Effects of accounts receivable management on the financial performance of construction companies in Rwanda, a case of NPD Ltd.

A dissertation for the award of the degree of Master of Business Administration, Finance option.

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DECLARATION

This research project entitled **“Effects of accounts receivable management on the financial performance of construction companies in Rwanda. A case of NPD Ltd”**, is my original work and has never been submitted at this or any other university or college for the award of any academic qualification.

Signature Date

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Mugarura Fred

DEDICATION

To my wife Kagaju Esther, your encouragement and support have always kept me going. To my children Kaliza Mugarura Olga and Nshuti Mugarura Elgar, you have always put a smile on my face.

AKNOWLEDGEMENTS

I thank the almighty God for the gift of life, and for giving me all the resources that enabled me complete this project. I also wish to sincerely thank my supervisor Dr. Twesige Daniel for his guidance, support and encouragement. Thanks to my MBA classmates for their support during the whole journey.

Finally, I wish to extend my sincere appreciation to my parents for the foundation they laid, upon which I am still standing.

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LIST OF ABBREVIATIONS

FRW: Rwandese Francs

ART: Accounts Receivables Turnover

ACP: Average Collection Period

BDARR: Bad Debts to Accounts Receivable Ratio

ROA: Return on Assets

AR: Accounts Receivable

DSO: Days Sales Outstanding

POD: Proof of Delivery

POC: Percentage of Completion

CCC: Cash Conversion Cycle

WCM: Working Capital Management

NSE: Nairobi Stock Exchange

SPSS: Statistical Packages for Social Sciences

GP: Gross Profit

NP: Net Profit

ABSTRACT

The study focused on the effects of accounts receivable management on the performance of Construction Companies and NPD Ltd was taken as a case study. The study had specific objectives that included; to evaluate the effectiveness of accounts receivable management in NPD Ltd, to ascertain the relationship between accounts receivable management and profitability, and to recommend areas of improvement in as far as accounts receivable management is concerned

The researcher reviewed the related literature to come up with full idea of the study conceptual framework, both primary and secondary data in relation to the study were obtained. In collecting primary data, the researcher used questionnaires and interviews from a sample of 30 respondents selected based on a table for determining a sample from a given population by Morgan& Krejcie. For secondary data, the company's financial statements for the period 2016-2018 were analyzed using financial techniques /ratios.

The findings revealed that A/R management in NPD Ltd was not effective especially in terms of ACP and A/R turnover. The recommendations made include: NPD's collection efforts of accounts Receivables from her credit customers should be improved. This is due to the fact that slow payment by credit customers has been realised within the company.

The company should therefore put much more effort in setting up procedures that would speed up collection of Accounts Receivable from debtors. Slow collections have revealed bad image while computing the ACP for the firm and this cuts the firm's cash potential resulting in liquidity problems and at times leading to bad and doubtful debts. Further, the firm should make critical assessment of the credit seeking customers and credit be given to those who will pay in the credit period given by the company. This is because the company's debtor's turnover has been found unsatisfactory resulting from delayed payments from debtors who take much time than the credit period given by the firm. Finally, the study recommended areas for further researches as; Comparing Accounts receivables and Accounts payables management. The impact of credit

extension on customer's purchasing decisions. This will help find out customers' attitude on cash purchase.

CHAPTER ONE: INTRODUCTION

This chapter includes the following; background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, scope of the study and the significance of the study.

1.0 Background of the study

John G. Salek (2005) asserts "in today's market places competitive market pressure and industry practice mandate that product and service be sold on a credit vs. cash on delivery. This practice often produce receivable that is one of the largest tangible assets on the company's balance sheet. Management of these receivables is a demanding task as it addresses the ramifications of practices and processes usually outside the span of the control of the responsible manager. Management of accounts receivable begins when the antecedents are completed, and the receivable is posted to the detailed receivables ledger account. However, receivables are much more fluid and an integral part in doing business so, the safeguard and acceleration of the turnover must be accomplished".

Berry and Jarvis (2006) said "before a firm comes up with a credit policy that will optimize the trade receivables level, it has to weigh up the options between the increased sales revenue and the additional administrative costs associated with the increased receivables. It should also consider the level of risk its ready to face while extending credit to its customers since some may be unable to pay when their debt falls due. They should also not ignore the extra investment in debt management such as extra staff".

Gill (2010) asserts "the main task of accounts receivable management is to optimise the balance between management of cash flow components. Cash flow management is basically involved with planning and control of cash inflows and outflows in any firm. It also involves the holding of optimal level of cash by a firm at any point in time".

According to Samiloglu (2008) "any firm with proper trade receivables management system is able to increase profitability due to a reduction in transaction costs involved in raising extra funds due to liquidity issues".

Ahmet (2012) asserts "accounts receivable as a component of cash flow affects profitability of any firm. Cash flow management can be described as the management of cash inflows and cash outflows in and out of the firm. The main component of management of cash flow includes inventory, trade receivables, planning of cash flow and trade payables".

The issue here remains that there must be accounts receivables if the firm needs to maximise its sales and further maximise profits. However, by doing this, effectiveness in the management of accounts receivables is of a great importance, otherwise Credit sales would result into bad debts and this would negatively affect the profitability and the overall performance of the firm (Ahmet 2012), specifically NPD Ltd.

While business firms would like to sale on cash, the pressure of competition and the force of custom persuades them to sell on credit. Firms grant credit to facilitate sales. It is valuable to customers as it augments their resources; it is appealing to those customers who cannot borrow from other sources or find it expensive or inconvenient to do so. The credit period extended by the business firms usually ranges from 15 to 60 days. When goods are sold on credit, finished goods get converted into accounts receivable (trade debtors) in the books of the seller. In the books of the buyer, the obligation arising from the credit purchase is represented as accounts payable (trade creditors) (Ahmet 2012).

A firm's investment in accounts receivable depends on how much it sells on credit and how long it takes to collect receivables.

NPD Ltd's financial statements for the year 2018 (note 5 on page 30) show that an amount of 685,698,000 Frw was written off as irrecoverable receivables while 117,821,000 Frw was provided for as allowance for bad debts whose recoverability was highly doubtful.

The theoretical framework adopted for this study was derived from the profit maximization theory of firms developed by D.W Stephen, J.F. Lynch, & A.E. Sorensen (1984). This theory was adopted for this study because it mainly focuses on how the marginal revenue and marginal cost affect the firm's profit, so, if it is not managed effectively and strongly the credit system or accounts receivable, it will have negative impact to the profitability.

Conceptually, the accounts receivable management is the process that includes forwarding balances, identification of all uncleared invoices, and generating periodical customer statements. Overdue receivables will be collected basing on the aged receivables listing.

However, the independent variable of accounts receivables management is: credit policies, credit risk assessments, billings and credit collection procedure while the dependent variable of this study the Company's performance.

While NPD Ltd has implemented various types of construction projects, the majority of focus has been in the area of road construction, a market segment that is typically not addressed by traditional private sector construction companies and serves a great need in the country. Additionally, although road construction has proven to be profitable, there is growing competition in the sector especially from foreign firms. This competition dictates the company to offer credit services to the esteemed customers which largely leads to nothing else but accumulated accounts receivable on the company's statement of financial position. The accumulated receivables need logical management to avoid massive bad debts hence this forms the basis through which the researcher analyzed how effective can accounts receivable be managed to meet the company's strategic objectives.

1.1 Statement of the problem

Accounts receivable are amounts expected to be collected from customers in the near future. Trade receivables are amounts that arise from selling goods to credit customers, whereas non-trade receivables are those items not directly related to the main business activities. They include insurance claims, interest receivable or amounts due from employees. The study however concentrates on trade receivables.

Lynch (2005) asserts "businesses must ensure proper management of trade receivables to avoid finding their liquidity under considerable strain and to remain profitable".

According to Emery et al. (2004) "effective accounts receivable management is important and strategic; it affects the financial performance of a firm and a firm's value. A firm's competency to synchronize cash inflows with cash inflows in formulating a cash flow management strategy is important to a firm's financial performance. The core mandate of trade receivables management lies in shareholder wealth maximization. Receivables constitute a big investment in the firm's current assets. They should therefore be evaluated just like capital expenditure for their net present values".

NPD Ltd's financial statements for the year 2018 (note 5 on page 30) show that an amount of 685,698,000 Frw was written off as irrecoverable receivables while 117,821,000 Frw was provided for as allowance for bad debts whose recoverability was highly doubtful.

It is against this background that the researcher wanted to carry out an investigation and analyse how effective is the management of accounts receivables in Rwandan business firms with reference to NPD Ltd.

1.2 Objectives of the study

1.2.1 General objectives of the study

Analysing the effect of accounts receivable management on the financial performance of construction companies in Rwanda, is the overall objective of the study.

1.2.2 Specific objectives

- To evaluate the effectiveness of accounts receivable management in NPD Ltd.
- To ascertain the relationship between accounts receivable management and profitability

1.3 Research questions

- How effective is accounts receivables management in NPD Ltd?
- Is there any relationship between accounts receivables management and profitability?
- What challenges do NPD Ltd face in managing its accounts receivable and what would be the proposed measures for the improved accounts receivable management?

1.4 Justification of the study

The researcher's interest in the study is to establish the elements of accounts receivables management, ascertain challenges encountered in accounts receivable management and its effects on the financial performance of construction of construction companies in Rwanda; with reference to NPD Ltd.

1.5 Significance of the study

The findings of the study will be useful in the following ways:

- Firstly, this study will benefit the managers of construction companies' who were experiencing nowadays credit system problem and improving their understanding towards the effects of accounts receivable management on firm's profitability. Thus helping to develop strategies for effective management of accounts receivables, this is equally important to other companies.

- Secondly, the study highlighted how effective accounts receivable management improves the performance level of construction companies and even the components of credit system.

- Finally, the study will add some knowledge to the already existing facts about effects of accounts receivables management on firm's profitability to those researchers who are interested in accounts receivable management for further research. However, this study also generated ideas for better understanding of the relationship between accounts receivable management and profitability as well the overall performance of construction companies.

1.6 Scope of the study

This study focused on measuring the effectiveness of accounts receivables management, measuring the receivable turnover ratios by comparing the ratios of different periods to ascertain the performance trend overtime. The study was limited to NPD Ltd, one of the private construction companies in Rwanda located in Kigali city. It thus analysed the accounts receivable for the financial years 2016 to 2018, and the financial performance of the company for the same period.

1.7 Organisation of the study

The study is divided into five chapters

- Chapter 1 Introduction comprises of general background organization under study, problem statement, research objectives, research questions scope of the study.
- Chapter 2 is Literature Review, a discussion and analysis of what has been said by other scholars on issues pertaining to accounts receivable.
- Chapter 3 shows the overall approach used to collect the required data. It shows the methodology which was employed to accomplish the study work. It explains in detail the study design, data sources, techniques and methods of data collection, population, sampling techniques.
- Chapter 4 focused on data analysis and interpretation of collected data. The findings were interpreted and edited in relation to the study objectives
- Chapter 5 deals specifically with the summary of the findings, conclusion and recommendation of the study and set areas for further research.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter shows the literature of different authors on issues related to the topic. It presents the introduction, theoretical framework, review of related literature and the conceptual framework.

