



EFFECTS OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF MANUFACTURING COMPANIES IN RWANDA

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ABSTRACT

The general objective of this study was to find out the effects of working capital management on profitability of manufacturing companies in Rwanda. The specific objectives included: To analyse the relationship between cash management and profitability of Inyange Industries, to assess the relationship between accounts payable management and profitability of Inyange Industries, to examine the relationship between accounts receivable management and profitability of Inyange Industries and to find out the relationship between inventory control management and profitability of Inyange Industries. The population of the study was Inyange industries employees from Finance office and accounting office equal to 148. The sample size was determined with the help of the Solvin formula which provides a simplified formula to calculate sample size. When this formula was applied, the researcher got a sample size of 108. The study used the purposive sampling technique to select the sample. The study applied the following tools of data collection; documentary and questionnaires. The results showed that there is a significant positive correlation between Cash Management Practices and profitability as Pearson correlation is 0.889. The results showed that there is very strong correlation between accounts payable management and profitability as Pearson correlation is 0.884. Researcher confirmed strong and positive relationship between accounts receivable management and profitability of Inyange Industries. Since the Pearson Correlation value was 0.743. The results showed that there is very strong correlation between Inventory Control management and profitability as Pearson correlation is 0.807. The p-value is 0.000, which is less than both standard significance levels of 0.05 and 0.01. Inyange industries should keep optimum current assets in order to enhance the short-term debt-paying ability of the firm.

Key Words: Cash management, Inventory management, Receivables management, Payables management, Profitability

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INTRODUCTION

Despite the size of any organization, Proper management of working capital is essential for the company to remain liquid enough to meet its short term creditors. However, the issue with working capital is that it cannot be reduced to a minimum without operational compromises. This means that companies need to optimize and manage their working capital in a way that does not compromise future sales and profits. For example, companies that shorten their payment terms too much might have difficulties in selling their products. Most customers appreciate a longer payment period to improve their own working capital or the check product quality.

It is from the above points researcher came out with the idea to conduct a research on effects of working capital management on profitability of manufacturing companies in Rwanda.

The specific purpose of this thesis were:

- To analyse the relationship between cash management and profitability of Inyange Industries.
- To assess the relationship between accounts payable management and profitability of Inyange Industries.
- To examine the relationship between accounts receivable management and profitability of Inyange Industries.
- To find out the relationship between inventory control management and profitability of Inyange Industries.

LITERATURE REVIEW

Singh and Assess (2011) have also reported that well organized WCM, has a considerable participation on performance and short term solvency of firms. WCM involves the adequate mixture of CA and CL for keeping the business run efficiently particularly in terms of energy, goodwill and time. No doubt, the efficient WCM will help in generating the shareholders wealth which is main objective of survival of business. Maintaining the proper WCM is the best way to achieve the value.

He added that the WCM is essential for firms' liquidity and its existence. WCM deals with decisions associated with short term financing and WC. It maintains the relationship between firm's CA and CL. The purpose of WCM is that the firms have enough cash flow to run its operations in order to meet the short term obligations and to maintain the level of investment in CA.

According to Rajesh (2011) the chief purpose of each financial manager is to increase the sales volume and firms' profitability. In order to get this goal, efficient WCM is indispensable because WCM have an impact on the profitability and liquidity of firms. WCM as the management of short term assets and short term liabilities of firms to balance the risks and profitability that have positive contribution in the value of firms. In order to explore the impact of WCM on the firms performance listed in Tehran stock exchange in perspective of Iran, on an emerging small firms from 2007 to 2011, the researchers also performed conceptual and empirical analysis in this regard and its elements acted as a key measure of WCM abilities of firms, two performance measures were taken into consideration in this study, i.e., market as well as accounting measures, this study advocated that there is positive significant association of WCM with firms profitability, additionally, they also suggested that the more lucrative companies are that not as much forced toward their WCM.

