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Working Capital Management and Profitability of Tea Factories Managed by KTDA in Kirinyaga and Embu Counties – Kenya

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Abstract

The current study seeks to establish the effect of working capital management and profitability of tea factories in Kirinyaga and Embu Counties, Kenya. The overall objective of the current study was to ascertain the effect of working capital management and profitability of tea factories in Kirinyaga and Embu Counties, Kenya. The main objective of the study was to determine the influence of working management practices on profitability of tea factories in Kirinyaga and Embu Counties, Kenya. The research was anchored on pecking order theory, transaction cost theory, financing advantage theory, and cash conversion cycle. The study found the existence of a strong and positive correlation between Average payment period, Average Collection Period, Inventory turnover, and Cash Conversion on financial profitability of tea processing factories. Average payment period helps to manage WC since delays in bill payments is an approach that can help factories to access cheaper or competitive sources of funds. There was a positive correlation between inventory turnover and profitability performance in tea factories. Efficient and effective management of inventory enables business survival, profit maximization, and an efficient management of working capital. The study established a positive association between accounts receivable and profitability performance among tea factories, where a unit change in Average Collection Period has a positive change on profit performance in tea factories. Effective management of accounts receivables results in enhanced liquidity that enables tea factories to meet and realize their financial commitments and equally be able to seize opportunities emerging in the market. In conclusion, there is a positive relationship between Average payment period and profitability. Credit collection policies that enable low Average Collection Period will ensure healthy cash flows and enhanced liquidity position for the firm. Effective and efficient management of receivables results in the increase of firm size, sale, and enhanced liquidity. Inventory turnover negatively impacts profitability performance in tea factories, while efficient inventory management and effective control helps in achieving adequate operational results and lessening investment in working capital. Consequently, the study recommends that: factory firms should maintain optimal levels of financial leverage Tea factories must create a credit collection policy detailing the practices and procedures to be applied by the factories to achieve outstanding AR. Tea factories should generally maintain Average payment period higher than Average Collection Period to lessen investment in receivables, meet short time obligations and minimize cost of funds.

Key words: *Financial Performance, Working Capital Management, Inventory Management Practices, Account Payable, Account Receivable, Cash Conversion Cycle*

1. Introduction

Efficient working capital management entails strategically managing current assets and current liabilities to prevent the risk of failing to satisfy short-term responsibilities and elude excessive investment in current assets (Akbar et al., 2021). Current assets are defined as assets that can be converted into cash in a year's time, while current liabilities are the obligations that a company expect to meet within the same time duration (Akbar et al, 2021; Osei et al., 2023). According to most polls, managers dedicate a significant portion of their time to resolving day-to-day issues related to working capital choices. This is because current assets, which are temporary investments, are regularly being converted into other forms of assets (Mazanec, 2021; Osei et al., 2023; Vukovic et al., 2023).

These investments contribute to the management and funding of the firm's daily activities (Nkwankwo, & Osho, 2010). Excessive allocation of funds to liquid assets might lead to a diminished return on investment (ROI) (Korent and Orsag, 2018). On the contrary, companies with a small number of current assets may experience stock shortages and disruptions in their business operations (Aldubhani et al., 2022). This suggests that there exists an optimal level of liquidity that achieves a harmonious equilibrium between expected benefits and costs. The WC level that yields the highest business profitability (Korent and Orsag, 2018) and can confer a competitive edge (Sumathi, 2021) is referred to as the ideal WC level. Mitra (2018) asserts that the success of a business is heavily reliant on the finance managers' skill in efficiently managing the various elements of working capital. Manufacturing firms in specific require managers to efficiently manage working capital since the substantial portion of investment is composed of current assets (Sumathi, 2021; Paul and Mitra, 2018).

