact that shifts in regulations for capital markets advocates for external borrowing through transparency and environmental, social, and governance (ESG) disclosure (Akenga & Mukaria, 2020). Compelling evidence from the Kenyan listed non-financial firms' context points to factors such as investment strategies, internal governance, multiple operational years, and consistent reporting as critical to the eventual effectiveness of retained earnings as a source of internal funding (Agembe, 2024; Oganda et al., 2022).

Although sufficient interest among scholars focuses on internal financing solutions that leverage retained earnings, most of the studies ignore the temporal and firm-specific nature of the effectiveness of retained earnings. While econometric models have attempted to explore internal financing across diverse African contexts, they have largely failed to account for the governance–sustainability angle. Understanding the conditional effect of corporate governance on the temporal dynamics of internal financing and financial performance across listed real sector non-financial firms remains a gap whose resolution can guide financial strategy across these firms, particularly in an ensuing sustainability framework. Retrospectively, this study fills this gap by employing the panel econometric framework to explore how the effect of internal financing, facilitated through retained earnings, on the financial performance of real sector non-financial firms is conditioned by corporate governance.

## II. LITERATURE REVIEW

### a) Theoretical Underpinnings

This study was anchored in the Pecking Order and Agency Theories. The Pecking Order Theory proposed by Myers and Majluf was particularly relevant for this study due to its lineage towards internal financing, believing that optimal allocation of internal funds, such as retained earnings, ultimately allows for sustained performance, devoid of investor scrutiny and information asymmetry issues (Zhang & Chen, 2017). Therefore, in an emerging market such as Kenya, the relevance of the pecking order theory in the link between internal financing and financial performance is strengthened by the over-reliance on retained earnings among firms to oversee operational and expansion obligations.

In contrast, Agency Theory as an anchor to this study brought the requisite balance that would mitigate internal funding risks, most significantly, the potential for

managerial opportunism. The theory subtly references strong governance as an avenue to suppress free cash flows likely to arise from accumulation of retained earnings (Ghofar et al., 2022). Therefore, by leaning towards the Agency Theory, this study took cognizance of the understanding that corporate governance could offer a conditioning effect that would maximize ethical and strategic use of retained earnings to occasion satisfactory financial outcomes across the firms (Herman & Zsido, 2023).

### b) Internal Financing and Financial Performance

Scholars have been showing growing interest towards the question of how internal funding sources, such as retained earnings, have been contributing towards firm performance and its sustainability among non-financial firms. Among scholars who have shown such interest includes Oganda et al (2022). These scholars demonstrated that in manufacturing firms, financial performance, proxied through ROA, was influenced by retained earnings. Similarly, Agembe et al. (2024) employed the fixed effects model within the panel regression approach to demonstrate the significant effect of retained earnings on financial performance, particularly among firms with strategic reinvestment policies.

Despite the above studies adding weight to traditional beliefs highlighted in the pecking order theory advocating for internal findings towards financial performance, the universality of such beliefs has, however, been questioned by other scholars. For instance, from industrial firms in the Indonesian context, evidence suggested that retained earnings only impacted profitability positively in firms that paired them with other proactive capital strategies (Ryanto, 2018). Similarly, using firms drawn from North Africa, Amarhyouz and Azegagh (2025) showcased the non-significant effect of retained earnings on financial performance in firms without strong governance structures.

Given such inconclusive findings relating retained earnings to financial performance, together with failure to consider sectoral variations, we question the viability of internal sources of financing to impact financial performance across listed real sector non-financial firms in Kenya over time. We therefore postulate thus:

$H_01$ : Performance of Kenya's listed real-sector non-financial firms is independent of retained earnings.

### c) The Moderation Potential of Corporate Governance

The context of the Agency Theory has triggered interest among scholars on the potential of corporate governance to moderate the influence of a firm's internal financing and its financial performance. Scholars reference the agency conflict prospect that retained earnings can cause, especially if managerial interests

differ from stakeholders' interests, to champion the moderating potential of corporate governance by halting the misuse of funds generated within firms.