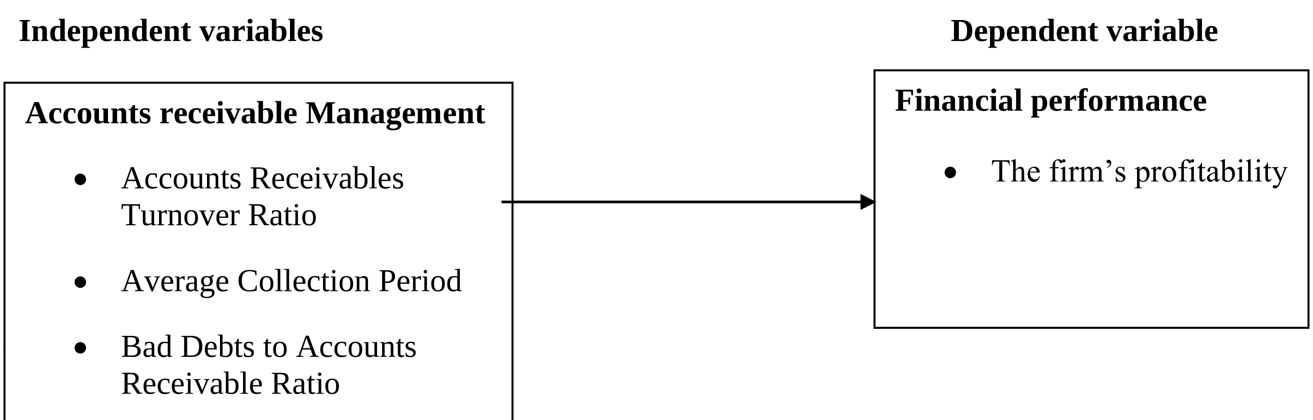
2.1 Theoretical framework

The theoretical framework adopted for this study was derived from the profit maximization theory of firms developed by D.W Stephen, J.F. Lynch, & A.E.Sorensen (1984). This theory was adopted for this study because it mainly focuses on how the marginal revenue and marginal cost affect the firm's profit, so, if it is not managed effectively and strongly the credit system or accounts receivable, it will have negative impact the profitability.

2.2 Conceptual framework

This chapter reviewed the different theories developed by different authors and researchers on the effectiveness of management of accounts receivables. The elements and areas reviewed in this chapter if well adopted and implemented would lead to effectiveness in the accounts receivable management. The main purpose of the conceptual framework is to help the reader to quickly understand the proposed relationship there is between the independent variables and the dependent variable of the study.

Figure 1: A conceptual framework of the relationship between the profitability of the firm and trade receivables measures



(Source: Author)

As the above figure depicts, Accounts Receivables Turnover Ratio (ART), Average Collection Period (ACP) and Bad Debts to Accounts Receivables Ratio (BDARR) will have effect on the firm's profitability level.

For the purpose of this research, the independent variables were measured using the above ratios, whereas the dependent variable (profitability) was measured using Return on Assets (ROA).

Variable	**Measurement**	**Abbreviation**
Return on Assets	$\frac{\text{Net Income}}{\text{Total Assets}}$	ROA
Accounts Receivable Turnover Ratio	$\frac{\text{Credit Sales}}{\text{Average debtors}}$	ART
Average Collection Period	$\frac{365}{\text{Accounts Receivable Turnover}}$	ACP
Bad Debts to Accounts Receivable Ratio	$\frac{\text{Bad debts}}{\text{Average debtors}}$	BDARR

2.3 Review of related literature

2.3.1 Accounts receivable

A study guide for use with financial accounting by Jeannie M. Folk (2004) states; accounts receivables refers to the amounts due from customers for credit sales. Its subsidiary ledger lists the amounts owed by individual customers. When a business extends credit to its customers, it records a revenue transaction at the time it provides its customer with goods or services. The transaction results in a revenue account increase and an increase in an asset account. Since no cash is received, the asset account that is increased is Accounts Receivable.

2.3.2 Accounts receivable management and profitability

Brigham (1992) asserts that Accounts receivable management directly impacts the profitability of the firm. It includes determining discount policy and credit policy for marginal customers, investigating ways of speeding up collections and reducing bad debts, and setting terms of sale to assure ultimate collection.

As part of accounts receivable management, you should appraise order entry, billing, and accounts receivable activities to be sure that proper procedures are being followed from the time an order is received until ultimate collection. Among the points to consider is how the average time lag between completing the sales transaction and invoicing the customer can be reduced. You should also consider the opportunity cost of holding receivables, that is, the return lost by having funds tied up in accounts receivable instead of getting invested elsewhere.

Brigham (1992) asserts; accounts receivable management begins with the decision of whether or not to grant credit. Accounts receivable management build up and also represent several alternative means of monitoring accounts receivables.

Accounts receivable management involves the establishment of credit policies. The major variables included in the credit policy are, credit standards, credit period, cash discount and collection effort. These variables are related and have a bearing on the level of sales, bad debts loss, discount taken by customers and collection expenses.

2.3.3 Accounts receivable management and liquidity

Michael sack (2006) asserts that, Liquidity is another useful determinant of credit worthiness. Liquidity refers to the availability of cash to the business. Obviously, lenders are concerned whether borrowers will have sufficient cash to repay loans. Liquidity is mainly a function of profitability. Ordinarily, the more profitable the business, the more cash available. However, liquidity is not simply a function of profitability, and firms of comparable profitability do not necessarily have comparable liquidity.

Other factors affecting liquidity are the rates at which accounts receivable and inventory are converted to cash. A business that collects its accounts receivable in an average of 20 days generally has more cash on hand than a business that requires 45 days. Similarly, a business that turns over its inventory 15 times a year has more cash on hand than a company that turns its inventory only 10 times a year.

Another indication of relative liquidity is the ratio of current assets to current liabilities. All other things being equal, a business that has a higher ratio of current assets to current liabilities is more liquid than a company with a lower ratio.

2.3.4 Improving accounts receivable management to increase liquidity

Michael sack (2006) asserts "we are in a serious dash for cash. Whether the goal is to win market share or merely to survive the economic spiral, companies must build sustainable cash positions. This demands a fundamentally different and comprehensive approach to accounts receivable (AR) management, one that looks across the entire order-to-cash process to root out payment problems early on and design flexible solutions that release more cash and permanently lower AR. Companies must increase their cash positions on a sustainable basis in today's tough economic and credit environment. They can accomplish this by better mining their own balance sheets' near-cash assets. To better mine these assets, companies need to revamp their AR management. Specifically, they must improve their attention to the entire order-to-cash process, not just focus on overdue payments. By focusing on each bucket in the order-to-cash process, companies can identify problems earlier, design better solutions, accelerate payments, and increase liquidity. For large companies, a 5 to 10 percent reduction in AR is achievable and would release tens of millions of dollars of cash".

The fundamental purpose of cash conservation is to help improve the quality and viability of a company's cash flow statement. To be able to achieve this goal, most of the companies focus on improving the statement of Profit and Loss; that alone, however, is a narrow approach. As is known, making a sale and getting the sale cashed are two different things. Further to improving the Profit and Loss, companies have to do better in tapping the hidden cash on their statements of financial position. Improving liquidity of the statement of financial position involves preserving and then enhancing a company's cash position vis a vi to its current liabilities. On the asset side of the statement of financial position, any asset can theoretically be converted into cash; in reality, this is not the case, as we are witnessing today. Selling long-term assets to generate cash during periods of depressed asset prices is an act of desperation. Instead, to raise cash and boost liquidity, managers should focus on cash equivalents on the statement of financial position, especially near-cash assets such as inventories and accounts receivable.

2.4 Credit standards and management

Brigham (1992) also stated; the fundamental question in the credit policy of the firm is: what standard should be taken in accepting or rejecting an account for credit granting firm has a wide range of decisions in this respect. At one end of spectrum, it may decide not to extend credit to the customer, however strong his credit rating may be. At the other hand, it may decide to grant credit to all customers irrespective of their credit rating. Between two extreme positions lay several possibilities, often the more practical ones.

In general, liberal credit standards tend to push sales up by attracting more customers, thesis, however, accompanied by a higher incidence of bad debt loss, large investment in receivables and a higher cost of collection, stiff credit standards have the opposite effects; they tend to depress sales, reduce the incidence of bad debts loss, decrease the investment in receivables, and lower the collection cost.

2.4.1 Credit policy

According to Brigham (1992), Credit policy effects debtor management because it guides management about how to control debtors and how to make balance between liberal and strict credit. If a company does not restrict to sell the products on credit after a given limit of sale, this liberated credit policy will increase the amount of sales and profitability. But risk will also increase with increasing of sales. If we sell the good to those debtors whose capability to pay is not good, then it is possible that some amount will become bad debts. The company can increase the time limit for paying by such debtors. On the other hand, if company's credit policy is strict, then it will increase liquidity and security, but decrease the profitability. So, finance manager should make credit policy at optimum level where profitability and liquidity will be equal. We can show it graphically.

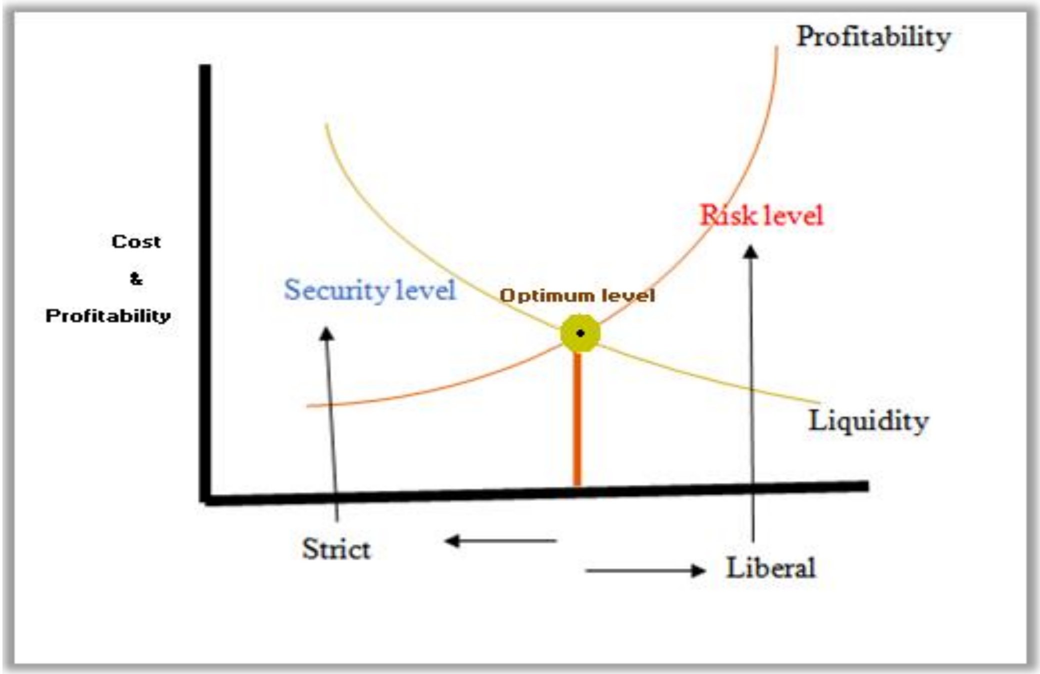


Figure 2: Optimal level of receivable management

Source: Brigham (1992)

2.4.2 Tips of credit management

Credit management deals with control and collection of payments from customers. A good credit management system helps to reduce the amount of money tied up in receivables and minimizes the company's exposure to the risk of bad debts.

Effective credit management is important to the company's cash flow. Profitability on paper does not necessarily mean availability of cash for continuation of business operations.

It is vital to minimize the risk of bad debts through effective credit management practices. The below suggestions help in preparation of credit management policies and procedures:

Credit terms and conditions

Clearly state the credit terms and conditions of trade and the credit policy in writing. Drafted terms and conditions should suit the business operations. It is advised to seek legal advice before document finalization in order to ensure that is internally consistent and that it fully covers all the key aspects. It is also very important to ensure that terms of the document are legal so they can be relied on in case of any legal dispute during the debt recovery process.

The terms should be included on all estimates, quotes, agreements, contracts, purchase orders, and any other related documents. Specify clearly what to supply, when to do the work, when to expect the payment and how it will be made. Ensure an acceptance of the terms of the agreement together with the approval of any variations to the original agreement are obtained and in writing.

