

A Review of Anatomy of Working Capital Management Theories and the Relevant Linkages to Working Capital Components: A Theoretical Building Approach

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Abstract

This study examines the importance of working capital management concepts and components, notably the receivable management, inventory management and payable management through their respective proxies as average collection period, inventory conversion period and average payment period. Due to its importance, working capital management could best be explained philosophically when theories are employed. These theories are instruments and not answer to enigmas, but their relevance and aid in explaining concepts is enormous and cannot be overlooked. Therefore, this study attempts to explain those working capital management components and concepts and establish a link with some of the suitable theories perceived to be relevant in explaining them. These theories include agency/stakeholder, risk and return, cash conversion cycle, operating cycle and the resource-based theory. The study is found necessary in view of the dearth of literature of its kind and especially in the area of working capital management. The paper therefore employed a conceptual research design approach in addressing this phenomenon. The necessary link was finally established between the theories and working capital concepts and components.

Keywords: Working Capital Management, Average Collection Period, Inventory Conversion Period, Average Payment Period.

1. INTRODUCTION

Working capital management concerns primarily with the management of current assets and by extension the current liabilities of a business. Literatures of corporate finance have mostly centered on financial decisions that are long-term in nature, this comprises mainly on company valuation, investment decisions, dividend policies and capital structure (Afza & Nazir, 2007). The short-term assets of a business are the current assets. They are those assets whose lifespan are expected to be determined within one financial / accounting year. The short-term assets and liabilities are indeed important components of total assets, hence need to be carefully analyzed (Afza & Nasir, 2007). Because of their importance a careful and systematic investigation of these assets is quite necessary since they play a vital role in the profitability of firms, its risk and value (Smith, 1980). Additionally, in this period when competition by companies globally erodes prices, they equally needs cash for expansion both overseas and internally, margins are low with the ever-increasing need to invest in new products and technologies and also pay down debt, shifting attention to working capital management as a source of internal financing of cash provides a formidable managerial tool. Efficient and effective working capital management is therefore considered a true competitive advantage (Ching, Novazzi & Gerab, 2011).

The advantages and importance of efficient working capital management are considered as vital corporate strategy in creating shareholders' value (Deloof, 2003). Firms therefore try to keep an ideal level of working capital which maximizes value (Deloof, 2003; Afza & Nazir, 2007). Moreover, relevance of working capital management could be seen from the perspective of how financial managers of firms spend a great deal of time in the management of short-term assets. This is evident in the areas of administering of accounts receivables, controlling cash movement, negotiating credit terms, and arranging short-term financing (Prasana, 2000). Working capital centered on decisions on the appropriate composition and amount the of current assets and how these assets are financed (Raheman & Naisr, 2007). Based on all these, the importance of working capital management cannot be overemphasized.

However, in line with the above concepts such as working capital management are philosophically studied along with underlying propositions or theories which help to guide and ensure proper understanding of the concept under investigation or study. Theories have therefore become instruments and not answer to enigmas, in which we can rest. We do not lie back on them, we move forward, and on occasion make nature over again with their aid (William & Heins, 1964). In view of this, a careful and systematic investigation reveals that there is a paucity of literature that have attempted to link working capital management concept to relevant theories that

are considered vital in explaining it. Therefore, the purpose of this study is to propose a paradigm that helps explain a link between working capital management and the relevant theories considered vital in explaining it, this is achieved by outlining a link between the working capital components and concepts and the relevant theories.

Therefore the justification for this study could not be far-fetched since conceptual research is scientific inquiry that relies on abstract thinking which is contrary to empirical and data-driven research. To conceptualize is to expand, to imagine and find a solution to real world problems (Corley & Gioia, 2011). Conceptual research is mostly related to the discovery phase of scientific progress. It is a stepping stone in the real research process and addresses a wide range of entities which include domains, theories, constructs and processes (MacInnis, 2011). Additionally, conceptual research help us discover new trailheads for both existing and expected problem-solving quest and upon identifying the research opportunities, subsequent empirical research follows which lead us further to the knowledge discovery path. Basically, conceptual research is synergistically intertwined with empirical research (Yadav, 2010). Consequently, this study is borne out of the need to add impetus in terms of theoretical underpinnings perspective in the area of working capital management.