For instance, using listed firms drawn from Morocco's bourse, commonly known as the Casablanca Stock Exchange (CSE), Amarhyouz and Azegagh (2025) highlighted the conditional influence of governance systems in the nexus between retained earnings and financial performance of the firms. They established that firms with weak governance structures often failed to transform retained earnings into sustainable tangible gains. Using SMEs drawn from the European context, Herman and Zsido (2023) also raised the possibility of corporate governance moderating the relationship between internal financing and firms' financial performance. They concluded that governance tended to condition financing efficiency, having observed that firms with strong governance structures posted better financial performance outcomes. Similar findings showing moderating potential of corporate governance were demonstrated by Kamau et al. (2023). Using firms listed at the Nairobi Securities Exchange (NSE), they demonstrated that firms with strong governance systems were able to maximize sustained profitability by minimizing misuse of retained earnings.

Yet, even with the significant evidence showing the role that corporate governance can play in the link between internal financing and financial performance, empirical research has in recent times posted contradictory findings. For instance, Nzau (2021) used a master's dissertation focusing on listed manufacturing firms in Kenya to show that governance structures may not be enough to mitigate management and insider control. Similarly, in panel data approach research involving three countries, Ghana, Nigeria, and Kenya, Okyere and Fidor (2021) demonstrated that moderation of the influence of internal funding on financial performance by corporate governance was not explicit. The moderating potential of corporate governance has also been called to question by Dawuah (2024), who reckoned that the diverse governance proxies often employed in studies fail to show the contribution that power dynamics taking place in African firms make to corporate governance. Collectively, the existing research does not provide a conclusive picture regarding the potential for corporate governance to moderate the relationship between internal financing and firm performance. The contradictory findings imply that the moderating effect of corporate governance on the

relationship between retained earnings and financial performance in the context of Kenya's listed real-sector non-financial firms needs not be assumed but should be tested empirically. Therefore, we postulate that

$H_02$ : Corporate governance does not significantly moderate the effect of retained earnings on financial performance across listed real-sector non-financial firms in Kenya.

### III. METHODOLOGY

#### a) Research Design

This study adopted a causal-explanatory design, which, as noted by Dudovskiy (2012), seeks to establish the extent and nature of cause-and-effect relationships. In retrospect, the design was used to explain the effect that retained earnings have on financial performance and how corporate governance influences this cause-effect relationship. A longitudinal panel data structure was employed to examine the temporal and sector-specific effects. Grill (2017) observes that the longitudinal panel data structure enables determination of temporary and lag structure effects while controlling for unobserved heterogeneity.

#### b) Target Population and Sampling

The study targeted real-sector non-financial firms listed at the NSE as of 2016. Therefore, a target population of 51 non-financial firms drawn from sectors such as manufacturing, construction, energy, and agriculture was identified through a reconnaissance study conducted at the Bourse. The sampling frame was defined as the period spanning 2016-2022. Because of the countable nature of these real-sector firms, a census survey was used to identify them.

#### c) Data Sources and Variable Operationalization

Data sources were mainly secondary and included annual reports and annual statements of the respective firms, downloaded from the company websites and the Capital Markets Authority (CMA) databases. Three variables were central to this study. Financial performance (FP) was the dependent variable, retained earnings (RE) was the independent variable, and corporate governance (CG) was the moderator. Considering the different units of measurement where FP was measured in percentage, RE in Kenya shillings, and CG in number of individuals, the logarithmic transformation was used to operationalize the variables, yielding results in Table 1.

Table 1: Variable Operationalization

Study Variable	Initial measure	Absolute measure	Operational variable
Financial Performance (FP)	Percentage	$ FP $	$\ln FP $
Retained Earnings (RE)	Kenya Shillings (Ksh)	$ RE $	$\ln RE $
Corporate governance (CG)	Number of individuals	$ CG $	$\ln CG $

*d) Model Specification*

Andrew Hayes' moderation model 1 was used to establish both the baseline and moderation model.

Therefore, Figure 1 gives the conceptual form of the model with Figure 2 giving the statistical form employed.

