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INFLUENCE OF RECEIVABLES COLLECTION PERIOD ON PROFITABILITY OF TEA FACTORIES IN MERU COUNTY, KENYA

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Abstract

This study was undertaken to investigate the influence of receivables collection period on profitability of tea companies in Meru County, Kenya. The census method was used to study the population of all the seven tea factories in the County. Several literatures relevant to this study were reviewed with a view of isolating research gaps. The study used descriptive research design as this is an effective tool for application of cause-effect statistical methods such as regression analysis. For this purpose, the simple linear regression analysis was used to describe the nature of the relationship between receivables collection period and the profitability. This regression analysis was based on a five year period starting from the year ended 2010 to the year ended 2015. Pearson's correlation coefficient and ANOVA were used to confirm or reject the hypothesis. It was found that receivables collection period had negative effect on the profitability. This implies that shortening this duration improves profitability.

Keywords: Receivables, profitability, working capital management, return on assets, cash flow

INTRODUCTION

Tea was introduced to Kenya in 1903 by G.W.L. Canine and in the 1930's the white settlers started commercial farming of this cash crop. Although planting slowed down in 1933 because of a depressed market, tea is today one of Kenya's leading foreign exchange earner. Over the past decades, the first tea bushes have grown into large trees, forming an historical feature on what is now Unilever's Mabroukie Tea Estate (Tea Board of Kenya report, 2015). In Kenya, there are both large plantations and what are called smallholdings. Kenya is the largest producer of tea in Africa, fourth in the whole world and it has quadrupled its exports over the last decade. Tea is also produced for local consumption among Kenyans. The Tea Board of Kenya and the Tea Research Institute work constantly to help the individual farmers improve tea quality and access market for the produce.

Tea and coffee farming was a preserve for the large- scale farmers and multinationals until Kenya gained independence in 1963.The settlers and the colonial government had restricted tea and coffee growing to large-scale farmers and multinationals for the reason of maintaining quality. The Africans however viewed this as an attempt to lock them out of cash crop farming. Shortly after Kenya attained independence in 1963, it enacted several Land Reform Laws which have had far reaching impact on farming. In a nut shell, tea growing was made opened to the local farmers. The tea has since spread across the country and is currently a leading foreign exchange earning crop to the Country and cash crop for many small scale farmers(Alice Kirambi 2008).

According to Owuor (2011), although the Kenyan tea quality remains high, the prices are low due to increasing costs of production and ever rising inflation. This has contributed to diminished tea revenue to tea farmers. The profitability of the tea industry in the Country has been adversely affected by the volatility of the Kenya shilling against the international currencies. In addition, tea revenues in Kenya have been declining owing to high labour cost, farm inputs and energy cost.

In Kenya, the return from tea farming to the small-scale farmers has over the years remained lower as compared to the large-scale farming. This is as a result of high charges in form of management fees charged by the Kenya Tea Development Agency(KTDA). The exorbitant taxes levied on small-scale tea farming coupled with skyrocketing production cost, the long and inefficient supply chain and general mismanagement are also to blame for this low return to small- scale farmers. The situation is worsened by failure to fully involve the small-scale farmers in decision making since they have remained at the bottom of the hierarchy in terms of participation, influencing and contributing to decision making in the tea sector (Christian Partners Development Agency Report, 2008).

In Meru County, the net returns for the tea factories in the last seven years have remained so low that farmers are now shifting their focus to other crops for survival. Many small-scale tea farmers are slowly substituting tea farming with other agricultural practices such as banana, fish and livestock farming. All the small-scale tea farmers are shareholders of KTDA Factories and therefore, when such factories report low profits, the farmers also get low returns. The farmers get part payments (interim dividends) on monthly basis after the KTDA auctions tea produce at the tea auction centre. They are also paid bonuses at the end of the financial year in lieu of final dividend. The time lag between the point of sale of tea leaves by the KTDA and the time cash is received from buyers is critical as far as working capital management is concerned. The question which begs for answers from the researchers is what causes low profitability of tea factories in Meru County. It was hypothesized in this study that there could be a relationship between the number of days accounts receivable and the profitability of tea factories. Several studies have been done to investigate the effects of many variables on profitability of firms but very few relate to profitability of tea factories in Kenya (Muturi 2015).