Terms and conditions to be considered include, but are not limited to:

Late payment penalties – exactly specify the fees and the interest rate;

‘title retention' clause where title to the goods is retained by the seller until payment has been made;

The returns and refunds policy*;*

Refund of deposits policy;

Early payment incentives; and

Whether there is any fee charged for credit card payments. Disclose the amount or the percentage to be charged and in which currency.

2.4.3 Credit period

According to Brigham (1992), the credit period refers to the length of time customers are allowed to pay for their purchases. It generally varies from 15 to 60 days. When a firm does not extend any credit, the credit period would obviously be zero. If a firm allows 30 days, say, of credit, with no discount to induce early payment, its credit terms are stated net 30. Lengthening of the credit period pushes sales up by inducing existing customers to purchase more and attracting additional customers. This is however, accompanied by a large investment in debtors and a higher incidence of bad debts loss. On the other hand, shortening of the credit period tends to lower sales, decrease investment in debtors, and reduce the incidence of bad debts loss.

2.4.5 Cash discount

Brigham (1992) further urged that firms generally offer cash discounts to induce customers to make prompt payments. The percentage discount and the period during which it is available are reflected in the credit terms. For example, credit terms of 2/10, means that discount of 2 percent is offered if payment is made by the tenth day. Liberalizing the cash discount policy may mean that the discount percentage is increased, and /or the discount period is lengthened. Such an action tends to enhance sales (because the discount is regarded as price reduction), reduce average collection period (as the customers pay promptly), and increase the cost of discount.

2.4.6 Collection efforts

Collection program of the firm, aimed at timely collection of receivables may consist of the following; monitoring of receivables, dispatch of letters to customers whose due date is approaching, telegraphic and telephonic advice to customers around the due date. A rigorous collection program tends to decrease sales, shorten the average collection period, reduce bad debt percentage, and increase the collection expense. A lax collection program on the other hand, would push sales up lengthen the average collection period, increase the bad debt percentage, and perhaps the collection expense.

2.5 Monitoring and control of accounts receivables

According to Maness and zietlow (2005), the carefully devised credit policy cannot keep a company’s credit activity from becoming a problem. Financial executives believe that accelerating collections are the single most important short-term financial management action a company can take. Delayed payments deny the seller the use of the money, resulting in increased collection costs, and increase the risk that payment will never occur. So, it is vital for a company to monitor the receivables balance and set steps it can take to improve on collection of amounts due or past due. Various approaches have been put forward to be used in monitoring and control of accounts receivables balance and these include; days sales outstanding, also known as the average collection period and accounts receivables turnover. Each of these tools is discussed below.

2.5.1 The days' sales outstanding (DSO)

The DSO measure is computed by taking the latest period's accounts receivable and dividing it by daily credit sales. Daily credit sales in turn is computed by taking the period's sales and dividing it by the number of days in the period -365, when computing DSO over a yearly period.

$$DSO = \frac{\text{accounts receivable}}{\text{Annual credit sale }/365}$$

$$\text{Therefore, } DSOt = \frac{\text{accounts receivable at time T}}{\text{Average daily credit sales}}$$

One then compares the DSO for the latest period to earlier periods, and possibly to a management target or an industry average. However, calculated, the computed DSO value is interpreted as the number of days of credit sales remaining un collected or the average days it takes the company to collect its credit sales.

2.5.2 Accounts receivable turnover

Accounts receivables turnover is simply DSO divided into the number of days in the calculation period, which is usually 365. If the DSO calculated for the past year is for example 45 days, accounts receivables turnover would be 365/45=8.1 times.

$$\text{Therefore, accounts receivable turnover} = \frac{365}{\text{Average collection period.}}$$

Receivable turnover is interpreted as how many times a company investment in is accounts receivables turns into sales during the period. The actual ratio is compared with some standard to determine whether accounts receivables are in control.

2.5.3 Special collection efforts

John Wiley & Sons (2005) asserts "special collection efforts are initiatives focused on narrowly defined objectives. Excellent management of the receivable asset is a broad objective.

Two common examples of narrowly defined objectives are:

1. Reducing the value and number of seriously aged open items

2. Maximizing cash collections over the next 120 days

Special collection efforts focus additional resource and management time on their objectives. By concentrating resources and attention on a limited task, progress can be accelerated, and results improved. Other tasks and duties can be deferred or delayed, while maximum resources are devoted to the special efforts. Alternatively, additional resources can be deployed to maintain activity levels in all areas. Often, special efforts are initiated to solve problems that have built up over a long period of time and are not being resolved satisfactorily in the normal course of business".

The two special collection efforts to be directed at receivables management problems that are common, are described below.

2.6 Reconciliation and Recovery

This effort/program is directed at significantly reducing the value and/or the number of open aged items. These aged items are often defined as between 90 and 120 days old and they are found in the extreme right column of the aging report on receivables. These receivables pose the greatest risk of bad debt loss, usually lead to a high level of provisions on bad and doubtful debt account and draw a lot of senior management and auditor attention. These items create a very difficult situation:

If they were easily cleared, it would have been done before they reached the advanced age. It will take much time, effort, and cost to try to collect and clear them. However, their collectability is low, especially if there are many clutter transactions included. So companies are faced with the prospect of expending a great deal of resources for a relatively small payback. On the other hand, to just write them off is too costly. If the collection staff is assigned to devote a substantial portion of its time to work on these accounts, cash flow will decrease as the normal collection effort will be diminished. How can this dilemma be solved? The answer is a reconciliation and recovery program.

A reconciliation and recovery program:

Identifies customer accounts with a large number of aged, clutter transactions. Customers with less than eight such transactions and customers with just whole open invoices are excluded from the program. Such accounts can be handled by the collectors in the normal course of collections without consuming too much of their time.

Defines a format for presenting your claim and its supporting documentation to the customer. The format is called a reconciliation pack, and contains these elements:

A customer service–oriented cover letter stating that this is a recap of the aged items open on your records, asking them to review and prepare a response. A summary of all aged open items by transaction types (i.e., invoice, short payments, credit memos, unapplied payments, etc.).
A detailed listing of all open transactions with transaction number, date, and original and remaining amounts; Copies of invoices, credit memos, etc.
Copies of proofs of delivery (POD) if necessary. Sometimes it is more time efficient to exclude them for all open invoices and await the customer's request for the missing ones. Utilizes high-speed procedures with decision points for assembling the packs. These procedures are developed by an expert on staff who can document the fastest, most efficient method of assembly. Decision points are used to maintain the cost efficiency focus. An example of a decision point is if a copy of a one-year old invoice for a small dollar amount cannot be retrieved, then it is best to write it off rather than expend inordinate amounts of time searching. Similarly, small clutter items may be unilaterally written off to reduce the time and expense of reconciliation pack assembly.
Utilizes temporarily assigned clerical workers to assemble the reconciliation packs. This saves collectors an enormous amount of time, allowing them to focus on collections. Assembly of the packs requires customer accounting and document retrieval skills, which are less costly than collection skills. In addition, when the program is finished, the resources can be discontinued.

2.6.1 High-Impact Action Program

A high-impact action program is a proven technique for maximizing cash collections in the short term. The basic premise of a high-impact action program is to implement only those actions that:
Can be developed and implemented within one month, will yield results in two to three months.
This eliminates some important initiatives, such as automation, formal dispute management, major redesign of processes, and so on, which can be addressed in a longer-term program. The objectives of a high-impact action program are to:

- Increase cash receipts as much as possible and as soon as possible
- Clean up the portfolio (uncollectible, offsets, etc.) to produce a smaller, less complex asset to manage in the future.

2.6.2 Late payment fees and prompt payment discount

According to John G. Salek (2005), “late payment fees and prompt payment discounts are incentives designed to encourage customers to pay according to terms. Prompt payment discounts offer a reward for paying “early,” and late payment fees are a penalty for paying late. If implemented properly, they can have a substantial impact in improving receivables management results.

Late payment fees (also known as finance charges, interest charges, or service charges) are an assessment of the interest value of a customer enjoying the use of funds beyond the due date. Payment terms are widely considered an integral part of the price, so if a customer is taking a longer period to pay than agreed, the customer is receiving more value than the price being paid.

Prompt payment discounts can be an extremely powerful but expensive tool to expedite payments. To illustrate, consider the payment terms defined as “1% 10 days, net 30 days from date of invoice.” These terms enable the customer to deduct 1% from the total invoice amount if it is paid within 10 days from invoice date. If the customer does not exercise this option, then the full amount of the invoice is due within 30 days of the invoice date. When interest rates are low, the 1% prompt payment discount is very attractive. Even if the customer has to borrow money to pay within 10 days, it is cost effective to do so. If a company is operating on a low gross margin, the extra 1% margin can be extremely valuable”.

2.7 Benefits of effective management of receivables

John G. Salek (2005) further highlighted the benefits of effective management of the receivables asset as: “Increased cash flow, Higher credit sales and margins, Reduced bad debt loss, Lower administrative cost in the entire revenue cycle, Decreased deductions and concessions losses, Enhanced customer service, Decreased administrative burden on sales force”.

Conflicting priorities

Excellent receivables management requires trade-offs between conflicting goals. The trade-offs are best balanced in accordance with the company's overriding strategic objectives. To optimize the trade-off, the relative ranking of these strategic objectives must be understood:
Sales growth, Profitability, Cash generation, Market share, Risk tolerance.

The conflicting objectives are to:

- Loosen credit acceptance criteria and controls to boost sales versus tightening credit controls to minimize the investment in receivables and the exposure to bad debt loss.
- Achieve strong receivables management results and provide excellent financial service to your customers versus minimizing the cost of the function.

2.7.1 Speed up receivables collection

According to Patrick Buchmann and Udo Jung (2008), "many companies are early payers and late collectors—a formula for squandering working capital. Other companies—particularly project-based businesses and manufacturers of large, costly products with lengthy production cycles—have cash flow problems caused by a mismatch in timing between costs incurred and customer payments. Therefore, efficient management of receivables and prepayments received is crucial. An optimization can yield significant potential".

Invoicing cycle**:** "The main target in this respect is to get invoices to the customers as quickly as possible. Processes and systems should be aligned to allow invoicing promptly after dispatch or service provision. All disruptions of the process by unnecessary interfaces should be eliminated. Furthermore, companies should reduce invoicing lead times by multiplying their invoicing runs".

Early reminders/dunning cycles**:** "Experience shows that a number of customers seem to postpone their payments to the receipt of the first payment reminder. Early reminders and short dunning cycles thus have a direct impact on late payments. Best-in-class companies reduce grace periods to a minimum or remind their customers of upcoming payments even before the due date. Establishing direct debiting with main customers is the most effective means to avoid overdue payments".

Payment terms**:** "Renegotiated payment terms will lead to reduced DSO. The first step is often a harmonization and reduction of available conditions to decrease discretionary application. When preparing negotiations, companies should analyze their customers' bargaining power and specific preferences in order to identify improvement potential in the terms and conditions for payments".

***Payment schedule*:** "Companies operating in project business should introduce more advantageous payment schemes that cover costs incurred. Percentage of completion (POC) accounting helps to define relevant payments along milestones. But also, for companies with small series productions, the introduction of prepayments and advances can significantly improve liquidity".

2.8 Empirical review

"Receivables management has become one of the most important issues in the organisations where many financial executives strive to identify the basic receivables drivers and the appropriate level of accounts receivables" (Lamberson,1995). Various academicians have studied trade receivables either as a separate study topic, but most likely as a component of working capital management (WCM). Bougheas et al. (2009), focused his research on the reaction of trade receivables to changes in risk, inventory cost, liquidity and profitability. Others authors survey the effect of optimal debtors' management, i.e the best way of managing trade receivables that result in maximization of a firm's profit. Research conducted by Deloof (2003) where he studied 1009 large Belgian non-financial companies for the time 1992-1996 found a significantly negative relationship between accounts receivables turnover and profitability.