Forghani, *et al.*, (2013) did a research study to scrutinize the connection between WCM and FP of the companies. For this purpose they targeted 56 companies of Iran which are listed in Tehran stock exchange. The analysis was made during 2003-2007. Key performance measures such as ROA, ROE, and ratio of market value to book value of the company (P/B) were taken as variables with the view to measure the relationship whether there is a positive relationship or negative. They concluded there is a positive and considerable relationship between performance and WCM. Moreover, this study indicates that managers can use better

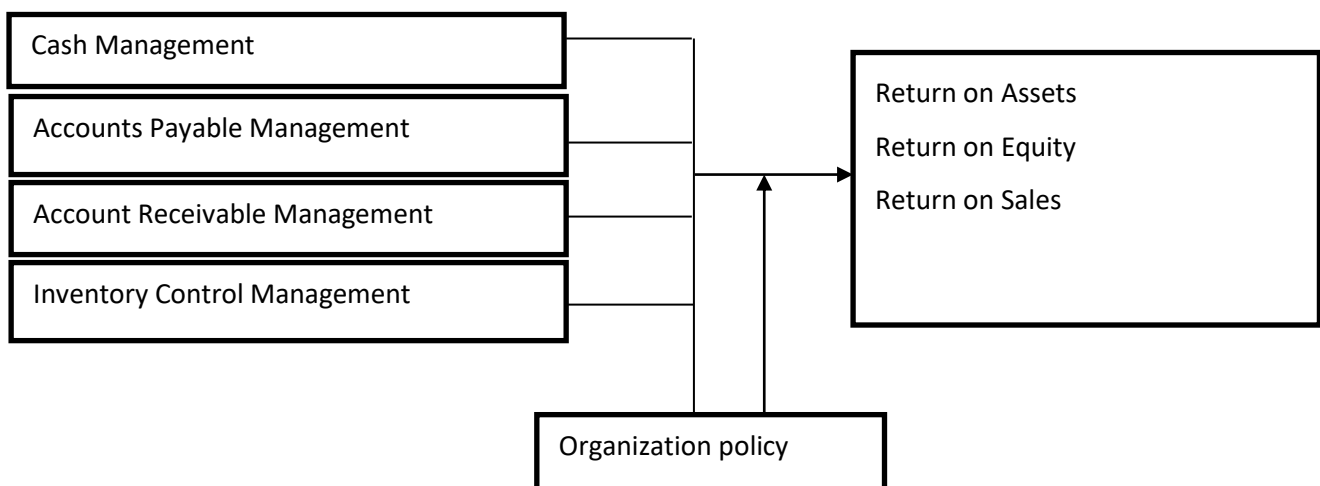
strategies for WCM to improve the profitability of the firms such as reasonable ways to control the account receivables and debt collection, minimizing the debt collection period, and increase cash to improve WC of the company.

Akinlo (2011) used 65 companies for the period covering 2005-2009 and revealed that there exists a strong correlation between the WC components with the firms' profitability. Taani (2011) observed positive relationship between financial performance measures, i.e.. EPS with WCM elements. Sharma and Kumar (2011) reported that CCC and average collection period (ACP) have positive correlation with FP of firms under consideration.

Qureshi (2014) studied the association of one element of WCM on firms return in case of companies listed in Karachi stock of Pakistan to conduct research on manufacturing firms listed in KSE. The study results confirmed that there is a strong negative correlation of WCM elements with firms' FP it was also concluded that as CCC swells, consequently, the profitability of the corporation decreases. The relation of WCM with profitability in

case of Tehran stock exchange by taking the sample of 147 listed companies from 2005-2009. The results of this study reported there is a negative significant association of WCM proxy, i.e., CCC with profitability measures, i.e. ROA and ROE. In order to test the relationship Pearson correlation and multivariate regression were applied.