Statement of the problem

It is clear from the above paragraphs that the profitability of tea industry in Kenya has remained low for many years. As a result, many studies have been conducted to find out thee causes. However, many of the causes attributed to this problem as low prices of the produce, high labour cost and other operational costs are general factors which affect all the businesses in the Country. In addition, the KTDA factories have implemented cost cutting measures such as use low cost fuels and in spite of this, the profitability still remains low. Christian Partners Development Agency Report (2008) cited mismanagement as one of the causes of poor profitability of tea factories and in particular, failure to involve the shareholders in decision making. But management is a broad process. Our study focused on one specific area of management-working capital management to extend the work of the Christian Partners Development Agency (2008).

This study investigated the influence of receivables collection period on profitability of tea factories in Meru County. The receivables collection period, also known as days accounts receivable, is one of the components of working capital and therefore commonly used by many scholars as a working capital metric. Madishetti and Kibona (2013), elucidate that the most critical components of working capital are the receivables and payables and their efficient management leads to enhanced size of the business activities as a result of increased sales thus increasing recycling of funds and yielding higher profitability.

Research Objective

To determine the influence of receivables collection period on the profitability of tea factories in Meru County.

Study Hypothesis

Ho: There is no significant influence of receivables collection period on the tea factory's profitability.

Justification of the Study

The findings of this study may be significant to various stakeholders in the tea industry. To begin with, the managers of tea factories may be able to gauge the degree of the correlation between receivables collection period and the company's profitability. This knowledge may help them to determine the significance of receivables management as part of working capital management. The results of this study review the direction of the relationship between receivables collection period and the factory's profitability and how to improve profitability by changing the independent variable. In addition, other scholars may benefit from the findings of this study since it has pointed out areas requiring further study. Further, the shareholders, suppliers, financiers and investors will be able to monitor and predict the profitability of the tea factory by use of the knowledge of receivables collection period. This may foster quality and well informed investment decisions.

Scope of the Study

The study covered all the seven tea factories located in Meru County. It was limited to the tea factories only and was based on the companies' financial data for the five years between 2010and 2015.

Limitations of the Study

It was perceived that the respondents could be unwilling to disclose the financial data of their factories since such is usually treated confidential. To mitigate this problem, the study adopted a closed ended questionnaire which required answers to be given in ranges of values from minimum to maximum for each variable. Thus questions requiring specific answers were avoided to make the respondents comfortable at answering questions. The findings of this study may not be replicated in non agricultural sectors such as banking, insurance, construction, hospitality because the environments differ significantly.

REVIEW OF RELATED LITERATURE

Working capital management

According to Rehaman and Nazir (2007) and Deloof (2003), working capital management in is of great significance to a firm because it directly influences both liquidity and profitability. Working capital comprises of both current assets and current liabilities of the firm. The difference between these two is referred to as the net working capital. The net working capital is the life blood of a business organization as it reveals the firm's ability to finance its day to day operations. The working capital is determined the amounts of receivables, cash balances, inventories and payables. Many researchers including Manyo T.S & Ugwu J. I (2013) and Deloof (2003) have elucidated that the current assets of manufacturers are more than half of all the firm's assets. They also hold the view that the receivables and inventories account for a significant proportion of the total assets of the firm. There is therefore a need to effectively and efficiently manage the working capital of the firm. The efficiency and effectiveness in working capital management helps to strike a balance between liquidity and profitability of a firm. According to Eljelly (2004), efficient working capital management is concerned with planning and controlling the working capital variables(current assets and current liabilities) with a view of reducing the risk of failure to honour short term financial obligations as and when they fall due and at the same time avoid over investing in current assets. According to Asif Iqbal & Wang Zhuquan(2015), efficient working capital management is an integral component of the corporate strategy of a firm and it is very crucial for the long-term survival of a business firm. As the current assets constitute a very significant portion of the working capital, it is important for finance managers to efficiently manage them.

Receivables collection period/Number of Days Accounts Receivable

Most researchers for example Deloof(2003), Amarjit et al(2010), Biger et al(2010), Mogaka and Jagongo (2013) and Melita, Elfani and Lois (2010) have agreed on the definition of and formula for calculating the number of days accounts receivable or receivables collection period .Accounts receivables collection period or sometimes number of days accounts receivable is the time duration a selling firm takes to collect cash from debtors. It would look more economical, convenient and preferable for every business firm to sell all its goods for cash. The immediate cash receipt would reduce the time lag between the cash inflow from sales and the cash outflow for materials, labor and other conversion costs paid out earlier in making or converting materials into saleable goods. However, it is extremely hard for a firm to sell all goods for cash because of its credit policy benefits such as improved sales volume and competitors' pressure. An optimum collection period would be the desire of every credit manager in order to minimize bad debts,

receivables ledger maintenance expenses and debts recovery expenses. The number of days accounts receivable is calculated by dividing the trade receivables by the credit sales per day. Days accounts receivable = (trade receivables/net credit sales) 365 (Melicher and Leach, 2009).