For that reason the study paper is divided into sub-sections for easy comprehension and flow of logical presentation. We shall review the related literature with respect to concepts of working capital management and its measures that is the cash conversion cycle, the receivable management, inventory management as well as the payables management, this will be followed by the designed methodology, the working capital theories such as the agency / stakeholder theory, risk and return theory, the resource-based and the cash conversion cycle theories as well as the necessary link for its understanding and consequently the conclusion. We shall therefore, begin by reviewing the literature relating to working capital management concepts.

2. LITERATURE REVIEW

The concept of working capital includes both current assets and current liabilities. The “Gross Working Capital” is the current asset total and are also referred to sometimes circulating capital (Imran & Noursheen, 2010). The difference between current assets and current liabilities is known as “Net Working Capital”, henceforth, the main concern of working capital management is to ensure the maintenance of a convincing level of working capital in such a way that it is neither lacking nor in excess. The working capital needs not to be only adequate to cover the current liabilities, but also to ensure a reasonable margin of safety (Imran & Noursheen, 2010).

Gross working capital consists of the funds invested in a company’s cash and marketable securities accounts, accounts receivable, inventories and other current assets. These are the composition of working capital (Moles, et al, 2011). Working capital management could be measured either by the cash conversion cycle, the operating cycle, the net-trade cycle or even the weighted cash conversion cycle. However, the cash conversion cycle is the most popular measure of working capital efficiency (Karaduman, Akbas, Ozsozgun & Durer, 2010).

2.1 The Cash Conversion Cycle (CCC)

The cash conversion cycle refers to the number of days between the expenditure of purchase of firm’s raw materials and the cash collection from the product sales (Sathyamoorthi & Wally-Dima, 2008). Furthermore, cash conversion cycle is a fundamental tool that is applied in the assessment of the efficiency of working capital management (Richard & Laughlin, 1980).

Bieniasz and Golas (2011) maintained that the cash conversion cycle is based on the three partial cycles. These are length of operational cycle and the accounts payable cycle. The three forming one synthetic tool or measure, called the cash conversion cycle. Similarly, Alipour (2011) asserted that the major yardstick of effective working capital management has been introduced by eminent researchers on working capital such as Shin and Soenen (1998), Lazaridis and Tryfonidis (2006) and Garcia-Teraul and Martinez Solano (2007) as cash conversion cycle. Undoubtedly, the different parts of working capital are the receivable accounts, the payable accounts and the inventory. It is vital that these parts are managed in different ways to maximize the profit or to increase the company’s value (Deloof, 2003).

The cash conversion cycle is represented as follows:

$$CCC = ACP + ICP - APP$$

Where,

ACP = Average collection period, a proxy for receivable management

ICP = Inventory conversion period, a proxy for inventory management

APP= Average payment period, a proxy for payables.

2.2 Receivables management

Average collection period is the time frame which accounts receivables are expected to be collected back from the respective debtors. The accounts receivable at a firm represents the total unpaid credit that the firm has

extended to its customers. Accounts receivable can include trade credit (for example, credit extended to other business) or consumer credit (Credit extended to a consumer) or both (Moles, et al, 2011). The Business provides trade and consumer credit because doing so increases sales and because it is often a competitive necessity to match the credit terms offered by competitors. However, the downside to granting such credit is that, it is expensive to evaluate customers' credit applications to ensure that they are creditworthy and then to monitor their ongoing credit performances. Firms that are not diligent in managing their credit operations can suffer large losses from bad debts, especially during a recession, when customers may have trouble paying their bills (Moles, et al, 2011). An important parameter in accounts receivable is the credit policy variables. The important dimensions of a firm's credit policy are: The credit standard, the credit period, the cash discounts and the collection effort (Prasana, 2000).

Additionally, it is very vital when discussing on the average collection period as a proxy for receivables management to always reflect on what is supposed to be a credit standard for a given firm? That is to say, what standard should be applied in accepting or rejecting an account for the purpose of granting credit. Therefore, in this regards a firm has choices, first, it could decide not to extend credit to any customer, no matter the strength of his credit rating. Conversely, it may decide to grant credit to all customers irrespective of their credit rating. Between these two extreme positions lies several possibilities, often the more practical ones (Moles, et al, 2011). Moreover, credit period is one important variable within credit policy. This refers to the length of time customers are allowed to pay for their purchases (Prasana, 2000). Lengthening of the credit period would have opposite influences; it tends to lower sales, decreases the value of debtors, and reduces bad debt loss incidence (Prasana, 2000). Another important component of working capital management is the inventory management with a proxy as inventory conversion period.