Abuzayed (2012) advocated firms attempt to maintain a most favorable level of WC that in turn enhances the wealth of shareholders. The results of this study found that WCM has a negative relation between firms performance. The major part of literature review mentioned above typically focuses on the association of the WCM with firms' FP. Most of the researchers have applied correlation and multiple regression analysis to empirically test the impact of WCM elements on firm's' performance. In several studies they have applied CCC, RCP, inventory turnover (ITO), average payment period (APP), as key measures of WCM whereas for measuring FP ROA, ROE, and EBIT, GOP. In literature review we found that there are contradictory results.



Independent Variable

Intervening Variable

Dependent Variable

Figure 1: Conceptual framework

Source: Researcher, 2020

METHODOLOGY

The researcher employed quantitative research design; this study adopted a descriptive research design. For the case of this study, the population of the study was Inyange industries employees from Finance officers and accounting officers equal to 148. The sample size was determined with the help of the Solvin formula which provides a simplified formula to calculate sample sizes.

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size, and e is the margin of error (0.05). When this formula is applied to the above sample, the researcher gets the sample size of 108.

$$n = \frac{148}{1 + 148(0.05)^2} = \frac{148}{1 + 148(0.0025)} \\ = \frac{148}{1 + 0.37} = \frac{148}{1.37} = 108$$

The study used the purposive sampling technique to select the sample. The main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which was best enable the researcher to answer research questions. Researcher used the purposive sampling technique to collect information, then selecting individuals who have a shared set of characteristics and information. In order to facilitate the study to be well accomplished each objective of the study was investigated by using specific questions. The study applied the following tools of data collection; documentary and questionnaires.

During the process of documentary analysis, the researcher used some documents and after understanding and analyzing the relevance of texts to this study, he classed them down on manuscripts and later typed them on a computer for

compilation. The researcher used this method to conduct and get secondary data.

The questionnaires were distributed to 108 employees, where the levels that used are mainly closed questions. Therefore, are much easier to code and analyze; and often can be coded from the questionnaire, saving time and money. Further, the respondents were often clear about the meaning of the question and could often tell the answer for what was demanded.

Before the research tools being administered to the respondents, the researcher first pre-tested the questionnaire to ensure their validity and reliability. A small group of 22 respondents functioning in manufacturing companies were chosen randomly to represent the others for pre-testing. The pre-testing confirmed that the questions are clear enough without any missing items. Cronbach's alpha test indicated that the research instrument can be able to achieve the stated objectives, the value of Cronbach's alpha was 0.81 which is greater than 0.70.

FINDINGS

This chapter presented analyses and interpreted the data collected from both primary and secondary sources. The chapter was organized into sections.

Piloting Analysis: Pilot study was carried out to assess the reliability for instruments used in primary data collection. There was response from 22 respondents out of the possible 108 which represented 20% of the sample and were chosen randomly.

Reliability Results: The data was extracted from the questionnaires and entered into SPSS 20. The Cronbach's alphas scored were extracted as shown in the table below.

Table 1: Reliability

Variable	Number of items	Cronbach's alpha	Comments
Cash Management	10	0.892	Accepted
Accounts Payable Management	10	0.859	Accepted
Account Receivable Management	10	0.873	Accepted
Inventory Control Management	10	0.845	Accepted
Profitability	10	0.868	Accepted

This study had used a survey questionnaire that involved both categorical and scales measures. A strong support was achieved for the instrument with reliability alpha levels above the 0.70 threshold (Nunnally, 2007).

The data was extracted from the questionnaires and entered into SPSS 20. To ensure the internal validity and reliability. The Cronbach's alphas were above 80%. This indicated that most items in this questionnaire had high squared multiple correlations an indication that the questionnaire passes reliability test. Cronbach's alpha above 0.7 is regarded as satisfactory (George & Mallery, 2003). This meant that the tool was adequate in measuring how the relationship between: Cash Management,

Accounts Payable Management, Account Receivable Management, Inventory Control Management and Profitability.

Content Validity

Content validity was checked using exploratory factor analysis, which is a powerful tool for examining interrelationship between variables. In exploratory factor analysis, factor loadings range from 0 to 1, the higher the loadings the more valid an attribute in relation to the study. According to Bryman and Bell (2015), factor loadings are evaluated as: 0.32 and less is considered poor, 0.33 to 0.45 is considered as fair, 0.46 to 0.55 is considered to be good, 0.56 to 0.63 is very good and above 0.7 is excellent.