Jose et al. (1996) examined the relationship between aggressive receivables management and profitability of US firms using Cash Conversion Cycle (CCC) as a measure of receivables management where a shorter CCC represents aggressiveness of receivables management. The results indicated a significant negative relation relationship between the CCC and profitability indicating that more aggressive receivables management is associated is associated with higher profitability. Firms in an industry that has less competition would focus on minimizing the receivables to increase the cash flow. For firms in an industry where there are large number of suppliers of materials, the focus would be on maximizing the payables. One of the earlier studies done by Jose, Lancaster and Stevens (1996) for the twenty period from 1974 through to 1993 of

2,718 firms offers strong evidence that aggressive receivables management policies indicated by shorter CCC enhance profitability.

Lazaridis and Tryfonidis (2006) also investigated the relationship between accounts receivables management and corporate profitability for the firms listed in Anthens Stock Exchange for a sample of 131 listed companies. The researcher used financials from 2001-2004 for the study. The results of the study showed that there was a statistically significant relationship between gross operating profit, a measure of profitability and the cash conversion cycle. He suggested that by optimizing the cash conversion cycle the managers could create value for the shareholders. Results of empirical analysis show that there is a statistical evidence for a strong relationship between the firm’s profitability and its receivables management efficiency.

Gill (2010) studied the association between profitability and WCM of eighty-eight companies listed on the New York Securities Exchange. The study was conducted for the period 2005-2007. The author found no statistically significant association between profitability and average creditor days. He also found no statistically significant relationship between average inventory days and company’s profitability. Similarly, it was observed that there was a significant relationship between the size of the firm and profitability. They also found a negative relationship between Average Collection period (ACP) and profitability. The study recommended that managers could boost the profitability of their companies by reducing the number of days for their accounts receivable.

Mathuva (2010) investigated thirty companies listed on Nairobi Stock Exchange (NSE) for the time 1993-2008. He establishes that there was a significant negative association between accounts receivables management and profitability.

Finally, Waweru (2011) carried out a study on the relationship between receivables management and the value of companies quoted at the NSE. The study used secondary data obtained from annual reports and audited financial statements for companies listed on NSE. A sample of 22 companies listed on NSE for a period of seven years from 2003 to 2009 was studied. The 27 average stock price was used to measure the value of the firm. the study concluded that there was a negative relationship between ACP, inventory turnover in days, CCC and the firm's value. The study results clearly pointed out to the fact that the firms with a credit policy that resulted in minimal accounts receivables had the highest profitability.

2.9 Summary of literature review

Several studies have already been conducted on the relationship between receivables management and financial performance of organizations. Most of the studies have concluded that there exists a negative relationship between accounts receivables management and financial performance of firms. Narware (2004) in his empirical study on Indian National Fertiliser Limited, for 1990-91 to 1999-2000 signify that the receivables management and profitability of the firm disclosed both negative and positive association. He also found evidence that increase in the profitability of a firm was less than proportional to the decrease in accounts receivables.

As earlier noted, the issue on accounts receivable have been widely studied. However, largely missing in the literature is the focus on construction sector and specifically on construction companies in Rwandan market that is significantly different industry and environment setting compared to industries where studies have been done. These studies have indeed recommended similar studies to be done in different industries and sectors. This study therefore seeks to fill this research gap by seeking to find out how evaluation is done on the accounts receivables management in construction companies in Rwanda, and the impact it has on their financial performance, taking NPD Ltd as a case study.

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter relates to processes and procedures involved in conducting a scientific research. It explains the research design, data sources, techniques and methods of data collection, population and sampling, data processing and analysis techniques, and shows the limitations met in the course of carrying out this research.

3.1 Research design

The researcher used analytical, quantitative research techniques to conduct the study. Both numerical and non-numerical (respondents' opinions and views about the study variables) were quantified for easy interpretation and presentation. These designs enabled the researcher to process and analyze the findings for easy interpretation.

In particular, the researcher used ratio analysis, particularly accounts receivables turnover ratio and days outstanding ratio to ascertain the effectiveness of accounts receivables management.

3.2 Study population

The study population for this research work was the employees of NPD Ltd specifically finance department, accounting section, project managers, recovery committee and senior management. It's from this population that a sample was selected. Further senior staff were consulted for issues regarding which decision should be taken in as far as credit extension is concerned. The table below indicates the population from which the researcher selected a sample size.

Department /unit	**Total Population**	**Sample Selected**
Finance department	7	7
Recover committee	6	6
Project managers	11	11
Senior management	6	6

Total	**30**	**30**

Source: Primary Data

3.3 Sample design

The sample size was 30 respondents from a population of 30, the researcher used a table for determining a sample from a given population by Morgan & Krejcie. This sample was chosen based on proportional representation. (The smaller the population, the bigger the proportion or sample size). The researcher adopted this approach because the population was seen to be small and therefore Morgan & krejcie's model of determining a sample size was seen to be satisfactory.

3.4 Sampling and sample selection techniques

The researcher adopted a sample size of 30 from a total population of 30. The researcher used stratified sampling where the population was divided into strata for interviews and purposive sampling techniques was used to get data from the employees whose knowledge about the issue is un debatable.

3.5 Sources of data

The researcher used two sources of data i.e. primary and secondary data

3.5.1 Primary data

In obtaining data for the research, a sample of employees of NPD Ltd was selected to fill the questionnaire, interviews were also held with the employees. In this case, employees of finance department were interviewed as well as project managers, recovery committee and senior management team.

3.5.2 Secondary data

In this perspective, the researcher used the existing data from text books, biographies, journals, articles, related websites, magazines, publications etc. Related literature was also consulted. This was gathered from libraries and websites. Due to time and distance constraints the researcher used libraries of University of Rwanda College of Business and Economics. Only data relevant to accounts receivable management was retrieved.

3.6 Data collection instruments

In the process of data collection, the researcher used questionnaires, interview schedules and documentary study.

3.6.1 Documentary study

The researcher reviewed all documentary evidence that relates to the study under investigation.

3.6.2 Questionnaire

A self-administered questionnaire of both structured and unstructured type was designed and delivered to the respondents by the researcher. The questionnaires were distributed to all selected respondents. It was comprised of both open and closed questionnaire. This instrument was preferred because respondent should feel free to give frank answers and at their convenience, since they were informed of the purpose of the research and were not asked to disclose their names.

3.6.3 Interview guide

This method assumes that respondents interviewed have the information required. During this course of action, the researcher interacted with respondents and noted down the answers given on the questions asked. This method added quality to the data provided by the questionnaires. Thus, questions that were skipped or carelessly answered were asked and answered appropriately in the interview process.

3.7 Validity and Reliability

The instruments used in the research are valid and reliable, because they correspond to the type of conducted research. Validity refers to the appropriateness of the instruments while reliability refers to the consistency in measuring whatever it is intended to measure. As per the questionnaire the researcher found it appropriate since the questions were answered by the respondents even during their free time. Further interviews were conducted to get reliable and first-hand information as probing was prioritized for consistency. Finally, the researcher consulted documentary evidence such as financial statements, websites, journals and other publications relating to the study for a thorough analytical review of accounts receivable management.

3.8 Data Presentation and Analysis

In the view of data presentation, the researcher used Editing and Tabulation to make the data more understandable.

3.8.1 Editing

This was done after collecting questionnaire and interview data from the field, the collected data were cross checked to ensure that all answers collected are coherently and logically recorded to provide sufficient data. Editing was done to ensure completeness, accuracy, uniformity, consistency and legibility of information provided by the respondents.

3.8.2 Tabulation

The researcher used this technique for the proper analysis of the findings as being obtained from respondents in respect to different questions. Further, statistical stables were used and converted into percentages to make it so clear that one can get complete message. Ratio analysis was also used where ratios obtained were interpreted basically for easy understanding.

3.8.3 Data Analysis

After completing data processing and presentation stage, the researcher analyzed data because not all the data can be entirely presented; the researcher therefore presented only the data that seemed to be relevant, and this was done through data analysis. Quantitative data analysis was adopted.

Under quantitative analysis, the researcher analyzed data based on the NPD Ltd.'s financial statements and primary data based on the distributed questionnaire.

3.8.3.1 Data Analysis; Descriptive statistics and correlation analysis

Independent variables of Accounts Receivable Turnover (ART), Average Collection Period (ACP) and Bad Debts to Accounts Receivable Ratio (BDARR) together with the dependent variable of Return on Assets (ROA) was also analyzed by way of descriptive statistics and correlation analysis. The different variables were analyzed using descriptive statistics such as mean and standard deviation. Correlation analysis was used to establish the relationship between trade receivables management measures (independent variables) and profitability (dependent viable). I used the Statistical Packages for Social Sciences (SPSS) due to its ability to simplify repetitive tasks and also handle complex data manipulation and analysis.

3.9 Ethical consideration

Due to confidentiality of some company's documents such as financial statements, auditor's reports and other financial reports, confidentiality of the information released was guaranteed through formal communication that the research was conducted and provided information was solely used for academic purposes.

3.10 Limitations of the study

- Inadequate time for respondents to fill questionnaires and interviewees availability for scheduled interviews was a major challenge for this study. However, the researcher used short and precise interviews while probing on key areas in order to gasp the entire interview schedules' contents, the researcher used frequent visits and calls to the respondents. Further the researcher was obliged to make diligent and constant follow ups to ensure that questionnaires are filled promptly.

  The researcher used to contact the respondents during their free time and leveraged on the fact that the respondents were his workmates. The researcher requested the respondents to spare their time to fill the researcher's questionnaire.

- Due to confidentiality of some company's documents such as financial statements, auditor's reports and other financial reports this delayed the time schedule for the research. To solve this issue, the researcher used questionnaires and interview schedule such that the respondents could release important information which could not be obtained anyhow. Further confidentiality of the information released like financial statements was guaranteed through formal communication as the research will be conducted entirely for academic purposes.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter analyses data collected for the study and interpretes it to enable the researcher to draw conclusions in line with the study objectives. It is presented in two parts, part one concerns with the analysis of primary data collected from the respondents. The respondents are NPD's staff with the following profiles.

The six members of senior management include 5 qualified engineers and a chartered accountant, who also holds a Bsc. accounting. The 5 project managers are all qualified engineers by training, whereas the finance and recovery committee teams comprise of personnel with a minimum qualification of bachelor's degree in finance and accounting related fields.

Part two focuses on account receivable management in NPD Ltd and deals with measuring its effectiveness specifically in relation to profitability and liquidity this was done through analysing secondary data required. (Financial statements 2016-2018).

4.1 Part 1: Accounts receivable management in NPD Ltd

This part is aimed at studying how accounts receivables are managed in NPD Ltd Company and finding out whether they are effectively managed. It presents the primary data that was collected from30 respondents**.**

Table 4. 1: Respondents' view on NPD Ltd.'s credit policy

The respondents said that NPD Ltd.'s credit policy involves the following steps as stipulated in the table below;

Response	**Respondents**	**Percentage**
Criteria to screen credit applicants	8	26.6
Controlling the quality of accounts	5	16.7
Setting credit terms	17	56.7

Total	**30**	**100**

Source: Primary data

From the table above it is evident that NPD Ltd has set up a credit policy of setting up credit terms by the credit seeking customers signified by 56.7% of the respondents asked, followed by 26.6% of criteria to screen credit applicants which is good practice of management of accounts receivable management. It is clear that not all credit seeking customers are guaranteed with credit because credit terms are first set then analyzed by screening the customers and finally a procedure to control quality of accounts as indicated by 26.6% is undertaken. From probing, every customer has his/her own control ledger account where payments have to be effectively monitored. Especially where previous credits guaranteed are analyzed before credits is given to the applicant.