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1.2 Profitability

Profitability is the capacity of a business or venture to produce financial gain or profit in relation to its expenditures and expenses (Sanchez et al., 2022). It is a vital financial metric that assesses the effectiveness and efficiency of a business's operations in generating profits. Profitability is fundamental for the long-term sustainability and success of a business, as it indicates the capacity to generate positive returns for shareholders, cover operating expenses, and invest in growth. Sanchez et al. (2022) enlighten that many factors affect the profitability of different farm systems and agricultural businesses. Some of the factors highlighted in their study include crop choices (such as perishability, complementarity, and mastery of peak management requirements), adoption and use of technology (digital tools facilitating market access, precision farming to optimize water application and to optimize fertilizer usage, and rainwater harvesting), farm size (benefits of economies of scale for large farms), input conditions (water constraints and labour availability), and output market conditions (transportation and processing costs, prices and price stability, and local and international trade policies (Sanchez et al., 2021). Largely, these factors affect the tea farming and processing in Kenya, and specifically factories and farmers in Kirinyaga and Embu counties.

The profitability of tea farming in the select factories reflects an erratic trend mainly attributable to output market conditions, including local and international trade policies and prices and price instability. Table 1.1 in appendix1 shows the net profits from the eight tea factories in Embu and Kirinyaga counties. From the table, it is evident that the tea factories have not maintained a consistent trend in terms of net profits recorded. For instance, Kimunye Tea Factory records variations of lows and highs, with the factory recording highest net profit (41.38 million) in 2018 and the lowest (2.2 million) was recorded in 2021. When compared to Mununga Tea Factory, which is within Kirinyaga, the net profits across the period seems much stable, with the highest net profit (44.53 million) being recorded in 2020 and the least (28.55 million) being recorded in 2019. The disparities between the two companies also demonstrate the influence of additional factors, such as the quality of tea produced by their different factories, acting as a moderating variable. The respective decisions were also influenced accordingly. See appendix for table 1.1 on Net Profits from 2018 to 2022 for Tea Factories (Source: KTDA).

1.3 Working Capital Management

Current literature shows a vital interplay between working capital and profitability, especially in determining how an organization manages its finances (Demiraj et al., 2022). In this regard, it is crucial for a company to review whether it manages its working capital effectively to confirm it possesses adequate resources fulfil its short-term commitments and keep operations running smoothly. By skilfully handling its current assets and liabilities, a company can maximize its working capital, which then enhances the profitability (Demiraj et al., 2022). A well-orchestrated working capital cycle enables the organization to swiftly turn its current assets into cash, covering operating costs and financial commitments (Morshed, 2022). By reducing the time required to transform inventory and receivables into profit, the firm can enhance its cash flow and liquidity, thereby strengthening its overall financial stability. The theoretical foundation lies in optimizing the balance between current assets and liabilities to ensure smooth operational liquidity while minimizing the cost of capital.

A well-balanced working capital structure helps businesses evade unnecessary expenses related to excessive inventory, out-dated assets, or stagnant cash. By cutting down these costs, the organization can boost its operational efficiency and lighten the overall financial load, thereby positively affecting its profitability (Morshed, 2022; Demiraj et al., 2022). Thus, effective working capital management enhances the business's capacity to earn steady revenues, maintain liquidity, and seize growth opportunities, thereby ensuring its enduring success and market competitiveness. Working capital management includes inventory management, cash conversion cycle, accounts payable and account receivable management practices. Efficient WCM practices contribute to enhanced profitability, risk mitigation, and overall financial performance.

2. Statement of the Problem

Most of the studies conducted in Kenya explore WCM on other firms; few studies have been conducted to determine the WCM effect on performance on tea factories in Nandi, Kisii and Meru County; Cheruiyot Davis, K. (2016), Nyamoita and Oyieko (2018), Gakii, B. (2017) respectively. None of earlier studies have been focused specifically on the tea factories in Kirinyaga and Embu County. The conflicting results on the effect of WCM on performance and liquidity and of the nature of relationship provides an insight to establish how WCM affects profitability. Despite its critical importance, limited research exists on how WCM practices impact the profitability of tea factories, particularly those under the management of KTDA in the Kirinyaga and Embu regions. This study utilized a quantitative research approach, utilizing financial data from a sample of tea factories in the specified regions. Key variables examined include liquidity ratios, inventory turnover, accounts receivable management, and accounts payable management, among others. Profitability measures such as ROA and ROE are analyzed to assess the financial performance of the tea factories. The research aims at ascertaining how WCM affects the tea factory profitability and fill in the existing gaps.