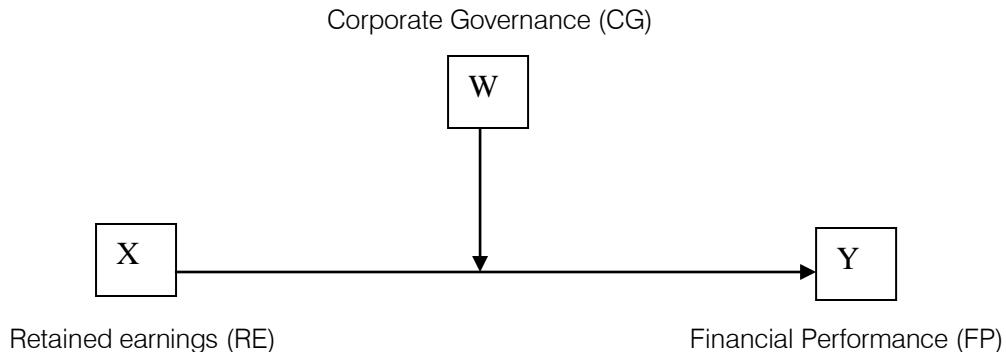


Figure 1: Conceptual Form

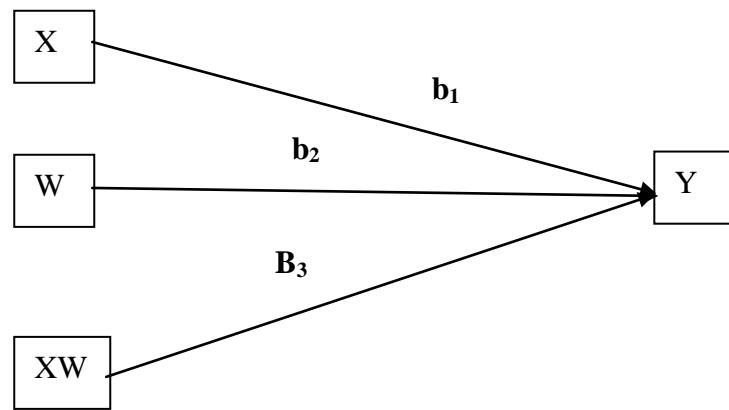


Figure 2: Statistical Form

The baseline model involving the direct effects only was therefore specified as presented in equation 1.

$$FP_{it} = b_0 + b_1 RE_{it} + \mu_i + \varepsilon_{it} \quad \text{Equation 1}$$

Where

$FP_{it}$  = Financial performance for the  $i^{th}$  firm in the year  $t$

$RE_{it}$  = Retained earnings for firm  $i$  in the year  $t$

$\mu_i$  = Unobserved firm-specific effects

$\varepsilon_{it}$  = Error term representing unexplained firm-specific and time oriented variations

Meanwhile, the moderation model, involving the effects of retained earnings, corporate governance, and the interaction between retained earnings and corporate governance was specified as presented in equation 2.

$$FP_{it} = b_0 + b_1 RE_{it} + b_2 CG_{it} + b_3 (RE_{it} * CG_{it}) + \mu_i + \varepsilon_{it}$$

Equation 2

Where  $RE_{it} * CG_{it}$  represented the conditional effect of corporate governance on retained earnings as a form of internal financing.

## IV. RESULTS

a) *Descriptive Statistics*

After cleaning the data by omitting firms with incomplete data and unsuitable financial reports, data for 42 firms were processed and analyzed with the help of the Stata Version 15 software, suitable for panel data analysis. The descriptive statistics presented in Table 2 revealed the following. Basing on LnFP, firms were on average relatively profitable, with the standard deviation suggesting heterogeneity in financial performance outcomes, which corroborated the need to explore firm-specific variations. With the mean score of 0.77, the InRE results reflected positive retained earnings among most of the firms. However, the high variance implicit in the standard deviations referenced a potential for the differential effect of retained earnings on financial performance. The small variance in corporate governance ( $SD=0.82$ ) justified its use as a moderator given its stability.