Melitaet al (2010) empirically investigated the effect of working capital on firm's profitability in Cyprus. The study was based on financial data collected from all industrial firms in Cyprus Stock Exchange covering the period 1998-2007. The researchers excluded all the financial organizations due to their distinct nature of their operations. Using multivariate regression analysis, they found a significant negative relationship between the number of days accounts receivables and profitability. In a similar study conducted by Jayarathne (2014) on the impact of working capital management on profitability of Sri Lanka companies, the results also conformed to those observed by Elfani et al (2010).

Manyo et al (2013) investigated the effects of the number of days accounts receivable on the return on assets of some selected Nigerian firms between 2000 and 2009 by use of cross sectional and regression analysis. It was found that the days accounts receivable had a negative relationship with the profitability which was measured by the return on assets. The conclusion was that profitability increased with decrease in days accounts receivable. This find was confirmed by Asif Iqbal & Wang Zhuquan (2015) who conducted a similar research on Pakistani firms listed on Karachi Stock Exchange. Many other researchers have conducted similar researches with similar findings though the tea industry has not attracted many researchers.

In Ghana, a similar study was conducted on the relationship between working capital management and profitability of companies. The researchers used panel data methodology to pool of cross-sectional units of observations over several time dimensions and produced more robust estimates as opposed to employing cross-sectional or time-series estimation techniques alone. The researchers used different proxies for both the independent (working capital) and the dependent variable (profitability). While other researchers excluded the current ratio from the set of independent variables, these researchers included it in their model. Interestingly, this study used the return on equity (ROE) as the proxy for the profitability, the dependent variables. ROE was computed as the net profit divided by equity. The approach used here conflicts with other researches in that by using the current ratio together with the other components of working capital would cause multi-colinearity. Secondly, ROE is not an appropriate proxy for profitability because net profit belongs to many interest group including equity shareholders, debt holders the government among others. Therefore, use of ROE makes an assumption that the net profit belongs to only one group- the ordinary shareholders which is most unlikely. Further, the

researchers have not defined the net profit which can mean many things including profit before interest and tax(PBIT), profit before tax(PBT), and profit after tax (PAT) or even gross profit.

Amarjit et al (2010) investigated the relationship between working capital and profitability of United States of America. The research covered the period between 2005 and 2007. Cross sectional yearly data was analyzed for 88 companies. The researchers omitted all the service companies industry. The researchers found a significant negative relationship between the number of day accounts receivable and the profitability of American firms thus agreeing with the aforementioned results from different researchers. Other researchers found a negative relationship between working capital management and the profitability. They include Ahmet et al (2012), Deloof (2003), Mogaka and Jagongo (2013), Jayarathne (2014) and Huynh (2011).

Profitability

Profitability is the dependent variable in this study. It is worth noting that the word “profit” is different from the word “profitability”. Profit means the excess of revenue over the operating expenses in a given financial year, profitability referrers to the measure of the ability of a business entity to earn profit(Huynh, 2011). According to Bodie et al (2004), profit may be measured in five different ways and the choice depends on the purpose for which such an approach is used. These include: gross profit, operating profit, profit before interest and tax(PBIT), profit before tax(PBT),and profit after tax (PAT).

According to Ildiko and Tamas(2009), profitability is measured by a ratio indicating the rate of some profit which is benchmarked against some base measurement or variable of reference such as total sales, equity, total assets, investment, non-financial assets, gross profit, net capital employed and other appropriate variables. Therefore Profitability is expressed as (profit/Base measurement) 100%.

Unlike other researchers such as Huynh (2011), Filipa & Garcia (2011), Melita & Elfani (2010), and many others, profitability in this study was measured as (PBIT/TOTAL ASSETS) 100%. Huynh (2011) used operating profit as the numerator in calculation of return on non-financial assets. Senthilman (2011) used gross operating profit margin to measure profitability. Other researchers such as Huynh and su (2010), Biger et al (2010) and Lazaridis (2006) measured profitability by taking gross profit as numerator in calculation of return on assets thus failing to deduct operating expenses from gross profit. The researcher decided to use net profit or PBIT because the main purpose was to measure the effect of receivable collection period on the company’s profitability as a whole but not operating profit only.