Table 4.2: Criteria to screen credit customers

Response	**Respondents**	**Percentage**
Analysis of customers past record	16	53.3
Rely on bank reference	3	10
Customers length of time	11	36.7
Total	**30**	**100**

Source: Primary data

Table 4.2 above - involves the criteria to determine which customers should be extended credit, what information would you need and from which sources would you get it. Generally, NPD Ltd focuses on the character of the applicant to meet his past obligations, and the capacity to repay the requested credit, as the requirements for extending credit to the applicant. This is determined through examination of the applicant's past records evidenced by 53.3% and also examining the past recovery period for the applicants as indicated by 36.7% of the respondents. Probing indicated that the existing clients before any credit is guaranteed their past recovery assessment is first analyzed, and for new clients a contract is signed as binding obligation.

Table 1.3: Respondents' view on the effective performance of accounts receivables management

Response	No of Respondents	Percentage
Sending notice/letter	22	73.3
Reminder /personal visits	4	13.3
Telephone calls	2	6.7
All the above	2	6.7
Total	**30**	**100**

Source: Primary data

From the table above, it's evident from what the respondents say that effective performance of accounts receivable management is enshrined by sending notice/letter to their clients by 73.3%, and through interviews with respondents, it was established that sending letters got majority responses because it provides official proof of recovery/reminder letters. 13.3% said that management of receivables is done by frequent reminder/personal visits, whereas telephone calls and the combination of all got6.7% of the responses.

From probing it was noted that if a customer fails to pay on timely basis he/she will not be given credit easily for the future tenders. However, even though it got majority of the respondents' views, sending notice /letter to the clients is not a good practice of debt recovery because at times the clients may be busy and un able to take serious attention to the letter addressed to them. An effective management of receivables should be done through frequent reminders and personal visits to the clients by the credit control officers.

Table 4.4: Credit period given by the company

Responses	No of days	Number of respondents	Percentages
Standard period given	30 days	6	20
Grace period given	60days	5	16.7
Maximum period given	90days	7	23.3
Over	90 days	12	40
Total		**30**	**100**

Source: Primary data

As indicated in the table above, NPD offers credit period of over 90 days as evidenced by the40% majority of the respondents, an indication of the poor management of accounts receivable. From the interviews conducted, the reason behind the longer credit period is that majority of the company's clients are government institutions and that in most cases advance payments are made before commencement of the works. From the analysis there is no prompt payments by the customers because a big percentage of payments is scheduled after the 90 days which is beyond the maximum period set by the company. Few customers pay within the stipulated period that is to say 20% which is an indication of slow payment by the customers hence weak recovery efforts set by the management.

Table 4.5: Respondents views on whether there are Problems associated with the management of accounts receivables

Response	Number of respondents	Percentage
Yes	25	83.3
No	5	16.7
Total	**30**	**100**

Source: Primary data

Analysis of the responses from the respondents confirmed that there are problems associated with the management of accounts receivables as indicated by 84.2% of the respondents asked. 15.7% of the respondents asked confirmed that there is no problem in as far as management of accounts receivable is concerned. However, it is evident that there are a number of problems as cited in the proceeding table.

Table 4.6: Problems associated with the management of accounts receivables

Response	**Number of respondents**	**Percentage**
Bad and doubtful debts	7	23.3
Increased recovery costs	8	26.7
Increase in arrears and overdue payments	15	50
Others, specify	0	0
Total	**30**	**100**

Source: Primary data

Table 4.6 and figure 4.1 above indicated that the major problem associated with accounts receivable management in NPD Ltd is increase in arrears and overdue payments with 50%. This is followed by bad debts and doubtful debts, and increased recovery costs with 26.7% and 23.3% respectively. From the figure above it's evident that with a clear policy of accounts receivable management, the associated problems should be minimized and therefore the existence of the cited problems may be a sign of weak management of accounts receivables.

Table 4.7: Respondents views on the solutions to solve cited accounts receivable management problems

Response	**Number of respondents**	**Percentage**
Strengthen credit control	10	33.3

Reducing credit period	2	6.7
Increase credit control officers	5	16.7
Frequent reminder to clients	6	20
Frequent field visit to clients	7	23.3
Any other, specify	0	0
Total	**30**	**100**

Source: Primary data

From the table above, 33.3% of the respondents asked cited strengthening credit control as the major solution to deal with accounts receivable management problems followed by frequent field visiting of clients and frequent reminders to clients represented by 23.3% and 20% respectively. Increasing credit control officers and reducing credit period gained 16.7% and 6.7% respectively. It is evident that if the above are implemented by the company, effective performance of NPD Ltd will be realized in as far as accounts receivables management is concerned. Further majority of the respondents said that in order to increase and monitor accounts receivables management, the company should always Endeavour to continue keep in touch with their client and regular updates of dues based on individual client control ledger accounts. The accounts department should make regular updates to the management on weak repayment schedules by some clients so as the management take appropriate decision in regulating receivables.

Table 4.8: Respondents' views on whether NPD Ltd classifies debtors according to their age (aging of debtors)

Response	**Number of respondents**	**Percentage**
Yes	30	100
No	0	0
Don't know	0	0

Total	**30**	**100**

Source: Primary data

The table above revealed that 100% of the respondents asked confirmed that the company classifies debtors according to their age an indication of effective management of accounts receivable which in turn is subjected to the overall performance of the company. They further said during interviews that debtors aging reports are produced monthly, the same frequency management accounts are produced. This is an indication of proper management of accounts receivable and this should therefore lead to effective performance of the company given this due care regarding accounts receivables management.

Respondents' views on the decision to declare a customer a bad debtor for written off

Analysis of primary data also indicated that there are cases of debtors written off subject to trend analysis and customers analysis of their past records in as far as meeting their obligations is concerned. Clients whose payments have not been realized for some time are brought to the attention of management for it to take decision on whether to make a provision for doubtful debts or write them off.

Table 4.9 (i): Length of time to declare a customer doubtful and make a provision

Response	**Number of respondents**	**Percentage**
After 60 days	2	6.7
After 90 days	4	13.3
After 6 months	24	80
Total	**30**	**100**

Source: primary data

Table 4.9 (ii): Length of time to declare a customer a bad debtor and make a write-off

Response	Number of respondents	Percentage
After 90 days	1	3.4
After 6 months	4	13.3
After 12 months	25	83.3
Total	**30**	**100**

Source: primary data

From table 4.9 (i) above it is evident that 80% of the respondents asked, indicated that customers (debtors) start to be doubtful after 6 months and a provision for bad debts can be made in the books of accounts. Regarding being declared bad and written off be made in the books, 83.3% of the respondents indicated that this takes 12 months (table 4.9 ii). However, respondents also indicated that client's specifics come into play and provisions and write offs may not necessarily be made in such periods especially for government institutions, which form majority of the company's client base.

Table 4.10: Respondents' views on who decides bad debtors to be written off

Response	Number of respondents	Percentage
Credit control officer	2	6.7
Director of finance	5	16.7
Internal auditor	3	10
Executive management	20	66.6
Any other, specify	0	0
Total	**30**	**100**

Source: Primary data

A review of the respondents' views indicated that executive management team takes an upper hand in as far as writing off debtors from the books of accounts of the company. This is signified by 66.6% of the respondents asked. Further, the internal auditor being the management oversight and watch dog to the management play an important role also in determining who should be declared bad debtor to be written off this is expressed by the 10% response. Generally, it is clear that all staff in operational management have been considered while taking this decision but the management has to own it with such big percentage, an indication that performance of the company will be realized in as far as management of accounts receivable is concerned given the combined efforts by the company's staff.

4.3 Part 2: Measuring the effectiveness of accounts receivable management in NPD Ltd.

This part deals with the analysis of secondary data obtained from NPD Ltd, specifically the analysis pertaining financial statement for period ended 2016-2018.The analysis focuses on measuring the effectiveness of accounts receivable management and measurement used mainly was ratios related to the topic so as to see their trends of performance and also comparing them with the standards. Specifically, profitability ratios, liquidity ratios and turner over rations were given much more attention while analysing the data.

Analysing accounts receivables position in NPD Ltd.

This section tries to analyse the position of accounts receivable as compared to other current assets of the company. Table 4.1 shows the volume of accounts receivable as a component of other current assets.

Table 4.11: NPD's accounts receivable as a component of current assets

Item	**Financial Year**		
	2016	**2017**	**2018**
Inventory and work in progress	22,739,101,000	23,428,542,000	15,276,811,000
Trade and other receivables	17,877,785,000	21,618,608,000	24,814,128,000
Due from related parties	1,132,213,000	467,906,000	776,986,000

Income tax recoverable	1,002,002,000	1,073,509,000	237,973,000
Cash and bank balances	1,233,146,000	518,549,000	1,636,875,000
Total current assets	**43,984,247,000**	**47,107,114,000**	**42,742,773,000**
% of A/R to C.A	**40.6**	**45.9**	**58.1**

Source: NPD's financial statements 2016-2018

Table 4.11 shows percentage of accounts receivable to total assets. Accounts receivable increased from 40.6 % in 2016 to 45.9 % in 2017 and further to 58.1% in 2018.The increase in receivable can be attributed to the delayed payments by debtors, a sign of inefficiency in accounts receivables management specifically in collection efforts.

NPD's average accounts receivable for the period under review is 48.2% as of her total current assets an indication of excessive investment in accounts receivable by the company, another indication of poor management of accounts receivable by the company. The standard percentage of A/R to total current assets is 35% as cited by Benton (1987).

Table 2.12: NPD's accounts receivable as a component of total assets

Item	**Financial Year**		
	2016	**2017**	**2018**
Trade and other receivable	17,877,785,000	21,618,608,000	24,814,128,000
Total assets	66,309,256,000	81,029,346,000	69,788,404,000
% of A/R to T.A	**27**	**26.7**	**35.6**

Source: NPD's financial statements 2016-2018

As shown in the table 4.12, accounts receivable has been rising between 2016 and 2018.The percentage of accounts receivable to total assets has grown from 27% to 35.6% for the 2016-2018.The average percentage of accounts receivable to total assets is 29.8% a percentage that is higher than the one recommended by Benton (1987) of 15.7%, an indication of unfavourable accounts receivable management by NPD Ltd. Increase in accounts receivable by the company is a clear sign of poor management of receivables. This increase was due to the fact that the company gave much credit to clients and recovery was not effective to rectify the alarming increase.

Table 4.13: NPD's cash balances as compared to total accounts receivables

Item	**Financial Year**		
	2016	**2017**	**2018**
Cash and bank balances	1,233,146,000	518,549,000	1,636,875,000
Trade and other receivable	17,877,785,000	21,618,608,000	24,814,128,000
% of A/R to T.A	**0.07:1**	**0.02:1**	**0.07:1**

Source: NPD's financial statements (2016-2018)

Table 4.13 shows the proportion of the yearend cash balances to accounts receivable balances. This is aimed at highlighting how the company manages its receivable to generate cash. From the table cash balances decreased by 58% (2016-2017), whereas trade and other receivables increased by 21% during the same period i.e.0.07:1-0.02:1. The decline of cash balances go hand in hand with the increase in A/R balances an indication of poor management of accounts receivable. The problem is that the company may not be able finance or settle all short term obligations in case need be. Although there was a significant in cash and bank balances between 2017 and 2018 by 215.7%, trade and other receivables continued to rise as indicated by the 14.8% increase during the same period. According to Charles H. Gibson (1989), there is no general standard benchmark of cash to A/R balance, but the higher the cash balances compared to the A/R balance the better is the company in managing its receivable and the optimum A/R balance to the firm is the one that is not greater than cash balances. The fall in cash balances yet accounts receivables are increasing is a clear indication of improper payments by the customers as a result of poor collection procedures by the company hence an indication of ineffective accounts receivable management in NPD Ltd. The company should thus endeavour maintain health cash balances at its disposal such that the operations of the company are not hampered, this can be done through recovery procedures to foster smooth and early payments thus maintaining cash balances to cater for abrupt and urgent needs and obligations of the company.