2.3 INVENTORY MANAGEMENT

Inventory Conversion Period (ICP) is used as a proxy for inventory management. The ICP is one of the partial components of cash conversion cycle and by extension, the working capital management. Inventories include supplies, finished goods, work-in-progress and raw materials. These categories of inventory constitute an essential part of virtually all business operations (Brigham & Houston, 2007). Raw materials are materials and components that are inputs in making the final product. Work-in-process refers to goods in the intermediate stages of production while finished goods are final products that are ready for sale (Moles, et al, 2011). An efficient management of inventory ensures a stable working capital, which ultimately increase profitability. Businesses must always strive to maintain an optimum level of inventories (Lazaridis & Tryfonidis, 2006). It is worthy to note that two aspects relating to inventories efficiency are vital, one to know the size of the inventory order, and the second to know the level at which the order could be placed. This decision is mostly handled using an important model called the Economic Ordering Quantity (EOQ) model. This model is an empirically- based formula or structure embodied by certain theoretical assumptions aimed at striking a balance between sales, fixed costs, carrying costs and the total costs. It is denoted by

$$Q = \sqrt{\frac{2FU}{PC}}$$

Where, U = annual sales;
F = fixed cost per order;
C = total cost;
P = carrying costs.

However, one important phenomenon relating to inventory management as a component of working capital management is the issue of pricing raw materials and stock valuation which includes several methods such as FIFO, LIFO, WEIGHTED AVERAGE METHODS (Prasana, 2000). The last partial component of the cash conversion cycle is the payables management (Accounts Payable) which has the Average Payment Period (APP) as its proxy.

2.4 PAYABLE MANagements

The average payment period is used as a proxy for accounts payable which is a partial component of the cash conversion cycle, and this cycle is used to measure the efficiency of working capital management (Brigham & Houston, 2007). Accounts payable arises from the fact that firms generally make purchases from other firms on credit and record the debt as an account payable. It is the largest single category of short term debt. Hence, it is a spontaneous financing source, since it spontaneously arises from ordinary business transactions (Brigham & Houston, 2007). Trade credit can either be costly or free. Where the seller refuses to offer discounts, then it is free, in the sense that there is no cost for using this credit. While the costly trade credit is any trade credit over and above the free trade credit (Brigham & Houston, 2007). It represents about 20-25 percent of short-term

financing (Prasana, 2000). Trade credit can also be used as a marketing tool to facilitate the selling process and to compete in the market. Schwartz (1994) views credit terms as an integral part of the firms' pricing policy. Flexing a credit terms favorably, such as lengthening a credit period or increasing a cash discount, is equivalent to a price cut, thus enabling the firm to evade price restrictions. This subtle technique also provides the seller a more flexible approach to pricing without fear of competitor retaliation (Cheng & Pike, 2003).

Various studies investigated working capital management, especially in relation to profitability or firm performance while others studied on the different working capital management policies and sectors. Shin and Soenen (1998) utilized a sample of 58,985 firm years for a period that covered from 1975-1994 to investigate working capital management relationship with profitability. The efficiency of working capital management was measured by net trade cycle. Findings from the analysis revealed a strong negative relationship between profitability and net trade cycle depicting that the shorter the cycle the higher the firms' profitability. Also Deloof (2003) studied profitability relationship with working capital management using a sample of 1009 Belgian large non-financial firms for period from 1992-1996. The gross operating profit was used to measure profitability. Findings from the regression analysis revealed a negative association between cash conversion cycle and profitability. He therefore maintained that a shorter cash conversion cycle ensures higher profitability. In another study by Lazaridis and Tryfonidis (2006) the relationship between profitability and working capital management was tested by utilizing a sample of 131 firms listed on the Athens Stock Exchange from 2001-2004. Profitability was measured by gross operating profit. It was found that there was positive significance between cash conversion cycle and profitability. Additionally, Raheman and Nasr (2007) used a sample of 94 Pakistani firms listed on Karachi Stock Exchange for the period from 1999-2004 to study the relationship between profitability and working capital management, the net operating profit was used to measure profitability. Findings from the regression analysis revealed a negative relationship between profitability and cash conversion cycle components. This finding connotes that if the cycle is shorter then profitability will be higher.