Table 2: Content validity

Variable	C.V
Cash Management	0.675
Accounts Payable Management	0.663
Account Receivable Management	0.649
Inventory Control Management	0.671
Profitability	0.788

Context validity for Cash Management equal to 0.675, Accounts Payable Management equal to 0.663, Account Receivable Management equal to 0.649, Inventory Control Management equal to 0.671 and Profitability equal to 0.788. Thus, in this study any variables whose factor loading was less than 0.5 were to be excluded from sub sequent analysis and refined and replaced with more relevant content which passed the test.

Profile of respondents

In social sciences research personnel characteristics of respondents have very significant role to play in expressing and giving the responses about the problem, keeping this in mind, in this study a set of personal characteristics namely education background and working experience were the profile of respondents considered during this research. This was done in order to form a basis of making conclusions on assessment of the effects of working capital on profitability of Inyange industries.

Table 3: Education Background

		Frequency	Percent
Valid	Bachelor's Degree	73	67.6
	Master's Degree	35	32.4
	Total	108	100.0

Source: Primary data, September 2020

Table showed that the respondents were classified based on their educational background. Whilst some have been educated from Bachelor up to the post graduate. The educational level of the respondents is dominated by Bachelor education

level of 67.6%, the results further reveals that 32.4% were Master's Degree holders. The results from the survey showed that all respondents are qualified and therefore, their information can be relied upon to conclude the findings of this study.

Table 4: Working experience

		Frequency	Percent
Valid	Between 6 and 10	33	30.6
	Between 11 and 15	29	26.7
	Above 15	46	42.6
	Total	108	100.0

Source: Primary data, September 2020

The elements taken in the above table indicate that more than 30.6% of Inyange Industries employees have an experience of 6 and 10 years in its services and activities, more of 26.6 % have an experience between 11 years and 15 years and whereas 42.6%

of investigated employees have an experience of above 15 years. This means that, the information collected can be relied upon in making a conclusion about the study. This, therefore, increases the validity and reliability of the information collected.

Table 5: Cash Management Practices in Inyange industries

	Mean	Std. Deviation
The firm always prepares a cash budget	4.7551	0.48004
The firm has an optimum cash balance policy	4.7347	0.44607
Cash and marketable securities are maintained at a higher level than the current liabilities	4.8776	0.43935
The firm has been aided by Cash flow prediction in financial planning	4.7551	0.56016
Liquidity ratios are maintained at optimal level	4.5102	0.86897
The firm regularly assesses the optimum and minimum levels of liquidity	4.5510	0.76543
Current assets are maintained at a higher level than the current liabilities	4.5918	0.78842
Cash constitute a large position of the total current assets	4.5918	0.81441

Source: Primary data, September 2020

Table 5 revealed the perceptions of the respondents on cash management practices in Inyange industries. Table revealed the results of 108 respondents that have completed the questionnaire out of 108 distributed and analysis based on mean and standard deviation:

The firm always prepares a cash budget (Mean =4.7551and SD=0.48004) this shows that there is very high mean and strong evidence of the existence of the fact and homogeneity of responses, The firm has an optimum cash balance policy (Mean =4.7347 and SD= 0.44607) this shows that there is

very high mean and strong evidence of the existence of the fact and homogeneity of responses, Cash and marketable securities are maintained at a higher level than the current liabilities (Mean =4.8776 and SD= 0.43935) this shows that there is very high mean and strong evidence of the existence of the fact and homogeneity of responses, The firm has been aided by Cash flow prediction in financial planning (Mean =4.7551 and SD= 0.56016) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, Liquidity ratios are maintained at optimal level (Mean =4.5102 and

SD= 0.86897) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm has been aided by Cash flow prediction in financial planning (Mean =4.5510 and SD= 0.76543) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm regularly assesses the optimum and minimum levels of

liquidity (Mean =4.5918 and SD= 0.78842) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses and Cash constitute a large position of the total current assets (Mean =4.5918 and SD= 0.81441) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses.