3. Study Objective

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The main objective of the study was to determine the effects of working capital management and profitability of tea factories in Kirinyaga and Embu Counties, Kenya.

4. Literature Review

4.1 Theoretical Review

4.1.1 Pecking Order Theory.

Pecking order theory was developed by Donaldson in 1961 and subsequently enhanced by Nicolas Majluf and Stewart C. Myers in 1984. They contended that finance can be obtained from various sources, including equity, debt, and internal money. Firms prefer internal financing and use of debt over external financing and use of equity for instance common stock (Ogundipe et al., (2012). The theory posits that maintaining a substantial amount of cash reserves and highly liquid assets guarantees the smooth fulfillment of short-term obligations, hence reducing the need for external funding. If internal funds are insufficient, firms then turn to debt and, as a last resort, issue equity (Habib & Dalwai, 2023). Key premises/assumptions of Pecking Order Theory include: Firms prioritize internal financing over external financing, External financing is considered costly and signals adverse information to investors, Firms prefer financing in the order of retained earnings, debt, and equity issuance and Managers possess better information about the firm's financial prospects than external investors.

In tea factories, where working capital is pivotal for day-to-day operations, the choice of financing sources can significantly impact both working capital management and profitability. Tea factories, following the Pecking Order, would prefer to use internally generated funds for working capital needs. This could include using profits to manage inventory, pay suppliers, and cover other short-term obligations. Efficient working capital management through retained earnings aligns with the theory's preference for internal funds (Habib & Dalwai, 2023). Additionally, Morshed (2020) indicates that applying this theory, a company that depletes it internal funds may resort to debt financing to meet working capital requirements. Short-term loans or lines of credit can be used strategically to address seasonal fluctuations in production or unforeseen market changes. However, excessive reliance on debt may lead to increased financial risk. The theory, however, suggests that processing companies, such as tea factories, would be less inclined to issue equity to fund working capital needs due to the information asymmetry and signalling costs associated with equity issuance (Habib & Dalwai, 2023). Equity financing might be considered less favourable unless other options are exhausted.

4.1.2 Transaction Cost Theory

The theory was advanced by Ferris in 1961 and it proclaims that account payable management can lower the transaction costs of paying bills. It asserts that this can be achieved by aggregating obligations to make payments on a monthly or quarterly schedule instead of paying upon delivery. Williamson (2013) stated that this allows enterprises to decouple the payment process from the delivery process. Moreover, the firms tend to build inventories through credit to maintain a smooth production cycle and in return the huge inventories attract warehousing costs and the costs of financing them. Therefore, managers need to adopt practices that minimize costs and upsurge profits.

The theory has direct impact on governance structures and working capital management. Umar and Al-Faryan (2023) posit that the theory suggests that firms internalize transactions when external market mechanisms are costly or inefficient. In the realm of WCM in tea factories, internalization occurs when the costs associated with using external markets for procurement, production, or distribution exceed the costs of managing these functions internally. Additionally, Umar and Al-Faryan (2023) indicate that transaction cost theory influences the make-or-buy decisions related to working capital components such as procurement of raw materials, production processes, and distribution channels. Internalizing these functions may reduce uncertainty and opportunistic behaviour, leading to more efficient working capital management.

4.1.3 Financing Advantage Theory

Schwartz formulated the theory in 1974 and provides guidance to managers on establishing efficient management practices. The theory posits that suppliers possess a competitive edge over conventional lenders due to their ability to assess the creditworthiness of their clients, closely monitor loan repayments, and exert pressure for credit payment by threatening to withhold further supplies. Joana, Vitorino & Moreira (2011) concluded that this offers cost advantage on the part of suppliers such as buyer control, information acquisition and salvaging value of existing assets. The theory denotes that managers need to apply different practices to manage receivables and need to set up a creditor’s management practice for credit recovery. Key Premises and assumptions of FAT include access to financing, lower cost of capital, market imperfections, risk management, and profit maximization. The limitations are that the theory ignores non-financial factors, assumes perfect capital markets, limited predictive power, overlooks external influences, and simplifies firm behaviour. Key strengths of the theory include: strategic resource allocation, competitive advantage, flexibility, risk management, and investor confidence.