However, the study of Garcia-Teruel and Martinez-Solano (2007) is also not an exception in this regard. They investigated working capital management relationship with profitability using a sample of 8,872 small and medium sized enterprises (SMEs) from 1996-2002. Findings from the analysis also revealed a negative association between profitability and cash conversion cycle, a measure of working capital efficiency. The finding also suggests a shorter cycle for the firms in order to have higher profit.

On the other side Afza and Nazir (2009) attempted to investigate on the traditional working capital management policies of aggressiveness and conservativeness and profitability. They considered a sample of 204 non-financial firms on Karachi stock exchange from 1998-2005. The study found substantial difference among firms' working capital requirements and policies for different industries, the result of the regression also found a negative association between degree of working capital investment aggressiveness and profitability. According to their finding, adopting a conservative approach (more investment in current assets) ensures more value for shareholders and profitability. Having reviewed some literatures, the next step is to present the methodology of the study.

3. METHODOLOGY

Many scholars of strategy and organization spend a significant amount of energy disparaging and defending various research methods. Subsequently, debates develop about deductive versus inductive theory-building and the reliability of information generated from large-sample numerical data versus that obtained through field observation. These are undoubtedly dichotomies that surfaces frequently in our lives, that is both the researchers and our students. Despite this scenario, some of the most respected researchers Simon (1976), Solow (1985), and Hayes (2002) have continued to argue that the collective efforts of business academics have generally produced a paucity of theory that is considered practically useful, intellectually rigorous, and that is able to stand the test of time and takes care of circumstances changes.

In essence, this study does not intend to build a theory, but in aligning to this prevailing predicament, the purpose of this study is to outline a link between the working capital management components and concepts and the relevant theories in explaining them. The methodology adopted therefore is by means of exploratory research. Exploratory studies are necessary when the phenomenon is known, but more detailed explanation is needed for developing a viable theoretical framework (Sekaran & Bougie, 2009). In addition to that, exploratory studies are important for obtaining a good grasp of the phenomenon of interest and advancing knowledge through subsequent theory building and hypothesis testing (Sekaran & Bougie, 2009). Therefore, we shall subsequently narrow down to the relevant theories of working capital management and show their linkages to the concepts and components.

4. ANALYSIS OF WORKING CAPITAL THEORIES AND LINKAGES TO CONCEPTS AND COMPONENTS

As highlighted earlier, some of the main theories considered by this study as relevant to working capital

management includes the Agency / Stakeholder theory, the risk and return theory, the operating and cash conversion cycle theory, as well as the resource-based theory.

4.1 AGENCY / STAKEHOLDER THEORY

An agency relationship could be defined as one, where one or more persons (being referred to as the principal(s)) engages another (the agent) to perform some tasks or service on their behalf which has to do with delegating some authority in terms of decision making (Jensen & Meckling, 1976). In a sum, it is easy to say that an agency relationship has arisen between the parties, when the first party designated as the Agent is contracted to Acts for, or at least on behalf of, or as a representative for the other, designated the principal, in a domain of decision problem (Ross, 1973).

Agency theory has been one of the most important theoretical paradigms in finance and accounting during the past years. The primary features that made agency theory attractive to researchers in the field of finance, economics and accounting is that it explicitly allows us to incorporate conflict of interest, incentive problems and even the mechanisms for controlling problems associated with incentives into our models. The information value is a derivative of better decisions as well as higher profits which result from its use (Jensen & Meckling, 1976).

Agency theory has been employed by several scholars in economics (For example, Spence & Zeckhauser, 1971), Accounting (Demski & Feltham, 1978), Finance (Fama, 1980), Marketing (Basu, Lal, Srinivasan & Staelin, 1985), organizational behavior (Eisenhardt, 1985; Kosnik, 1987), political science (Mitnick, 1986) and Sociology (Eccles, 1985; White 1985). Although the theory enjoys wider applicability it is still surrounded by controversy. This controversy aroused as a result of the fact that interest of principals and that of agents diverge. Hence, the focal point of agency is that it should be a theory that looks at how to ensure agents (executives and managers) acts in the best interests of the principals (shareholders and owners) of an organization.

While the term stakeholders refers to groups of constituents who have a legitimate claim on the firm (Freeman, 1984). This legitimacy is established through the existence of an exchange relationship. Stakeholders include creditors, shareholders, managers, suppliers, employees, customers and the general public. According to March and Simon (1958), all the groups identified above supplies firms with critical resources (Contribution and in exchange expects its interest to be satisfied by inducements).