Table 6: Accounts Payable management in Inyange industries

	Mean	Std. Deviation
The firm receives credit facilities from its suppliers	4.7755	0.42157
The firm receives cash discounts from its suppliers upon payment within a stipulated period of time	4.6531	0.63084
The firm is sometimes charged an interest by its suppliers for late payment	4.4898	0.50508
The firm is sometimes unable to pay its suppliers on time	4.5918	0.49659
The payment period allowed by your suppliers to your firm is reasonable	4.6122	0.49229

Source: Primary data, September 2020

Table 6 revealed the perceptions of the respondents on accounts payable practices in Inyange industries. Table revealed the results of 108 respondents that have completed the questionnaire out of 108 distributed and analysis based on mean and standard deviation:

The firm receives credit facilities from its suppliers (Mean=4.7755 and SD=0.42157) this shows that there is very high mean and strong evidence of the existence of the fact and homogeneity of responses, The firm is sometimes charged an interest by its suppliers for late payment (Mean=4.6531and SD= 0.63084) this shows that there is very high mean and strong evidence of the existence of the fact and

heterogeneity of responses, The firm is sometimes charged an interest by its suppliers for late payment (Mean =4.4898 and SD= 0.50508) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm is sometimes unable to pay its suppliers on time (Mean =4.5918 and SD= 0.49659) this shows that there is very high mean and strong evidence of the existence of the fact and homogeneity of responses and the payment period allowed by your suppliers to your firm is reasonable (Mean =4.6122 and SD= 0.49229) this shows that there is very high mean and strong evidence of the existence of the fact and homogeneity of responses.

Table 7: Accounts receivables in Inyange industries

	Mean	Std. Deviation
The firm frequently reviews levels of accounts receivables	4.5102	0.50508
The firm frequently reviews the levels of bad debts	4.4082	0.53690
The firm investigates the credit worthiness of customers who want credit facilities	4.5306	0.50423
The firm regularly writes to customers reminding them to pay their debts	4.5102	0.50508
The firm allows cash discounts to customers to induce them pay promptly	4.6327	0.56620
The discount given to your customers depend on the credit period allowed	4.6327	0.60187
The firm has set agreeably credit policy	4.6122	0.53293
The overall firm's credit policy has an ability to increase sales	4.5918	0.53690

Source: Primary data, September 2020

Table 7 revealed the perceptions of the respondents on credit policy in Inyange industries. Table revealed the results of 108 respondents that have completed the questionnaire out of 108 distributed and analysis based on mean and standard deviation. It is clear from the results that most commonly practiced items were:

The firm frequently reviews levels of accounts receivables (Mean =4.5102 and SD=0.50508) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm frequently reviews the levels of bad debts (Mean =4.4082 and SD= 0.53690) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm investigates the credit worthiness of customers who want credit facilities (Mean =4.5306 and SD= 0.50423) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm regularly writes to customers reminding them to

pay their debts (Mean =4.5102 and SD= 0.50508) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm allows cash discounts to customers to induce them pay promptly (Mean =4.6327 and SD= 0.56620) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The discount given to your customers depend on the credit period allowed (Mean =4.6327 and SD= 0.60187) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm has set agreeably credit policy (Mean =4.6122 and SD=0.53293) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The overall firm's credit policy has an ability to increase sales (Mean =4.5918 and SD= 0.53690) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses.