Table 2: Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
LnFP (Log of Financial Performance)	294	2.37	1.42	-2.21	8.16
LnRE (Log of Retained Earnings)	294	0.77	1.73	-4.61	4.51
LnCG (Log of Corporate Governance)	294	2.18	0.82	0.09	7.16

b) *Diagnostic Tests*

Diagnostic tests were conducted to test for multicollinearity, unit root, and whether to use the fixed effects (FE) model was indeed suitable. To test for multicollinearity, variance inflation factors (VIFs) were used. Both the transformed retained earnings (LnRE) and corporate governance (LnCG) had VIF values of 1.05, indicating adequate statistical independence

among the two variables, and justifying their inclusion in the same model. Meanwhile, the panel data was unbalanced across firms. Therefore, the Fisher test was used to test for unit root or stationarity in the transformed financial performance, retained earnings, and corporate governance variables. Results presented in Table 3 confirm that all three variables were devoid of unit roots and were stationary across panels.

Table 3: Unit Root Test Results

H0: All panels contain unit roots		Number of panes		= 42
Ha: At least one panel is stationary		Avg. number of periods		= 6.95
		Stat.	p-value	
Ln FP	Inverse chi-squared (84)	P	208.3	0.0000
	Inverse normal	Z	-4.334	0.0000
	Inverse logit L*	t(214)	-5.991	0.0000
	Modified inv. Chi-squared	Pm	9.589	0.0000
Ln RE	Inverse chi-squared (84)	P	149.882	0.0000
	Inverse normal	Z	-3.481	0.0002
	Inverse logit L*	t(214)	-3.983	0.0000
	Modified inv. Chi-squared	Pm	5.083	0.0000
Ln CG	Inverse chi-squared (84)	P	150.365	0.0000
	Inverse normal	Z	-2.347	0.0095
	Inverse logit L*	t(144)	-5.053	0.0000
	Modified inv. Chi-squared	Pm	5.120	0.0000

The final diagnostic test run was the Hausman test aimed to identify whether the fixed (FE) panel data model was an ideal one for this research. Results of the Hausman tests ( $\chi^2(2) = 22.44$ ,  $p=0.000$ ) presented in

Table 4 confirmed that data exhibited firm-specific heterogeneity requiring the use of the FE model which is capable of controlling for firm-specific aspects that could be time-invariant.

Table 4: Hausman Test Results

Variable	FE Coefficient (b)	RE Coefficient (B)	Difference (b-B)	S.E. of Difference
LnRE (Log of Retained Earnings)	0.6509	0.5701	0.0808	0.0187
LnCG (Log of Corporate Governance)	-1.1139	-0.7530	-0.3608	0.3848
Chi <sup>2</sup> (2) = 22.48				
p-value = 0.0000				

## V. REGRESSION RESULTS

### a) Direct Effects

The Panel FE regression was therefore run to determine the baseline model. The regression output (Table 5) revealed the following results: Retained earnings had a positive and highly significant effect on financial performance ( $b_1=0.653$ ,  $t=13.32$ ,  $p<0.001$ ), such that a unit percentage increase in retained earnings led to a 0.653 percentage increase in financial

performance. The statistical power of retained earnings was strong as indicated by a t-value of 13.32. The rho value of approximately 0.682 implies that close to 68% of the variance in financial performance was a result of firm-specific factors that may not have been observed, including but not limited to management quality, organizational culture, and operational strategy among others.

*Table 5:* Direct Effects of Retained Earnings on Financial Performance

Ln FP	Coef.	Std. Err	t	p> t
Ln RE	0.653	0.049	13.32	0.000
Intercept	1.506	0.055	27.33	0.000
R-sq	0.1715			
rho	0.682			

### b) Moderation Effects

The panel FE model was again used to test the moderation effect with corporate governance interaction. Results presented in Table 6 confirmed the following. On introducing corporate governance, retained earnings had no significant effect on financial performance across the firms in questions ( $b_1=0.115$ ,  $t=0.47$ ,

$p=0.636$ ). Standing alone, corporate governance had a negative but significant effect on financial performance ( $b_2=-1.321$ ,  $t= -2.66$ ,  $p = 0.008$ ). Corporate governance positively and significantly moderated the relationship between retained earnings and financial performance ( $b_3 = 0.263$ ,  $t = 2.26$ ,  $p = 0.025$ ).