RESEARCH METHODOLOGY

Research design

According to Vaus,D.A (2001), the research design is the overall strategy used by the researcher to integrate the different parts of the research in an aesthetically and logically ordered manner so as to effectively address the research problem. It constitutes the road map for the collection, measurement, and analysis of data. The study used descriptive research design where by quantitative analysis was applied to describe the effects of receivables collection period on the profitability. This research design was chosen because the objective of the study was to describe the behavior of the dependent variable (profitability) in response to changes in the independent variable (receivables collection period).According to Huynh (2011), the descriptive research design is applied in studies involving more qualitative and quantitative data. Further, this design is used as an effective basis for application of cause-effect statistical methods such as regression and correlation analysis. Descriptive analysis helps the researcher get the data summaries such as percentages, measures of central tendency, minimum and maximum values, variance, coefficient of variation and standard deviation, According to Thuvarakan(2012), descriptive analysis facilitates clear understanding about the data gathered and their pattern over the periods.

Empirical model

The simple linear regression model was used to study the effects of the independent variable (receivables collection period) on the dependent variable (profitability). The simple linear regression equation relevant for this study was:

$Y = \alpha + \beta x + \varepsilon$

Where: Y= dependent variable

α= the Y intercept

β= slope coefficient for independent variable x

x = independent variable

ε = error term

Hence, the model for the functional relationship between the two variables is as follows:

$ROA = \alpha + \beta (RCP) + \varepsilon$

Where: ROA= Return on Assets

RCP= Receivables Collection Period

e= error term

Independent variable

The receivables collection period (RCP) is the independent variable.

RCP = (Receivables/Credit sales) 365 days.

Dependent variable

The dependent variable in this study is the profitability measured by the return on assets. It was determined as:

ROA = (PBIT/Total Assets) 100.

Where PBIT= Profit before Interest and Tax.

Target population

The study targeted the tea factory accountants of all the seven tea factories in Meru County. The tea industry was chosen because it has been largely ignored by researchers despite the fact that the earnings have diminished for the last six years. This area has not attracted many researchers in Kenya.

Census

This is the method according to which every element or respondent in the population is studied. Census provides true parameters of the population since sampling errors are avoided. According to Angela (2003), this method is appropriate for small populations and provides a frame work for the selection of household samples. Meru County, in which this research was conducted, has seven tea factories and since this is a small number, the researcher conducted a census.

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Data Collection Instrument

The study relied on primary data which was in quantitative form in order to measure both the independent and dependent variables. Therefore, a questionnaire was used to collect quantitative financial data including trade receivables, credit sales, total assets, operating profit before tax among others for each of the financial years between 2011 and 2015. These data were used to compute receivables collection period and return on total assets for each of the five years. The questionnaire, which carried both closed and open ended questions required answers in the form of ranges or scale for example the range between minimum and maximum credit sales in a given year. The questionnaire was administered by the researcher personally. This method of collecting data was chosen because it is easier to administer and analyze the data.

Pilot testing

Before administration of the questionnaire to the respondents to gather data, a pilot study was conducted in Kigumo, a Sub County in Murang'a County to test the validity of the instruments. This was found important in order to check if the questionnaire was clear to the respondents and effectively addressed the data required for this research. The pilot study also helped the researcher to assess and identify any problems the respondents could face in completing the questionnaire which could not have been anticipated during the time of its construction.

Reliability

Reliability is the degree to which the data collection instrument can be relied upon to give consistent results after repeated trials (Weiner J 2007). According to Mugenda M (2003), a reliability coefficient of 0.8 or more is highly significant and it implies high reliability of the instrument. In this study, the internal consistency approach to assess the reliability in data was applied. This method required the scores obtained from different items in the questionnaire to be correlated and then Cronbach's Coefficient Alpha to be calculated to establish the correlation between items in the questionnaire. In this case, the formula, Alpha= Nr/(1+r(N-1)), where r is the mean inter-item correlation and N is the number of items in the scale was applied. This method, which relied upon the application of the Kunder-Richardson (K- R) 20 formula, yielded a reliability coefficient of 0.813. This is significant indicating that the items in the questionnaire were significantly correlated.

Validity

Validity is the degree to which results obtained from the analysis of the data accurately represent the phenomenon under investigation (Mugenda M 2003). According to Weiner J (2007) validity of an instrument is the degree to which such an instrument describes what it is constructed to measure. In designing the questionnaire, the researcher specified the whole domain of the relevant contents of the data to ensure a comprehensive data collection process. This helped the researcher to achieve content-validity of the data. Further to that, all the data necessary in the measurement of the independent and dependent variables were included.