Table 8: Inventory Control management in Inyange industries

	Mean	Std. Deviation
The firm has a defined level of inventories for raw materials	4.5306	0.61583
The firm has determined optimal batch sizes	4.6327	0.56620
The firm reviews inventory levels periodically	4.5102	0.61652
The firm keeps accurate inventory records	4.7755	0.51093
The firm has installed an inventory control system	4.8163	0.48620

Source: Primary data, September 2020

Table 8 revealed the perceptions of the respondents on inventory control practices in Inyange industries. Table revealed the results of 108 respondents that have completed the questionnaire out of 108 distributed and analysis based on mean and standard deviation:

The firm has a defined level of inventories for raw materials (Mean =4.5306 and SD=0.61583) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm has

determined optimal batch sizes (Mean =4.6327and SD= 0.56620) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm reviews inventory levels periodically (Mean =4.5102 and SD= 0.61652) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses, The firm keeps accurate inventory records (Mean =4.7755 and SD= 0.51093) this shows that there is very high mean and strong evidence of the existence of the fact and heterogeneity of responses and The firm has

installed an inventory control system (Mean =4.8163 and SD= 0.48620) this shows that there is

very high mean and strong evidence of the existence of the fact and homogeneity of responses.

Table 9: Correlations analysis

		Cash Management	Accounts Payable Management	Account Receivable Management	Inventory Control Management	Profitability
CM	Pearson Correlation	1	.789	.654*	.805	.889**
	Sig. (2-tailed)		0.000	0.00	0.000	0.000
	N		108	108	108	108
APM	Pearson Correlation		1	.861**	.713**	.884**
	Sig. (2-tailed)			0.000	0.000	0.000
	N			108	108	108
ARM	Pearson Correlation			1	.490**	.734**
	Sig. (2-tailed)				0.000	0.000
	N				108	108
ICM	Pearson Correlation				1	.807**
	Sig. (2-tailed)					0.000
	N					108
P	Pearson Correlation					1
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

From the correlation Table, the results show that there is a strong correlation between Cash Management Practices and profitability as Pearson correlation is 0.889. The p-value is 0.000, which is less than both standard significance levels of 0.05 and 0.01. This indicates that, out of the considered determinants of profitability, only the size of the firm as measured by Cash Management Practices has significant effect on its profitability.

From the correlation Table, the results show that there is very strong correlation between accounts payable management and profitability as Pearson correlation is 0.884. The p-value is 0.000, which is less than both standard significance levels of 0.05 and 0.01. This indicates that, out of the considered determinants of profitability, only the size of manufacturing company as measured by account payable management has significant relationship with profitability.

Table reveals that questionnaire were answered by 108 respondents, p-value is 0.000, which is less than standard significance levels of 0.05. In this research, researcher confirmed a relationship between accounts receivable management and profitability of Inyange Industries. Since the Pearson Correlation value was 0.743 and it is significant, the researcher proved that there is moderate and positive relationship between accounts receivable management and profitability of Inyange Industries.

From the correlation Table, the results show that there is very strong correlation between Inventory Control management and profitability as Pearson correlation is 0.807. The p-value is 0.000, which is less than both standard significance levels of 0.05 and 0.01. This indicates that, out of the considered determinants of profitability, only the size of manufacturing company as measured by Inventory Control management has significant relationship with profitability.

Cash management and profitability of Inyange Industries

Table 10: Regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.724 ^a	.524	.469	.97544
a. Predictor: (Constant), Cash Management Practices				

Source: Primary data, September 2020

Table 10 showed R square percentage which explained by the benchmark index. R square can vary from 0% to 100%. An R square of 100% means that the entire index is explained by the variable. The value of R-square in this study is 52.4% means that the proportion of profitability (dependent variable) is explained by the independent variable (Cash Management Practices) at 52.4%. This indicates that the model is strong, as the independent variables highly explain the dependent

variable. The adjusted R-square is used to compensate for additional variable in the model. In this case, the adjusted R-square is 46.9%. It is assumed that if the p-value is less than 0.05, then there is a significant relationship between the independent variable and the dependent variable. When the value is higher than 0.05, then it is considered that there is no significant relationship between variables.