*Table 6:* Moderation Effects of Corporate Governance

Ln FP	Coef.	Std. Err	t	p> t
Ln RE	0.115	.242	0.47	0.636
Ln CG	-1.321	0.497	-2.66	0.008
LnRE*LnCG	0.263	0.116	2.26	0.025
Intercept	4.186	1.022	4.10	0.000
R-sq	0.1755			
rho	0.697			

Therefore the moderation model involving corporate governance in the relationship between

retained earnings and financial performance was as presented in equation 3.

$$FP_{it} = 4.186 + 0.115 RE_{it} - 1.321 CG_{it} + 0.263 (RE_{it} * CG_{it}) + \mu + \varepsilon$$

Equation 3

## VI. DISCUSSION OF FINDINGS

The purpose of this study was to explore the time and firm-specific dynamics of internal financing referenced through retained earnings, and the role it plays in the financial performance of real sector non-financial firms listed at the NSE, under the conditioning of corporate governance. Using the fixed effects panel regression, the study first revealed that retained earnings positively and significantly directly impacted financial performance. In doing so, the study resonated with previous findings showing that in underdeveloped capital markets contexts, firm resilience alongside ambitious investment were facilitated by internal financing (Essel, 2025).

Moreover, by depicting retained earnings as critical buffers for real sector non-financial firms in current uncertain business environments, these results align with the Pecking Order Theory ideals of internal funds as an avenue for control retention. Indeed evidence shows that firms trading at the NSE used retained earnings to maintain stability in the post Covid-19 years (Kamau & Murori, 2024). This study however, also revealed that in the presence of corporate governance and the interaction term, the effect of retained earnings on financial performance was not statistically significant, indicating the importance of the firm context in maximizing retained earnings.

Using the fixed effects panel regression, the study also revealed a significant interaction term, an indication that corporate governance moderated the effect of retained earnings on financial performance of real sector non-financial firms. In this moderation, the effect of retained earnings on financial performance was increased by robust corporate governance structures. Therefore, the study joins other studies such as Bawuah (2024) and Nguyen et al. (2024) in showing that corporate governance links with internal capital to enhance financial decisions and ultimately yield improved financial outcomes. Besides moderating the effect of retained earnings on financial performance among the firms in question, this research reinforces the Agency Theory's assertion that efficiency in resource allocation, a key element of financial performance, is enhanced through governance mitigation of managerial opportunism (Onjewu et al., 2023).

The paradox in this study was that corporate governance had a negative yet substantial effect on financial performance in the moderation model. However, this conclusion is consistent with suggestions that early-stage corporate governance may hinder short-term profitability, particularly in emerging economies (Amarhyouz & Azegagh, 2025). Additionally, the pace in form of governance reforms is not matched by enforcement in the Kenyan context. Research has shown that the hybrid regulatory nature of the environment in which the NSE-listed companies operate requires informal control approaches that are not supportive of formal governance (Anyanzwa, 2023; Rosana 2024).

Meanwhile, the study demonstrated temporal and firm-specific dynamics. For example, the lagged impacts shown by retained earnings have been linked to accumulating capital reserves (Fernando, 2025). Besides, the moderation model's non-significant influence on retained earnings highlighted the temporal dependency on the evolution of governance systems. The essence being that given time, improvement in governance structures would lead to better use of retained earnings. The strong rho output in the moderation model approximating 0.70, vindicated the existence of firm-specific dynamics, showing a high proportion of variance in financial performance attributed to unobserved firm-specific factors.

Through the reported and discussed findings, this study highlighted several practical implications and made critical contributions to existing knowledge. Firstly, the study underscored the need for firm managers and other stakeholders to strengthen governance structures, knowing clearly that retained earnings on their own may fall short in securing financial performance. Secondly, the study findings challenge policy makers and industry regulators to not only strengthen corporate governance among real-sector non-financial firms listed at the NSE, but also enforce them in order to tap into internal

financing for long term sustainability. Meanwhile, investors ought to take cognizance of sustainable practices by integrating ESG principles alongside internal funding.