4.3 Financial ratios analysis

Ratio analysis is used to compare a firm's performance and the status to that of other firms or itself overtime so as to make future plans. This analysis helps management to identify areas that should be improved. In view to present NPD's accounts receivables management and measure its effectiveness, liquidity and activity ratios were calculated. These ratios are in one way or the other affected by accounts receivable management policies taken by the firm. The ratio computed are based on the data of NPD's financial statements for the period 2016-2018.

4.3.1 Liquidity ratios

These ratios measure the firm's ability in meeting it's current obligations. They are computed by establishing the relationship between cash and the current liabilities, below is thorough review.

4.3.2 Current ratio

This ratio is calculated by simply dividing current assets by current liabilities

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Table 14.14: NPD's current ratios 2016-2018

Item	**Financial Year**		
	2016	**2017**	**2018**
Current assets	43,984,247,000	47,107,114,000	42,788,404,000
Current liabilities	30,533,916,000	39,507,980,000	27,598,573,000
Ratio	**1.4:1**	**1.2:1**	**1.6:1**

Source: NPD's financial statements 2016-2018

From the table 4.14 above, it's evident that NPD's current ratio is satisfactory over the period, the ratio shows that the company can more than cover its current liabilities using its current assets. Although trend analysis indicates that there was a decline of current ratio from 1.4 to 1.2 between 2016 and 2017, the trend up between 2017 and 2018 with an increase from 1.4 to 1.6. However, even though the company's current ratios look better during the period under review, it needs a mention that there is a big percentage of accounts receivable in its current assets that form a large amount in the company's statement of financial position which needs much more attention, which is a sign of weak recovery and consequently poor collection procedures in place.

As cited in the table above, the percentage of current assets to current liabilities (current ratio) have been declining between 2016-2017, although it again picked up between 2017-2018. Despite this being a favourable ratio there is need to take much attention for the reason of the decrease in 2017 and ensure the trend continues to rise from 2018 onwards. In case of any further decline in the ratio, there is likely hood that the operations of the company will be hampered by cash flows problems in future basically due to poor management of receivables which is one of the biggest items on the company's financial statements. Therefore, much attention is needed to address the decline for the smooth operations of the company and effective management of receivables in particular.

4.3.3 Quick ratio

This ratio was adopted just to indicate the relationship between quick or liquid assets and current liabilities. This ratio considers assets which can be converted into cash immediately without a loss of value. It was adopted to see if the company can operate effectively if its customers do not pay on time.

It is calculated as;

$$\text{Quick ratio} = \frac{\text{current assets-inventories and work in progress}}{\text{Current liabilities}}$$

Table 4.15: NPD's Quick ratios 2016-2018

	Financial Year		
Item	**2016**	**2017**	**2018**
	(43,984,247,000-22,739,101,000) 30,533,916,000	(47,107,114,000-23,428,542,000) 39,507,980,000	(42,788,404,000-15,276,811,000) 27,598,573,000
Quick Ratio	**0.7:1**	**0.6:1**	**0.99:1**

Source: NPD's financial statements 2016-2018

From the table above, it is clear that quick ratio declined between 2016 and 2017, and was below the standard of 1:1 as cited by Kermit (1990). This decline in quick ratio can be attributed to poor credit policy decisions based on the fact that accounts receivable being the biggest current asset item on NPD's statement of financial position. As with current ratio, the quick ration also picked up in the year 2018 and came closer to the recommended standard. In short if quick ratio is very low, it's an indication that the company cannot be able to turn quick assets into cash easily and hence this is a problem to the company in case the customers do honour payments on timely manner. If much of the company's resources are tied into assets that cannot easily be turned into cash, it becomes a problem and if no proper mechanisms are put in place, the company is likely to meet such problems given trend decline and low ratios noticed from the year 2016-2017 respectively.

4.3.4 Cash ratio

This ratio relates cash equivalent and marketable securities to current liabilities. This measure carries much weight in evaluating the liquidity of a firm. It shows the firm's ability to meet short-term obligations using cash and near cash items. If the company manage to meet this obligation easily it is an indication that there is effective management of accounts receivable since this item forms the biggest part of current assets on the company's statement of financial position.

It is however calculated as:

Cash ratio = $\frac{\text{Cash +Marketable securities}}{\text{Current liabilities}}$

Table 4.16: NPD's cash ratios 2016-2018

	Financial Year		
Item	**2016**	**2017**	**2018**
	$\frac{1,233,146,000}{30,533,916,000}$	$\frac{518,549,000}{39,507,980,000}$	$\frac{1,636,875,000}{27,598,573,000}$
Cash Ratio	**0.04:1**	**0.01:1**	**0.06:1**

Source: NPD financial statements 2016-2018

From the table above it is evident that the cash ratio of company has been not good for the three years. The trend shows a decline from 2016 to 2017 and even though the ration improved in 2018, all the ratios are still way below the recommended standard of 0.5:1 as cited by Gibson (1989).

The ratios being far below the recommended average is an indication of poor management of receivables where the collection of cash from the receivables is not effective. The cash of the company is not encouraging due to its continued accumulation into receivables and therefore there is a need for more efforts to curb this trend. To achieve this, NPD Ltd should revise the collection policy to generate cash from its sales as low cash ratio are attributed to slow paying customers due the increase in receivable balances over the years. The cash ratio of the company is problematic in that the company cannot be able to finance its short term obligations in case need be and therefore may hinder effective operations of the company. The company should endeavour to put stringent measures in as far as collection procedures are concerned so as to have enough cash balances to effect the operations of the company in order to attain the stated objectives of the entity, both short term and long term.

4.3.4 Analysis of NPD's Net Working Capital

Net working capital = Current assets – current liabilities

It measures the capacity of the company to settle its obligations and continue operations without seeking for any external financing. The higher the amount of net working capital the better is the operations of the company and vice versa.

Table 4.17: NPD's net working capital 2016-2018

	Financial year		
	2016	**2017**	**2018**
Current assets	43,984,247,000	47,107,114,000	42,788,404,000
Current liabilities	30,533,916,000	39,507,980,000	27,598,573,000
Net working capital	**13,450,331,000**	**7,599,134,000**	**15,189,831,000**

Source: NPD's financial statements 2016-2018

From the table above, it is evident that net working capital for the company shows a decline in 2017 from 2016, which is not a good sign in as far as working capital management is concerned. The figure however improved in 2018 which ceteris Paribas is a good performance and effective working capital management. However, this is not necessarily the case since from the analysis of the company's assets receivables take a very big portion of the assets in the company's balance sheet which increases year after year and therefore an indication that there is no clear policy of receivable management in as far as collection and recovery of receivables is concerned. Much attention should be given to receivable management if the net working capital of the company is to depict a clear picture of the company.

Table 4.18: NPD's liquidity ratios 2016-2018

	Financial Year		
Ratio	**2016**	**2017**	**2018**
Current ratio	1.4:1	1.2:1	1.6:1
Quick ratio	0.7:1	0.6:1	0.99:1
Cash ratio	0.04:1	0.01:1	0.06:1

Source: NPD's financial statements 2016-2018

Table 4.18 above shows the trend of NPD's liquidity ratios for the period 2016-2018.Both current, quick, and cash ratio indicate a decline between 2016 and 2017, and an increase between 2017 and 2018. The decline can be attributed to a continuous increase in the amounts due by customers/debtors an indication of poor management of accounts receivable. There is therefore a need for managerial efforts among which accounts receivable management be prioritised. Favourable accounts receivable is an indication of good management of receivables which has not been the case for NPD Ltd in the past three years.

4.4 Profitability ratios

The profitability ratios are just what the name implies. They focus on the firm's ability to generate a profit and an adequate return on assets and equity. They measure how efficiently the firm uses its assets and how effectively it manages its operations.

Gross profit ratio

This ratio is calculated by dividing the Gross Profit by Sales. It is usually indicated as percentage.

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

Table 4.19: NPD's gross profit ratios 2016-2018

	Financial Year		
	2016	**2017**	**2018**
Gross profit ratio	11,340,597,000*100 37,578,548,000	7,885,370,000*100 33,385,259,000	9,036,174,000*100 35,883,608,000
Gross profit in %	30.2%	23.6%	25.2%

Source: NPD's Financial Statements 2016-2018

As the gross profit is found by deducting cost of goods sold from net sales, higher the gross profit better it is. There is no standard GP ratio for evaluation. It may vary from business to business and industry to industry. However, the gross profit earned should be sufficient to recover all operating expenses and to build up reserves after paying all fixed interest charges and dividends. From the table above, the gross profit ratio expressed in percentage seem not to be satisfactory and declined from 30.2% in 2016 to 23.6% in 2017, and although it slightly increased to 25.2% in 2018, there is no guarantee that the company will enjoy profit but deficits as realized in the financial years 2017 and 2018.

Net profit ratio

Net Profit (NP) ratio is used to measure the overall profitability and hence it is very useful to proprietors. The ratio is very useful as in if the net profit is not sufficient, the firm shall not be able to achieve a satisfactory return on its investment. This ratio also indicates the firm's capacity to face adverse economic conditions such as price competition, low demand, etc. Obviously, the higher the ratio the better is the profitability.

Table 4.20: NPD's net profit ratios 2016-2018

	Financial year		
	2016	**2017**	**2018**
Net profit ratio	1,193,521,000*100 37,578,548,000	(431,599,000)*100 33,385,259,000	(4,020,205,000)*100 35,883,608,000
Net profit in %	3.2%	(1.3)%	(11.2)%

Source: NPD's Financial Statements 2016-2018

From the table above it is evident that net profit for the company has been decreasing year after year from a profit of 1 billion in 2016 to a loss 4 billion in 2018. From the analysis of lower part of the statement of comprehensive income, it is evident that the bottom line is greatly affected by finance costs which have almost doubled during the same period from 4.6 billion in 2016 to 8.2 billion in 2018. This significant increase in finance costs can be explained by the large number of accounts receivables that rose to over 24 billion in 2018 from 17 billion in 2016. This ties the company's operational cash flows into receivables forcing the company to go into borrowing to finance its operations. This puts plain the inefficiencies in the company's receivables management and if no much effort put in credit collection and strengthen collection efforts there is possibility that the company will suffer even severe deficits for the proceeding years.

Return on assets (ROA)

Return on assets is a financial ratio that shows the percentage of profit a company earns in relation to its overall resources. It is commonly defined as net income divided by total assets. Net income is derived from the income statement of the company and is the profit after taxes. The assets are read from the balance sheet and include cash and cash-equivalent items such as receivables, inventories, land, capital equipment as depreciated, and the value of intellectual property such as patents.

It is calculated as;

$$\frac{\text{Net Income}}{\text{Total assets}} *100$$

Table 4.21: NPD's return on assets 2016-2018

	Financial year		
	2016	**2017**	**2018**
ROA	$\frac{1,193,521,000}{66,309,256,000}$ *100	$\frac{(431,599,000)}{81,029,346,000}$ *100	$\frac{(4,020,205,000)}{69,788,404,000}$ *100
ROA in %	1.8%	(0.5) %	(5.8) %

Like the net profit margin which shows a declining trend, return on assets as a measure of profitability has also been on decline year on year moving from 1.8% in 2016 to -5.8% in 2018.