Table 11: ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	45.086	5	9.017	9.477	.000 ^b
	Residual	40.914	43	.951		
	Total	86.000	48			
a. Dependent Variable: Profitability						
b. Predictor: (Constant), Cash Management Practices						

Source: Primary data, September 2020

In Table 11, from the ANOVA table, p-value is 0.000 which is less than the 0.05 and 0.001, set as standard significance levels. This means that researcher rejected the null hypothesis and go by

the alternative hypothesis, which states that the independent variable affect profitability of the firms.

Table 12: Regression Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.809	1.838		12.413	.000
	Cash Management Practices	.806	.054	.382	1.594	.018
	a. Dependent Variable: Profitability					

$$Y = \alpha + \beta_1 X_1 + \epsilon$$

Y=Dependent variable –Profitability

α =Constant

ϵ =Error

β =Coefficient of the Disbursement

X_1 = Cash management

$$Y = 12.809 + 0.806(\text{Cash Management Practices}) + \epsilon$$

The regression equation shows that profitability will always depend on a constant factor of 12.809

regardless of the existence of other determinants. The other variables explain that; every unit increase in cash management practices will increase Profitability by a factor of 0.806.

Accounts payable management and profitability of Inyange Industries Ltd

Table 13: Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.885 ^a	.870	.862	.33207
a. Predictor: (Constant), accounts payable management				

Source: Primary data, September 2020

Table 13 showed the value of R-square in this study is 87% means that the proportion of profitability (dependent variable) is explained by the independent variables (account payable management) at 87%. This indicates that the model

is strong, as the independent variable highly explain the dependent variable. The adjusted R-square is used to compensate for additional variable in the model. In this case, the adjusted R-square is 86.2%.

Table 14: ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	53.346	4	13.336	120.942	.000 ^b
	Residual	1.654	15	.110		
	Total	55.000	19			
a. Dependent Variable: Profitability						
b. Predictor: (Constant), accounts payable management						

Source: Primary data, September 2020

In this case, from the ANOVA Table 14, p-value is 0.000 which is less than the 0.05 and 0.001, set as standard significance levels. This means that researcher rejected the null hypothesis and goes by

the alternative hypothesis, which states that the independent variable affects profitability of Inyange Industries.

Table 15: Regression Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.809	1.838		12.413	.000
	Account payable management	.739	.113	.372	2.122	.051
a. Dependent Variable: Profitability						

$$Y = \alpha + \beta_2 X_2 + \epsilon$$

Y=Dependent variable –Profitability

α =Constant

ϵ =Error

β =Coefficient of the Disbursement

X_2 = Accounts payable management

$$Y = 12.809 + 0.739(\text{Account payable management}) + \epsilon$$

The regression equation shows that profitability will always depend on a constant factor of 12.809

regardless of the existence of other determinants. The other variables explain that; every unit increase in Account payable management will increase Profitability by a factor of 0.736.

Accounts receivable management and profitability of Inyange Industries.

Table 16: Regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.727 ^a	.528	.499	2.20572

a. Predictor: (Constant), accounts receivable management

Source: Primary data, September 2020

The results in the Table 16 showed the impact of accounts receivable management on profitability of Inyange Industries. The results as measured by R-

square and adjusted R-square, show that 52.8% of the total variation in profitability is caused by accounts receivable management.

Table 17: ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	261.296	3	87.099	17.902	.000 ^b
	Residual	233.530	48	4.865		
	Total	494.827	51			

a. Dependent Variable: Profitability
b. Predictor: (Constant), accounts receivable management

Source: Primary data, September 2020

The results in the Table 17 showed statistical significance of the variables is considered were 0.000. From the ANOVA, the P-value is less than 0.05 implying that the model is a good fit for the

data. The results indicated that there is positive relationship between accounts receivable management and profitability of Inyange Industries.

Table 18: Regression Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.809	1.838		12.413	.000
	Accounts receivable management	.819	.672	.310	2.855	.006

a. Dependent Variable: Profitability

$$Y = \alpha + \beta_3 X_3 + \epsilon$$

Y=Dependent variable –Profitability

α =Constant

ϵ =Error

β =Coefficient of the Disbursement

X_3 = Accounts receivable management

$$Y = 12.809 + 0.819(\text{Accounts receivable management}) + \epsilon$$

The regression equation shows that profitability will always depend on a constant factor of 12.809 regardless of the existence of other determinants. The other variables explain that; every unit increase in Accounts receivable management will increase Profitability by a factor of 0.819.