Data Analysis Procedure

The questionnaires were checked first after they were collected from the respondents to ensure that they were fully and correctly completed as per the instructions. The researcher then numbered them. This was done to eliminate errors and enhance the data validity. Responses of closed ended questions were then tallied. The data coding was then carried out and the coded

data entered into the computer for analysis by use of SPSS (version 20).The simple linear regression and correlation analysis were conducted to analyze the data. The study also tested the hypothesis that there was no effect of the receivables collection period on the profitability of tea factories.

RESULTS AND DISCUSSION

Influence of receivables collection period on the profitability of tea factories

The number of days accounts receivable also referred to as accounts receivables collection period is the length of time a selling firm takes to receive cash from those buyers who buy goods from it on credit. The objective of the researcher was to find out the extent to which the tea factory's profitability can be explained on the basis of the receivables collection period. The results (Table 1) show that it is possible on the basis of the receivables collection period to explain 81.6% (R^2=0.816) of the profitability trend observed. The simple correlation coefficient (R=-0.903) reveals a very strong negative relationship between the independent and dependent variables.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	-.903(a)	.816	.755	.04402

Predictors: (Constant), receivables collection period.

The ANOVA (Table 2) gives the findings for the significance test of this model. According to the analysis, the model significantly assesses the influence of receivables collection period on profitability. The significance (p = 0.036<0.05) means that the receivables collection period significantly negatively influences profitability. Therefore, the hypothesis that there is no significant influence of the receivables collection period on profitability is rejected at 5 % level of significance.

Table 2: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.026	1	.026	13	.036(a)
	Residual	.006	3	.002		
	Total	.032	4			

a Predictors: (Constant), receivables collection period b Dependent Variable: Profitability

The regression equation for estimating profitability based on the number of days accounts receivable can be expressed as;

$Y = \alpha + \beta X$

Where: Y= dependent variable (Factory's profitability)

α= the Y intercept (Constant)

β= slope coefficient for independent variable X (receivables collection period)

Based on the findings (Table 3) of this research, this function would translate into;

Y = 1.445 -0.034(receivables collection period)

Table 3: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.445	.320		4.520	.020
Receivables collection period	-.034	.009	-.903	3.649	.036	

a Dependent Variable: Profitability

Results further indicate that both the constant and the days accounts receivable period significantly contributes to the value of profitability observed. This means that despite accounts receivable, there are other factors that have significant effect on profitability of the tea factories in Meru County.

The negative Pearson correlation between the two variables presents an inverse association between the two. It therefore means that if it takes so long to complete a days account receivable, the factory will end up with very low profits. This conforms to what was found by other researchers including Ahmet (2012), Amarjit (2010), Deloof (2003), Huynh (2011), Jayarathne (2014) and Mogaka (2013) in the study of effect of working capital management on profitability.

CONCLUSIONS

The main objective of this study was to find out whether the receivables collection period influences the profitability of tea factories in Meru County. Based on the findings of this study, it can be concluded that the profitability of a tea factory in Meru County is significantly negatively influenced by the amount of time in days the factory management takes to collect cash from its

debtors. The study therefore concludes that the shorter the number of days account receivable, the higher the profitability and the reverse is true.

In general, working capital management has a significant effect on the profitability trend of a typical tea processing company in Meru County if we can take the receivables collection period as a representative of working capital. Accordingly, there are other underlying factors that contribute to the profitability of the tea factories under the study. These have not been investigated by this research.

POLICY RECOMMENDATIONS

Based on the above findings and conclusions, this study recommends that the tea factory managers could increase the value of their businesses by reducing the receivables collection period to a reasonable minimum number of days. The extension of credit should be made to those customers whose credit worthiness is unquestionable. This calls for sound credit management. The factory's credit terms depend on the competitive market for tea and thorough assessment of the nature and credit worthiness of the customers. Prior to selling on credit, a careful risk assessment should be done to mitigate the consequences of default and delayed payments. The tea factories should come up with sound credit management policies which can ensure efficient debt collection from customers. Such policies will permit reasonable provisions for doubtful debts and the application of cost-benefit analysis in evaluation of factoring of debtors and invoice discounting.

SCOPE FOR FURTHER RESEARCH

The current study was based on a bi-variate profit function with only one independent variable. A further study incorporating other working capital determinants should be conducted to improve this one. It is also reasonable to suppose that there are other factors other than working capital determinants that play major roles in shaping the tea factories' profitability trends. Therefore a further research on such factors could be necessary. A research to investigate effects of days account receivable on profitability of tea factories in the entire Country would also be one County important since the current one focused on one County only.

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