4.5 Receivables collection period

This is usually expressed as;

$$\frac{\text{Trade receivables * 365 days}}{\text{Credit sales}}$$

Table 4.22: NPD's receivables collection period 2016-2018

	Financial year		
	2016	**2017**	**2018**
Receivables collection period	$\frac{17{,}877{,}785{,}000}{37{,}578{,}548{,}000} \times 365$	$\frac{21{,}618{,}608{,}000}{33{,}385{,}259{,}000} \times 365$	$\frac{24{,}814{,}128{,}000}{35{,}883{,}608{,}000} \times 365$
No of days	**174**	**236**	**252**

Source: NPD's financial statements 2016-2018

This ratio is normally expressed in days, increasing accounts receivable collection period is usually a bad sign suggesting lack of proper credit control which may lead to irrecoverable debts. A high ***collection period*** shows a high cost in extending credit to customers. Falling in receivables days is usually a good sign however based on the table above, NPD's receivables collection period is worsening year after year, an indication of poor credit policy and inefficient receivables management in general as the number of days have increased from 174, 236 and 252 for the years 2016, 2017 and 2018 respectively.

4.6 Activity ratios

These are used to evaluate the efficiency with which the firm manages and utilises its assets. These ratios are also called turnover ratios. Because they indicate the speed at which assets are being converted or turned into cash sales. It shows the relationship between sales and assets.

4.6.1 Debtors' (A/R) turnover ratio

Accounts receivable turn over indicates the number of times accounts receivables turn over each year. Generally, the higher the values of debtors' turnover, the more effective is the management of accounts receivables. Debtors turnover ratio is computed as;

$$\text{Debtors (A/R) turnover} = \frac{\text{Credit sales}}{\text{Average debtors}}$$

Average debtors =Opening +closing debtors /2

But when the information about opening and closing balances of trade debtors and credit sales is not available, then the debtor's turnover ratio can be calculated by dividing the total sales by the balance of debtors (inclusive of bills receivables) given. And formula can be written as follows.

$$\text{Debtors Turnover Ratio} = \frac{\text{Total Sales}}{\text{Debtors}}$$

Table 4.23: NPD's accounts receivable turnover 2016-2018

Financial year	Computation	Number of times
2016	37,578,548,000 (20,058,417,000+17,877,785,000)	0.99
2017	33,385,259,000 (17,877,785,000+21,618,608,000)	0.85
2018	35,883,608,000 (21,618,608,000+24,814,128,000)	0.77

Source: NPD's financial statements 2016-2018

From the table above, it is clear that the accounts receivable turnover is very low at less than 1, and more worrying declining year on year an indication that there is a poor or no policy for accounts receivable management of the company. Accounts receivable turnover ratio or debtor's turnover ratio indicates the number of times the debtors are turned over a year. The higher the value of debtors' turnover the more efficient is the management of debtors or more liquid the debtors are. Similarly, low debtor's turnover ratio implies inefficient management of debtors or less liquid debtors. However, from the analysis in the table above, debtor's turnover have been low and declining from one year to the another, andthis may be due to relaxed collection efforts and inefficient accounts receivable management in general. Thus, the overall management of debtors for the company is not effective.

4.6.2 Average collection period

Average collection period measures the quality of debtors. It indicates the period of collecting the accounts receivables, by calculating the number of days accounts receivables remain uncollected. It is computed as;

Average collection period (ACP)=365

Debtor's turnover

With the financial year estimated to have 365 days

Table 2.24: NPD's ACP 2016-2018

Financial Year	Computation	Number of days
2016	365/0.99	387
2017	365/0.85	429
2018	365/0.77	474

Source: NPD's financial statements 2016-2018

Average collection period measures the average number of days that accounts receivable are outstanding. This activity ratio should be the same or lower than the company's credit terms. As a rule, outstanding receivables should not exceed credit terms by more than 10-15 days. Kermit D. Larson (1990). However, as shown by the above table, NPD's ACP is much more than 10-15 Days of its credit period which is estimated to 90 days maximum meaning that the credit customers do not fulfil the credit terms given and therefore a sign of poor management of accounts receivable since customers do not fulfil their obligations on time. Receivables remain un collected for a very long period, an indication of inefficient management of accounts receivable.

4.6.3 Bad debts to Accounts Receivables Ratio (BDARR)

Bad-debt to Accounts Receivable ratio measures expected un-collectability on credit sales. An increase in bad debts is a negative sign, since it indicates greater realization risk in accounts receivable and possible future write-offs.

It is calculated as;

$$\frac{\text{Bad debts}}{\text{Average Accounts Receivable}}$$

Table 4.25: NPD's bad debts to accounts receivable ratios 2016-2018

Financial year	Computation	BDARR
2016	$\frac{55{,}308{,}000}{(20{,}058{,}417{,}000+17{,}877{,}785{,}000)}$	0.001
2017	$\frac{67{,}885{,}000}{(17{,}877{,}785{,}000+21{,}618{,}608{,}000)}$	0.002
2018	$\frac{929{,}092{,}000}{(21{,}618{,}608{,}000+24{,}814{,}128{,}000)}$	0.02

Source: NPD's financial statements 2016-2018

The bad debts to accounts receivable ratio calculates the percentage of accounts receivable that were not collectible and hence written off as bad debts. The higher the ratio, the greater the risk of un collectability for the sales made on credit. As indicated in the above table, this has been on increase between 2016 and 2018, rising from 0.1% in 2016 to 2% in 2018, a sign of un effective accounts receivable management in the company which massively affected its profitability.

4.6.3 Current assets turnover

The ratio shows the effectiveness of the firm in utilising its current assets. It is calculated as;

Current assets turnover $= \frac{\text{Sales}}{\text{Current Assets}}$

Table 4.26: NPD's current assets turnover 2016-2018

Financial year	**Computation**	**Number of times**
2016	$\frac{37{,}578{,}548{,}000}{43{,}984{,}247{,}000}$	0.85
2017	$\frac{33{,}385{,}259{,}000}{47{,}107{,}114{,}000}$	0.71
2018	$\frac{35{,}883{,}608{,}000}{42{,}742{,}773{,}000}$	0.84

Source: NPD's financial statements 2016-2018

From the table above, it is clear that the company has a very low current asset turnover, an indication of poor management of receivable which is seen to be having a big percentage in the company's current assets on statement of financial position and there is a need to improve the efficiency in the management of current assets turnover so as to maximise returns from current assets and much attention being put on the management of accounts receivables as they occupy a significant part of the firm's current assets.

4.6.4 Total assets turnover

This ratio measures the firm's ability in generating sales from all financial resources invested in its assets. It is computed as under

Total assets turnover $= \frac{\text{sales}}{\text{Total assets}}$

Table 4.27: NPD's total assets turnover 2016-2018

Financial year	**Computation**	**Number of times**
2016	$\frac{37{,}578{,}548{,}000}{66{,}309{,}256{,}000}$	0.57

2017	33,385,259,000 81,029,346,000	0.41
2018	35,883,608,000 69,788,404,000	0.51

Source: NPD's financial statements 2016-2018

The lower the total asset turnover ratio, as compared to historical data for the company, the more inefficient management of its assets.

This may indicate a problem with one or more of the asset categories composing total assets - inventory, receivables, or fixed assets. In this case based on the financial statements of the company it is evident that accounts receivables comprise a big percentage of total assets and therefore an indication that there are receivable management problems based on such big portion of receivable on the company's statement of financial position as compared to total assets.

Finally, concerning the receivables management components of credit analysis, credit control and collection, the findings show that NPD's credit analysis function is not effective given that customers with overdue debts are still granted credit without necessarily settling the overdue receivables. This is also true for credit control and collection efforts given the huge amounts of receivables that remain outstanding for long periods as evidenced by the continued decline in the accounts receivable turnover ratios while the average collection period increased year on year for the period under study.

4.7 Descriptive statistics

In this section, descriptive analysis was performed on each of the variables using SPSS. This shows the mean and the standard deviation of ROA, ART, ACP and the BDARR as indicated in Table 4.27 below.

Table 4.28: Descriptive statistics

	Mean	Std. Deviation	N
Return On Assets	-.015000	.0389744	3
Average Collection Period	430.00	43.509	3

Accounts Receivable Turnover Ratio	.8700	.11136	3
Bad Debts to Account Receivable Ratio	.00767	.010693	3

Source: 2016-2018 Research data

From the above table, the ROA is analysed against ACP, ART and BDARR for the years 2016-2018. The ROA has a mean of -0.015 and a standard deviation of 0.039, ACP has a mean of 430 days with a standard deviation of 43.5, ART has a mean of 0.870 and a standard deviation of 0.111 whereas BDARR has a mean of 0.008 with a standard deviation of 0.011.

4.8 Correlation analysis

The study measured the extent of relationship between profitability (ROA) and the three predictor variables (ACP, ART and BDARR). Tables 4.28 and 2.29 show correlation of the variables.

Table 4.29: Correlation analysis of NPD

		Return On Assets	Average Collection Period	Accounts Receivable Turnover Ratio	Bad Debts to Account Receivable Ratio
Return On Assets	Pearson Correlation	1	-.979	.929	-.968
	Sig. (1-tailed)		.065	.121	.080
	N	3	3	3	3
Average Collection Period	Pearson Correlation	-.979	1	-.985	.897
	Sig. (1-tailed)	.065		.056	.145
	N	3	3	3	3
Accounts Receivable Turnover Ratio	Pearson Correlation	.929	-.985	1	-.806
	Sig. (1-tailed)	.121	.056		.201
	N	3	3	3	3
Bad Debts to Account Receivable Ratio	Pearson Correlation	-.968	.897	-.806	1
	Sig. (1-tailed)	.080	.145	.201	
	N	3	3	3	3

Source: 2016-2018 Research data

Table 4.30: Correlation analysis of NPD

	Return On Assets	Average Collection Period	Accounts Receivable Turnover Ratio	Bad Debts to Account Receivable Ratio

Return On Assets	1			
Average Collection Period	-.979	1		
Accounts Receivable Turnover Ratio	.929	-.985	1	
Bad Debts to Account Receivable Ratio	-.968	.897	-.806	1

Source: 2016-2018 Research data

The findings reveal that ACP has a negative relationship with ROA. ACP has a coefficient of -0.979 which means that one unit increase in ACP decreases ROA by 0.979, if ART and BDARR are held constant. The statistical significance of ACP on ROA is 0.065 meaning that ACP predicts ROA with 93.5% probability. At the same time BDARR also has a negative coefficient of -0.968 which indicates that one unit increase in BDARR will decrease ROA by 0.968 units, holding ACP and ART at constant. The statistical significance of 0.080 implies that BDARR predicts ROA with a 92% probability.

On the other hand, ART has a positive relationship with ROA with a coefficient of 0.929. This means that a unit increase in ART will result to a corresponding increase in ROA by 0.929, holding ACP and BDARR constant. The statistical significance of ART is 0.121 meaning that ART predicts ROA with 87.9% probability.

From the above findings therefore, the study found out that Average Collection Period and Bad Debts to accounts Receivables Ratio have a negative effect on profitability while the Accounts receivables turnover had a positive effect on profitability of construction companies in Rwanda, considering NPD Ltd as a case study.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of findings, general conclusion and recommendations. In this, the discussion of results is made based on the statement of the problem, a conclusion is drawn, and recommendations are made. Possible areas for the further research are also highlighted in this section.

5.1 Summary of findings

Following the general objective of the study which is aimed at measuring the effective performance of Accounts Receivable management, a case study approach was adopted and NPD Ltd was taken to be the case study for the research, data was collected from both primary and secondary sources.

It was found out that A/R management in the company begins with the company's decision to grant credit to its customers judging which customers should be given credit and then granting credit to them. When a client is given a credit, he/she is expected is to pay within 30-60 days and in case of inconveniences, he/she should not exceed 90 days. However, it was also found out that not all credit customers pay their dues in time. There has also been a very serious problem in collection policy that could maximally bring down accounts receivables, and this clearly indicates that the firm has got a high risk for its accounts receivable becoming bad debts which need management attention.

On the other side of secondary data analysis, the findings indicated slow payment by credit customers meaning that most of the firm's accounts receivable remains outstanding for a long period of time; this is evidenced by high percentages of accounts receivable compared to other current assets of the firm.