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In the context of tea factories in Kirinyaga and Embu, the financing advantage theory pushes for thorough risk assessment before making financing decisions (Gofman & Wu, 2022). Understanding the risks associated with different financing options is crucial for effective risk management. The theory also pushes for establishment of partnerships with local financial institutions to help provide tea factories with insights into available financing options tailored to the Kenyan market (Gofman & Wu, 2022). Through the financing advantage theory, it becomes possible for tea factories to develop a comprehensive financial plan that aligns with the unique needs and challenges of the tea industry in Kenya are essential. This plan should consider working capital requirements, profitability goals, and the available financing alternatives.

4.1.4 Cash Conversion Cycle

Karim et al. (2023) state that Richards and Laughlin (1980) formulated the working capital management using this methodology. The cycle consists of the combined duration of the inventory conversion phase and the receivable collection period, minus the average payment term for payables. The production cycle includes the stage of converting inventory and the period of collecting receivables. This cycle functions as a complete measure of working capital, as it demonstrates the time lag between the expenditure on procuring raw materials and the receipt of sales revenue from finished products. The CCC is a metric that quantifies the duration required for a company to convert its investments in inventory and other assets into cash inflows generated from sales. The three main constituents of it are the duration for which inventory is held, the term for collecting accounts receivable, and the duration for making payments on accounts payable. A lower CCC signifies adeptness in handling operational funds, enhancing liquidity and profitability. Monitoring the CCC enables firms to optimize inventory levels, streamline processes, and identify possible cash flow concerns, which is essential for preserving financial health and achieving sustainable growth. Padachi (2016) discovered a clear correlation between the duration of the cycle and the quantity of funds allocated to working capital. A longer cycle means more funds are blocked, while a shorter cycle means the firm is more liquid. This increased liquidity can lead to improved overall performance.

The Key Premises and Assumptions of CCC include: Assumes a continuous flow of cash through purchasing, production, and sales processes; quantifies the duration required to transform raw materials into liquid assets by means of sales; emphasizes the importance of managing inventories, receivables, and payables efficiently; assumes that minimizing the CCC enhances liquidity and profitability; and recognizes that the optimal CCC varies across industries due to differences in business models and market conditions. The limitations of the theory include: it may oversimplify complex financial operations and dynamics, doesn't account for changes in market conditions or business strategies over time, neglects operational efficiencies and strategic considerations, accuracy relies on reliable financial data, which may not always be readily available; and it focuses primarily on financial aspects and may not capture broader business performance metrics.

5. Research Methodology

This research used a descriptive research design, which is an indicator of quantitative research design that aids gather valuable and statistical data that is easily quantifiable. The descriptive design uses secondary data collected from Annual Financial statement of tea factories in Kirinyaga and Embu Counties. The focus population in this study involves all the 8 tea manufacturing factories in Kirinyaga and Embu counties that are managed by Kenya Tea Development Agency.

The study employed secondary data that is extracted from annual financial statement commonly known as published reports issued to farmers during annual General Meetings and some copies maintained at respective factories. The study collected this data using data collection period for the past 5 years; 2018 to 2022.

6. Data Analysis

6.1 Descriptive Statistics

Descriptive analysis generates the standard deviation, mean, minimum, and maximum values of the variables. Tables 1 and 2 provide descriptive statistics for the main variables applied in this research. All the variables from eight factories are subjected to the descriptive analysis.

According to the data in table.1, the results demonstrated that the shortest duration for a factory to recover cash from receivables is 22 days, whereas the longest duration is 215 days. The mean collection period for debts was 88 days, with a Std. Dev. of 76 days. The cash turnover ratio represents the frequency at which a company can complete a full cycle of cash flow utilizing its revenue.

The average effectiveness of working capital management is 2 days, with a standard deviation of 1 day. Tea companies typically receive money for their sold inventory approximately 7 days following the sale, with a standard variance of 2 days. The average duration to sell the inventory is 7 days, with a minimum period of 4 days and a Std. Dev. of 2 days. The factory's maximum inventory-to-sales conversion time is 9 days, which is considered a suitable timeframe. On average, factories take 170 days to pay for their purchases, with a standard deviation of 35 days.