Inventory Control management and profitability

Table 19: Regression on Inventory Control management and profitability

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.807 ^a	.722	.720	2.16544

a. Predictor: (Constant), Inventory Control management

Source: Primary data, September 2020

The results in the Table 19 showed the effect of Inventory Control management on profitability of Inyange industries. The results as measured by R-

square and adjusted R-square, show that 72.2% of the total variation in profitability is caused by Inventory Control management.

Table 20: ANOVA^a on Inventory Control management and profitability of Inyange industries

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1629.485	1	1629.485	347.503	.000 ^b
	Residual	351.684	75	4.689		
	Total	1981.169	76			

a. Dependent Variable: Profitability

b. Predictor: (Constant), Inventory Control management

Source: Primary data, September 2020

The results in the Table 20 showed statistical significance of the variables is considered were 0.000. From the ANOVA, the *P*-value is less than 0.05 implying that the model is a good fit for the

data. The results indicated that there is positive relationship between Inventory Control management and profitability of Inyange industries.

Table 21: Regression Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.809	1.838		12.413	.000
	Inventory Control management	.707	.212	.038	.330	.042

a. Dependent Variable: Profitability

$$Y = \alpha + \beta_4 X_4 + \epsilon$$

Y=Dependent variable –Profitability

α =Constant

ϵ =Error

β =Coefficient of the Disbursement

X_4 = Inventory control management

$$Y = 12.809 + 0.707(\text{Inventory Control management}) + \epsilon$$

The regression equation shows that profitability will always depend on a constant factor of 12.809 regardless of the existence of other determinants. The other variables explain that; every unit increase in unit increase in Inventory Control management will increase Profitability by a factor of 0.707.

Table 22: Multivariate regression

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	12.809	1.838		12.413	.000
Cash Management Practices	.806	.054	.382	1.594	.018
Account payable management	.739	.113	.372	2.122	.051
Accounts receivable management	.819	.672	.310	2.855	.006
Inventory Control management	.707	.212	.038	.330	.042

a. Dependent Variable: Profitability

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Y=Dependent variable –Profitability

α=Constant

ε=Error

β =Coefficient of the Disbursement

X₁= Cash management, X₂ = Accounts payable management, X₃ = Accounts receivable management and X₄ = Inventory control management.

$$Y = 12.809 + 0.806 (\text{Cash Management Practices}) + 0.739 (\text{Account payable management}) + .819 (\text{Accounts receivable management}) + 0.707 (\text{Inventory Control management}) + \epsilon$$

CONCLUSIONS AND RECOMMENDATIONS

From the correlation, the results showed that there is a moderate correlation between Cash Management Practices and profitability as Pearson correlation is 0.889. The results showed that there is very strong correlation between accounts payable management and profitability as Pearson correlation is 0.884. P-value is 0.000, which is less than standard significance levels of 0.05. In this research, researcher confirmed a relationship between accounts receivable management and profitability of Inyange Industries. Since the Pearson Correlation value was 0.743 and it is significant, the researcher proved that there is moderate and positive relationship between accounts receivable management and profitability of Inyange Industries. The results showed that there is very strong correlation between Inventory Control management and profitability as Pearson

correlation is 0.807. The p-value is 0.000, which is less than both standard significance levels of 0.05 and 0.01.

Inyange industries should keep optimum current assets in order to enhance the short-term debt-paying ability of the firm.

Keeping a positive net working capital is very crucial to improve performance of company. Therefore, Inyange industries have to struggle with maintenance of current assets exceeding the current liabilities.

The researcher suggested the following research topics:

- Contribution of working capital management on performance of merchandizing companies
- Relationship between internal control system and working capital management

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