The study contributes to existing knowledge by, among other ways, showing that corporate governance is not only a variable in study contexts but also stands as a force in moderation. The study also shows that scholars and firms seeking to exploit internal funding for future financial gains, may do so by integrating internal financing decisions with governance quality. Moreover, the study adds the knowledge that use of fixed effects models loaded with temporal considerations is a sure way of avoiding the dangers of spurious correlations and endogeneity often panel data studies.

## VII. CONCLUSION

Internal financing engages financial performance of listed real sector non-financial in a dynamic but far from linear relationship. The relationship is inundated with varying terrains, including firm maturity, governance structure enforcement, and intra-and inter-firm dynamics only observable with time. Therefore, application of internal funding mechanisms in emerging markets may not feasibly be undertaken from a universal standpoint, but rather through a conditional lens provided by corporate governance. Suffice to say, however, secondary data, though useful in such econometric studies, fail to capture corporate governance exhaustively, missing out on qualitative aspects. Besides, the robust nature of the FE model may not guarantee long term dynamic interactions lasting beyond the seven year study period designed for this study.

### Conflicts of Interest

The authors declare no conflicts of interest.

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Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.



## Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

## PREPARATION OF ELECTRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

## TIPS FOR WRITING A GOOD QUALITY MANAGEMENT RESEARCH PAPER

Techniques for writing a good quality management and business research paper:

**1. Choosing the topic:** In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

**2. Think like evaluators:** If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

**3. Ask your guides:** If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

**4. Use of computer is recommended:** As you are doing research in the field of management and business then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

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**6. Bookmarks are useful:** When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

**7. Revise what you wrote:** When you write anything, always read it, summarize it, and then finalize it.

**8. Make every effort:** Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

**9. Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

**10. Use proper verb tense:** Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

**11. Pick a good study spot:** Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

**12. Know what you know:** Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

**13. Use good grammar:** Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

**14. Arrangement of information:** Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

**15. Never start at the last minute:** Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

**16. Multitasking in research is not good:** Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

**17. Never copy others' work:** Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

**18. Go to seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

**19. Refresh your mind after intervals:** Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

**20. Think technically:** Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.



**21. Adding unnecessary information:** Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grown readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

**22. Report concluded results:** Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

**23. Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

## INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

### **Key points to remember:**

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

### **Final points:**

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference material and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

### **The discussion section:**

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

### **General style:**

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

**To make a paper clear:** Adhere to recommended page limits.

### **Mistakes to avoid:**

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.



- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

#### **Title page:**

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

**Abstract:** This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

*Reason for writing the article—theory, overall issue, purpose.*

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

#### **Approach:**

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

#### **Introduction:**

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

*The following approach can create a valuable beginning:*

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.



**Approach:**

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

**Procedures (methods and materials):**

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

**Materials:**

*Materials may be reported in part of a section or else they may be recognized along with your measures.*

**Methods:**

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

**Approach:**

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

**What to keep away from:**

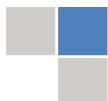
- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

**Results:**

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.



**Content:**

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your conclusions, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

**What to stay away from:**

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

**Approach:**

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

**Figures and tables:**

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

**Discussion:**

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.



**Approach:**

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

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**CRITERION FOR GRADING A RESEARCH PAPER (COMPILED)**  
**BY GLOBAL JOURNALS**

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Topics	Grades		
	A-B	C-D	E-F
<i>Abstract</i>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<i>Introduction</i>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<i>Methods and Procedures</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring
<i>Result</i>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<i>Discussion</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring
<i>References</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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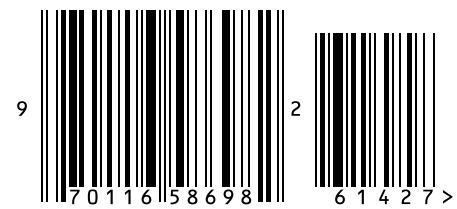


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