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Table 1 Descriptive Statistics: ROA, ROE, Inventory T/O, ACP, APP, and CTR

			N Days		*40*
			n Companies in total		*8*
			Days receivables leaf		*5*
Variable	***N***	***MEAN***	***MAX***	***MIN***	***STDEV***
ROA	40	0.0125	0.0180	0.0055	0.0050
ROE	40	0.0285	0.0545	0.0107	0.0161
Inventory T/O	40	6.7410	9.8150	3.7971	2.0443
ACP	40	87.7803	215.2168	22.2283	77.5161
APP	40	170.2891	241.8962	99.2407	35.2436
CTR	40	1.6792	2.3970	1.0523	0.4556

The least duration required to complete payments for purchases is 99 days, while the maximum duration is 242 days. The factory's ROA is 1% with a Std. Dev. (STDEV) of 0.5%. The lowest ROA is 1% and the maximum is 2%. The factory's ROE is 3% with a Std. Dev. of 2%. The minimum Return on Equity is 1% and the maximum is 5%. The cash turnover ratio represents the frequency at which a company can complete a full cycle of cash flow utilizing its revenue. The process of completing a full cycle of cash flow using factory revenue typically requires an average of 2 days. Similarly, the process of completing this cycle requires a minimum of one day and a maximum of three days, with a standard deviation of one day.

Table 2 Descriptive Statistics: ROA, ROE, Inventory T/O, ACP, APP, and CTR by factory

		N	**MEAN**	**MAX**	**MIN**	**STD. DEV**
ROA	Kimunye	8	0.0118	0.0200	0.0011	0.0079
	Thumaita	8	0.0130	0.0160	0.0065	0.0036
	Kangaita	8	0.0130	0.0160	0.0065	0.0036
	Ndima	8	0.0111	0.0134	0.0069	0.0024
	Mununga	8	0.0169	0.0227	0.0150	0.0029
	Rukuriri	8	0.0120	0.0222	0.0013	0.0089
	Mungania	8	0.0110	0.0165	0.0031	0.0054
	Kathangariri	8	0.0113	0.0170	0.0032	0.0056
ROE	Kimunye	8	0.0511	0.1611	0.0067	0.0566
	Thumaita	8	0.0255	0.0371	0.0134	0.0080
	Kangaita	8	0.0255	0.0371	0.0134	0.0080
	Ndima	8	0.0225	0.0328	0.0121	0.0070
	Mununga	8	0.0330	0.0437	0.0261	0.0070
	Rukuriri	8	0.0235	0.0434	0.0022	0.0169
	Mungania	8	0.0229	0.0392	0.0059	0.0124
	Kathangariri	8	0.0241	0.0414	0.0062	0.0131
Inventory T/O	Kimunye	8	6.6031	8.6932	3.8652	1.5566
	Thumaita	8	5.6392	8.4092	3.0995	1.6992
	Kangaita	8	5.6392	8.4092	3.0995	1.6992
	Ndima	8	9.5003	20.3493	4.2869	5.6164
	Mununga	8	6.8115	8.4430	4.2869	1.4562
	Rukuriri	8	6.4523	7.4393	4.2537	1.1658
	Mungania	8	6.6412	8.3885	3.7426	1.5805
	Kathangariri	8	6.6412	8.3885	3.7426	1.5805