Through ratio analysis, NPD's liquidity and activity ratios revealed unsatisfactory results, which also showed a continuous decline. This is an indication of poor management of the firm's assets of which accounts receivable is one of the largest components. Generally, the firm's accounts receivable management was found not effective.

The average collection period of the company indicated a very unsatisfactory results where the number of days in collection procedures ranged from 387, 429 and 474 days for the year 2016, 2017 and 2018 respectively, this is an indication of poor management of receivables since the collection period is way above the credit policy set by the company and therefore there is a need to rectify this if the company should meet its targeted performance in as far as accounts receivable management is concerned.

The profitability ratios of the company ware also not satisfactory and the company reported net losses in the years 2017 and 2018, and this was mainly due to high finance costs incurred in the two years. If you consider this together with the fact that accounts receivables were also very high in the same periods, the company is basically forced into much borrowings to finance its working capital needs. These borrowings would have avoided or at least reduced were company's accounts receivable to be liquidated on time.

Finally, correlation analysis was also applied to determine the nature and extent of relationship and to find out the effect of trade receivables management variables on the profitability measures. The statistical analyses were also performed. Pearson correlation analysis was performed in order to examine the relationships among variables.

The study found out that ACP, ART and BDARR affects ROA (profitability) of construction companies in Rwanda, taking NPD as a case study.

5.2 General conclusion

The research findings indicated that the management of accounts receivable in NPD is not effective, a conclusion based mainly on ART and ACP results. ART showed the number of times NPD's accounts receivable turn over each year, whereas the ACP showed the number of days the firm's accounts receivables remain uncollected. Both of them revealed unsatisfactory results, an indication of slow payment by credit customers, poor collection policy by the firm and ineffective accounts receivable management in general.

In trying to answer the research questions, the objectives of the study were achieved and it is from this point that policies on accounts receivable management have to be improved so as to achieve effective performance of NPD's accounts receivable management. Here much emphasis need to be put on credit selection procedures, credit terms, constant monitoring of accounts, and improved collection efforts.

This study has also shown that ACP and BDARR negatively influence profitability whereas ART has a positive influence on profitability. Therefore, management of the above metrics of accounts receivable management should be used as part of best practices. This agrees with Organdie, Idowu and Ogundipe (2012) who found that; “working capital management has a negative relationship with market valuation as well as performance, taking into consideration ACP, BDARR and ART as components of working capital management”. It also agrees with Ahmet (2012) who concluded that; “efficient accounts receivable management assists a firm to increase its profitability by reducing transaction costs of raising funds in case of liquidity crisis”.

We can therefore conclude that accounts receivables management has to be part of the entire profitability strategy of any construction company. It is not an end to profitability by itself but part of the means to an end. It should therefore be combined with other components of profitability measures such as liquidity management, working capital management, capital size structure, and growth rate.

5.3 Recommendations

The recommendations made are aimed at improving the accounts receivable management in NPD by getting rid of the challenges encountered. It is from this point that the following recommendations were made;

NPD’s collection efforts of accounts receivable from her credit customers should be improved. This is due to the fact that slow payment by credit customers has been realised within the company.

The company should therefore put much more effort in setting up procedures that would speed up collection of accounts receivable from debtors. Slow collections have revealed bad image while computing the ACP for the firm and this cuts the firm’s cash potential resulting in liquidity problems and at times leads to bad debts. Therefore, stringent collection procedures should be emphasised and prioritised such that no receivables remain outstanding beyond the prescribed maximum credit period.

Further, the firm should make critical assessment of the credit seeking customers and credit be given to those who will pay in the credit period given by the company. This is because the company's debtor's turnover has been found unsatisfactory resulting from delayed payments from debtors who take much time than the credit period given by the firm. This can also go in hand with reducing the accounts receivable amounts which were found in excessive percentage compared to other current assets of the company.

5.5 Suggested areas for further research

Due to limited resources, mainly time, it has not been possible to carry out a comprehensive study in all areas related to the topic, and it's from this point of view that further research has been suggested by the researcher on the following;

- Comparing the relationship between Accounts receivables and Accounts payables management.
- The impact of credit extension on customer's purchasing decisions. This will help find out customer's attitude on cash purchases.

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APPENDICES

Questionnaire

1. Which of the following functions form part of NPD Ltd.'s credit policy?

   a) Criteria to screen credit applicants
   b) Controlling the quality of accounts
   c) Setting credit terms

2. Which of the following is relied upon while analysing credit applicants?
   a) Analysis of customers past record
   b) Rely on bank reference
   c) Customers length of time

3. Which of the following measures of correspondence with credit customers help in the effectiveness of accounts receivables management?

   a) Sending notice/letter
   b) Reminder /personal visits
   c) Telephone calls
   d) All the above

4. What is the average credit period offered to credit customers in NPD Ltd?
   a) Standard period of 30 days
   b) Grace period of 60 days
   c) Maximum period of 90 days
   d) Over 90 days

5. Are there problems associated with the management of accounts receivables?
   a) Yes
   b) No

6. Which of the problems below are associated with the management of accounts receivables?
   a) Bad and doubtful debts
   b) Increased recovery costs
   c) Increase in arrears and overdue payments
   d) Others,
   Please specify…………………………………………………………………………

7. Which of the following are the solutions to solve cited accounts receivable management problems?

a) Strengthen credit control
b) Reducing credit period
c) Increase credit control officers
d) Frequent reminder to clients
e) Frequent field visit to clients
f) Any other,
Please specify…………………………………………………………………….

8. Does NPD Ltd classify her debtors according to their age (aging of debtors)?
   a) Yes
   b) No
   c) Don't know

9. (i) What is the length of time taken to declare a customer doubtful and make a provision?
   a) After 60 days
   b) After 90 days
   c) After 6 months

   (ii) What is the length of time taken to declare a customer a bad debtor and make a write-off?
   a) After 90 days
   b) After 6 months
   c) After 12 months

10. Who decides bad debtors to be written off?
   a) Credit control officer
   b) Director of finance
   c) Internal auditor
   d) Executive management
   e) Any other,
   Please
   specify………………………………………………………………

NPD's Financial statements 2016-2018

NPD LIMITED
STATEMENT OF FINANCIAL POSITION
AS AT 31 DECEMBER 2016

ASSETS	Note	2016 Rwf'000	2015 Rwf'000
NON-CURRENT ASSETS			
Property, plant and equipment	3	22,325,009	20,450,211
CURRENT ASSETS			
Inventories and work in progress	4	22,739,101	24,873,019
Trade and other receivables	5	17,877,785	20,058,417
Due from related parties	6(iii)	1,132,213	1,513,421
Income tax recoverable	7(i)	1,002,002	923,006
Cash and bank balances	8(i)	1,233,146	5,306,977
		43,984,247	52,674,840
TOTAL ASSETS		66,309,256	73,125,051
EQUITY AND LIABILITIES			
EQUITY			
Share capital	9	3,664,050	3,664,050
Other reserves	10(i)	54,963	54,963
Retained earnings	10(ii)	7,029,831	5,836,310
TOTAL EQUITY		10,748,844	9,555,323
NON-CURRENT LIABILITIES			
Deferred tax	7(i)	2,169,407	1,301,243
Interest bearing loan	11	22,857,089	22,818,892
		25,026,496	24,120,135
CURRENT LIABILITIES			
Bank overdraft	8(ii)	3,519,108	3,681,161
Trade and other payables	12	23,695,002	28,862,787
Interest bearing loan	11	2,046,202	2,672,056
Due to related parties	6(iii)	1,188,364	3,840,245
Shareholder's loan	6(iii)	85,240	393,344
		30,533,916	39,449,593
TOTAL EQUITY AND LIABILITIES		66,309,256	73,125,051

The financial statements were approved by the Board of Directors on 30/3/2017 and signed on its behalf by:-

Director
Elias Baingana.

Director

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Date: 30/03/2017

NPD LIMITED
STATEMENT OF PROFIT AND LOSS
FOR THE YEAR ENDED 31 DECEMBER 2016

	Note	2016 Rwf'000'	2015 Rwf'000'
Revenue	13	37,578,547	34,007,436
Cost of sales	14	(26,237,951)	(24,679,447)
Gross profit		11,340,597	9,327,989
Other income	15	79,909	227,774
Operating Income		11,420,505	9,555,763
Administration expenses	16	(4,678,528)	(4,822,400)
Selling and distribution costs	17	(47,789)	(117,245)
Net operating profit		6,694,188	4,616,118
Finance costs	18	(4,632,503)	(2,545,935)
Profit before tax		2,061,685	2,070,183
Income tax expense	7(ii)	(868,164)	(1,152,939)
Profit for the year		1,193,521	917,244

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Date: 30/03/2017
ERNST & YOUNG Ltd

NPD LIMITED
STATEMENT OF FINANCIAL POSITION
AS AT 31 DECEMBER 2018

ASSETS	Note	2018 Rwf'000	2017 Rwf'000
NON-CURRENT ASSETS			
Property, plant and equipment	3	27,045,631	33,922,232
CURRENT ASSETS			
Inventories	4(i)	4,667,951	3,273,199
Contract assets	4(ii)	10,608,860	20,155,343
Trade and other receivables	5	24,814,128	21,618,608
Due from related parties	6(iii)	776,986	467,906
Income tax recoverable	7(ii)(a)	237,973	1,073,509
Cash and bank balances	8(i)	1,636,875	518,549
		42,742,773	47,107,114
TOTAL ASSETS		69,788,404	81,029,346
EQUITY AND LIABILITIES			
EQUITY			
Share capital	9	3,664,050	3,664,050
Other reserves	10(i)	54,963	54,963
Retained earnings	10(ii)	2,578,026	6,598,232
TOTAL EQUITY		6,297,039	10,317,245
NON-CURRENT LIABILITIES			
Deferred tax	7(ii)(b)	1,502,847	2,625,276
Commercial paper	11(ii)	14,765,223	-
Interest bearing loan	11(iii)	19,624,722	28,578,845
		35,892,792	31,204,121
CURRENT LIABILITIES			
Bank overdraft	8(ii)	9,603,734	6,154,737
Trade and other payables	12(i)	4,261,941	12,145,229
Contract liabilities	12(ii)	10,459,798	18,454,027
Interest bearing loan	11(i)	1,378,344	1,143,567
Due to related parties	6(iii)(b)	1,775,214	1,490,878
Shareholder's loan	6(iii)(c)	119,542	119,542
		27,598,573	39,507,980
TOTAL EQUITY AND LIABILITIES		69,788,404	81,029,346

The financial statements were approved by the Board of Directors on ...29/03/...2019
and signed on its behalf by:-

....
Director

....
Director

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OF ORIGINAL
Date: 29/03/2019
EY RWANDA
Ernst & Young Rwanda Ltd

NPD LIMITED
STATEMENT OF PROFIT OR LOSS
FOR THE YEAR ENDED 31 DECEMBER 2018

	Note	2018 Rwf'000'	2017 Rwf'000'
Revenue	13	35,883,608	33,385,259
Cost of sales	14	(26,847,434)	(25,499,889)
Gross profit		9,036,174	7,885,370
Other income	15	17,935	268,427
Operating income		9,054,109	8,153,797
Administration expenses	16	(5,680,734)	(3,517,304)
Selling and distribution costs	17	(3,821)	(28,936)
Net operating profit		3,369,554	4,607,558
Finance costs	18	(8,152,765)	(4,674,048)
Operating loss after interest and depreciation		(4,783,211)	(66,490)
Share of (loss)/profit of joint ventures	19	(359,423)	90,760
(Loss)/Profit before tax		(5,142,634)	24,270
Income tax credit (expense)	7(ii)	1,122,429	(455,869)
Loss for the year		(4,020,205)	(431,599)

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Ernst & Young Rwanda Ltd