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ACP	Kimunye	8	312.4432	549.2330	41.7793	224.6594
	Thumaita	8	134.4400	513.3901	21.7651	189.7282
	Kangaita	8	118.0616	450.8451	19.1135	166.6141
	Ndima	8	28.0262	52.3645	14.3612	12.7958
	Mununga	8	31.2481	58.3844	16.0122	14.2668
	Rukuriri	8	34.5165	46.3434	28.7035	6.4352
	Mungania	8	29.0046	34.1161	24.0611	3.7526
	Kathangariri	8	14.5023	17.0580	12.0305	1.8763
APP	Kimunye	8	109.7534	186.1603	28.5050	65.4750
	Thumaita	8	225.4743	429.3101	27.6428	135.8774
	Kangaita	8	127.8192	267.1990	25.3346	88.6022
	Ndima	8	92.5611	111.0935	74.1027	12.1277
	Mununga	8	200.7223	240.9107	160.6946	26.2995
	Rukuriri	8	204.0399	237.8659	166.4583	26.7178
	Mungania	8	211.6309	240.4117	164.4850	32.3542
	Kathangariri	8	190.3113	222.2184	146.7028	30.3723
CTR	Kimunye	8	2.2170	3.0040	1.6900	0.5469
	Thumaita	8	1.8641	3.7188	0.1612	1.1272
	Kangaita	8	1.8641	3.7188	0.1612	1.1272
	Ndima	8	1.6983	1.9179	1.5118	0.1365
	Mununga	8	1.7487	1.9179	1.5118	0.1407
	Rukuriri	8	0.0193	0.0498	0.0028	0.0164
	Mungania	8	2.0110	2.4246	1.6899	0.2751
	Kathangariri	8	2.0110	2.4246	1.6899	0.2751

Source: Drawn from Financial Statement Data

From above table .2 above, the maximum ROA for all factories in the study was 2.3% and a minimum of 0.1% with a STDEV of 1%. This shows that the tea factories on investments in assets have considerable influence in making working capital decisions. This deduces that Mununga had the highest maximum average ROA of 2.3% whereas the lowest average ROA was Kimunye at 0.1% with a STDEV of .0.3 and 0.8 respectively. ROA of over 5% is largely considered good and that of over 20% is excellent. The low value of ROA shows that the factories are not efficient in using assets to generate profits.

From above table 2, the maximum ROE for all factories in the study was 16% for Kimunye and a minimum of 0.2% for Rukuriri with a STDEV of 5.6% and 1.7% respectively. The average ROE for the factories is 5.1% for Kimunye while the minimal is 2.2% for Mungania with STDEV of 5.7 and 1.2 respectively. This ratio shows how effective the factory management is in using equity financing to finance operations and growth. A ROE of between 15-20 percent is considered good. In the current case, performances are lower hence, the low efficiency of the factory management in this aspect.

From above table 2, the maximum inventory T/O for all factories in the study was 20 days for Ndima with a standard deviation of 5.6. On the contrary, the minimum days it takes to convert inventory to sales revenue is 3 days for Thumaita and Kangaita with a Std. Dev. of 1.7 days. The average number of days it takes to convert inventory into sales revenue is 10 days for Ndima factory with a Std. Dev. of six days. A good inventory turnover ratio is 5 to 10 for most industries. This shows that a company sells and restocks its inventory every 1-2 months. In the current case, the average of 6 to 10 days shows that the companies are within good performance.

The maximum ACP for all factories in the study was 549 days for Kimunye with a Std. Dev. of 225 days. Equally, the minimum number of days for collection of payments from customers was 12 for Kathangariri factory. The average ACP was 312 for Kimunye with a Std. Dev. of 225 days. Average collection period reveals the average time the factories take to collect payments from clients who are on credit terms. This measures the efficiency of factories in converting accounts receivable into cash. A shorter ACP (60 days or less) is usually preferable and this shows a business has higher liquidity. The analysis on this parameter shows mixed performance where some good and others have bad ratings.

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This analysis shows the maximum Average payment period (APP) is 429 days for Thumaita factory with a Std. Dev. of 135 days. The minimum Average payment period was 25 days for Kangaita with a Std. Dev. of 89 days. The average APP was 225 days for Thumaita with a Std. Dev. of 139 days. The APP establishes the duration in days that the factories require to settle payments with their vendors for purchases made on credit. Most firms consider 90 days as ideal average payment period. From the analysis, the factories are taking longer to make payments.

This analysis shows the maximum CTR is 4 days for Thumaita and Kangaita with a standard deviation of 1.1 days. The minimum CTR was one day for Rukuriri with a standard deviation of 0.1days. The average CTR was 2 days for Kimunye, Mungania, and Kathangariri. Cash turnover ratio shows the number of times a firm can make a CCC flow via its revenue. A higher ratio is better because it indicates improved efficiency and profitability.

6.2 Inferential Statistics

6.2.1 Correlations Analysis

Following the descriptive analysis, Pearson correlation analysis was conducted to ascertain the link or association between the explanatory (independent) and predicted (dependent) variables. The Pearson correlation is utilized to ascertain the degree of link between variables in a model. It helps identify which variable most effectively explains the influence of WCM on the financial health of tea processing plants.

Table 3 Correlation Analysis

		Profitability (ROE & ROA)	Inventory Management	Internal Response Orientation	Accounts Payable	Cash Conversion Circle
Profitability (ROE &ROA	Pearson Correlation	1				
	Sig. (2-tailed)	0.000				
Inventory Management	Pearson Correlation	.793**	1			
	Sig. (2-tailed)	0.000				
Accounts Renewable	Pearson Correlation	.735**	.616**	1		
	Sig. (2-tailed)	0.000	0.000			
Accounts Payable	Pearson Correlation	.630**	.536**	.612**	1	
	Sig. (2-tailed)	0.000	0.000	0.000		
Cash conversion circle	Pearson Correlation	.826**	.641**	.530**	.565**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

The study utilized Karl Pearson's coefficient of correlation to determine the presence of a linear relationship between the variables. The association displayed in Table 3 illustrates the bivariate correlations among the study variables, namely inventory management, receivable, payable, CCC, and profitability (ROE and ROA).

However, inventory management were strongly positively and statistically significant correlated to Profitability (ROE & ROA) ($r=0.793$, $p<0.01$). Furthermore, the study findings revealed that accounts receivable was positive and strongly correlated with Profitability (ROE & ROA) ($r=0.735$, $p<0.01$). Accounts payable was positive and strongly correlated with Profitability (ROE & ROA) ($r=0.630$, $p<0.01$). Cash conversion circle was positive and strongly correlated with Profitability (ROE & ROA) ($r=0.826$, $p<0.01$). This implies that all the study variables: inventory management, receivable, payable and CCC were positive and strongly correlated with Profitability (ROE & ROA) and were positively and statistically significant. Further, inventory management contributes 79.3 % to increase in Profitability (ROE & ROA).

Accounts receivable contributes 73.5% to increase in Profitability (ROE & ROA). Accounts payable contributes 53.0% to increase in Profitability (ROE & ROA). The CCC accounts for 82.6% of the rise in profitability, as measured by ROE and ROA. Both 0 and 1.00 are acceptable values for the correlation coefficient.

A score of -1.00 signifies a complete adverse correlation, whereas a value of +1.00 signifies a complete positive correlation. Thus, when the value is 0.00, it indicates that there is no correlation between the two variables (Orodho, 2003).

7. Summary, Conclusion and Recommendations

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7.1 Summary of Findings

Firstly, the research aimed to ascertain the effect of inventory management on profitability of tea factories managed by KTDA in Kirinyaga and Embu counties, Kenya. The study established a positive and strong correlation between Inventory Management and financial success in tea factories (Pc Values r=0.793, p<0.01). Further, the study determined that the financial health of tea factories was significantly and positively impacted by a unit change in inventory management period. The efficient management and effective control of inventories help in minimizing investment in working capital and attaining better operational outcomes.

The second objective was to ascertain the effect of receivable management on profitability of tea factories managed by KTDA in Kirinyaga and Embu counties, Kenya. This was represented by Average collection period (ACP). The research established a positive correlation between ACP and profitability among tea processing factories (Pc value r=0.735, p<0.01). The study ascertained that a unit change in ACP had a positive change in profitability among tea factories. Therefore, tea factories should generally maintain ACP lesser than APP to lessen investment in receivables.

The third objective was to assess the impact of account payable administration on the profitability of tea factories under the management of KTDA in Kirinyaga and Embu counties, Kenya. This was facilitated by the Average Payment Period (APP). The study found a significant positive link (correlation value = 0.63, p<0.01) between APP and financial success in tea manufacturers. The researcher further found that an increase of one unit in APP has a beneficial effect on the financial success of tea processing plants. The descriptive data reveal that the APP (Accounts Payable Period) plays a crucial role in effectively managing working capital. This is because deliberately delaying bill payments can be used as a strategic weapon by management to secure competitive sources of funding. Similarly, the potential loss of benefits from holding a significant quantity of accounts payable (APP) may hinder the functioning of the factories if a reduction be provided for prompt payment. Therefore, tea factories should aim to stagger their payments to creditors in order to preserve their connection.

Lastly, the study aimed to determine the effect of CCC on profitability of tea factories managed by KTDA in Kirinyaga and Embu counties, Kenya. The study established a positive and strong correlation between CCC and Profitability (ROE & ROA) (r=0.826, p<0.01). The study equally found that a unit change in CC had a positive change on profitability among tea factories. The findings are congruent study by Doğan and Kevser (2020) which revealed a positive link between CCC and firm profitability.

7.2 Conclusion

The current study found a strong and positive correlation between APP, ACP, Inventory turnover, and CC on financial profitability of tea processing factories. Essentially, the research suggested that a unit change in the independent variables had positively impacted profitability performance among tea processing firms.

The study found a direct relationship between the rate at which inventory is sold and the financial performance of tea manufacturers, indicating that higher inventory turnover is associated with greater profitability. Essentially, an increase in inventory turnover will have a beneficial effect on the profitability of tea factories. Efficient inventory management and effective inventory control are crucial for achieving satisfactory operational outcomes and minimizing investment in working capital. Similarly, the study found that the proficient and successful control of inventory facilitates the survival of a corporation, maximizes profits, and ensures efficient management of working capital. This is accomplished by efficient inventory management, which ensures a harmonious equilibrium between profitability and liquidity.

The study established a positive association between accounts receivable and profitability performance among tea factories, where a unit change in ACP has a positive change on profit performance in tea factories. Findings from descriptive analysis reveals that effective management of accounts receivables results in enhanced liquidity that enables tea factories to meet and realize their financial commitments and equally be able to seize opportunities emerging in the market. Therefore, tea factories should maintain higher APP compared to ACP to help lessen investment in account receivables. The descriptive analysis findings indicate that the size of tea factories has a vital role in defining the form of relationship the firms adopt to operate in their environment. Essentially, larger tea factories have some edge due to greater opportunity to benefit from economies of scale; hence facilitating greater bargaining power, efficient production, setting prices beyond the competitive level, and exploiting experience curve effects. Further, credit collection policies that enable low ACP will ensure vigorous cash flows and enhanced liquidity position for the firm. Effective and efficient management of receivables results in the increase of firm size, sale, and enhanced liquidity.

The study findings suggest a direct correlation between APP and profitability performance in tea factories. Outcome from the descriptive statistics indicate that AP helps to manage WC since delays in bill payments is an approach that can help factories to access cheaper or competitive sources of funds. However, postponing of payables may be costly when tea factories offered discount on payment settle their dues on time. Conversely, the opportunity cost of maintaining high levels of accounts payable could have a detrimental impact on the organization if discounts are offered for early payment.

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Effective inventory management significantly improves profitability, underlining the need for optimized turnover rates and stock levels. Timely collection of accounts receivables enhances profitability, underlining the significance of efficient collection policies and credit. The impact of AP is smaller compared to the others, however, efficient management of payables still impacts positively to profitability, signifying that tea factories should focus on negotiating favorable/competitive payment terms aligned with harmonious supplier relationships. Cash Conversion Cycle is the most impactful factor to profitability, signifying that decreasing the time to convert resources into cash increases firm's profitability. Therefore, tea factories need to streamline their operations to enhance this cycle.

7.3 Recommendations

Tea factory firms should maintain optimal levels of financial leverage. This is anchored on realization that uncontrolled debt levels may result in credit downgrades while small debt-to-equity could imply underutilizing potential advantages available from improved earnings. Tea factories must create a credit collection policy detailing the practices and procedures to be applied by the factories to achieve outstanding AR. The policy ought to let the simultaneous utilization of a variety of collection methods, which will result in factories improving their cash flow by reducing their ACP and minimizing losses from bad debts. Tea manufacturers should typically maintain a larger APP compared to the ACP in order to reduce the amount of money tied up in unpaid invoices, fulfill immediate financial obligations, and decrease the cost of borrowing.

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