The link:

The relevance of agency theory to working capital management could be viewed from the perspective of financial manager, who in most cases is an agent of the owners (principals) of a firm, and who takes all the important decisions regarding all the short-term assets and liabilities of a business. He takes charge of decisions regarding receivables, payables, inventories /stock and liabilities of a firm. However, by extending this to stakeholder relevance, as highlighted earlier, the symbiotic association of firm and various stakeholders, the creditors for instance, provides source of finance to the firm and in exchange expects repayment of their loans on schedule. The stockholders supply the firm's capital and in return expects a maximized risk-adjusted return from their investment. Employees and manager help firms with required skills, time, as well as human capital requirements in exchange they anticipate good working condition, fair income and remunerations. Customers provide the source of revenue to the firms and in exchange expect to have value for money and satisfactory services. Suppliers are input providers to the firm, and hence expect fair prices and dependable buyers. Stakeholders normally differ with respect to their stake size in firms. The level of individual's stake depends on the extent of his exchange of relationship and commitments with the firm which is based on specific asset investments (Williamson, 1984).

4.2 RISK AND RETURN THEORY

The risk and return theory is one of the most important theories in the field of portfolio management. The risk and return relationship has received considerable attention from researchers in business, economics and finance (Mukherji, Desai & Wright, 2008). Furthermore, every decision with respect to investment is based on risk and return relationship (Richard, Stewart & Franklin, 2008). Relating to that, two conflicting attitudes are always associated with the risk. That is, the risk-seeking behavior and the risk aversion. Risk seekers always prefer choices involving a higher potential loss / or a greater probability of a loss and of course with a strong notion of over estimating gains. The main focus of risk-seekers is on the opportunities for gain (Tiegen & Brun, 1997). Conversely, risk-averters are completely opposite of risk seekers, in the sense that they (risk averters) over estimate losses and underestimate gains.

The Link:

However, in order to integrate the risk and return theory in working capital management, it is imperative to stress that one of the cardinal decisions in working capital management is the trade-off between liquidity and profitability. If a firm chooses to be liquid it should be at the expense of the profit and vice-versa. Any of these

two conflicting decisions may result in either of excess or shortage of the components of working capital and the current assets of a business. The table below depicts this scenario.

Table 1
Theoretical Relationship between Working Capital Components and Profitability

Current Assets	Excess	Shortage
1. Cash	Excess of cash is considered as non-earning and this reduces profitability	Its shortage causes crisis in liquidity which results in inability to make payments, disruption of operations, and ultimately affects profit
2. Receivable	Excess is associated with collection effort costs, risk associated with defaults and low profit.	Turnover will be low, and so the profitability.
3. Inventory	Price decline, associated carrying costs, opportunity cost of funds. These affect profit adversely.	Limited supplies, tends to interrupt production schedules, lower sales as well as profits.

In the same vein, the risk and return theory which is an integral part of the portfolio theory can be associated to working capital when we look inwardly at the ability of a firm or financial manager to determine the collection of assets, or portfolio to be acquired, since it is impossible to own everything, decisions on what the composition of receivables, inventories, incentives and stocks viz-a-viz the profitability concern are all within the context of risk and return theory.

4.3 THE OPERATION AND CASH CONVERSION CYCLE (CCC) THEORY

The CCC theory approach was developed by Richards and Laughlin (1980). In their work, the duo saw the need to have a critical look at working capital management and its individual components. They felt, that, although a substantial portion of financial manager's time is spent on decision relating short-term assets and liabilities, little attention has been given by most of the literature and researchers in this direction. Accordingly, they describe the receivables, inventories and payables as the constituents of the cash conversion cycle model.

The Link:

The theory of the cash conversion cycle centers on explaining a cycle that begins from the payment for the purchase of raw materials, through to its transformation and the emergence of new product, to the collection of receivables from the buyers and possible debtors of the interaction as a result of the stock sale. Undoubtedly, financial managers and all related financial analysts appreciate at least at an intuitive level that all working capital investments do not have the same life expectancy, and their transformation rate to usable flows of liquidity is always not at the same speed (Richard & Laughlin, 1980).

Therefore, in the overall, one can conveniently say that the cash conversion cycle theory is the most central one in explaining working capital management as it is concerned with all the concepts and components, ranging from raw materials to finished products, and outputs representing inventory levels, to receivables and payment representing the cash aspect.

4.4 THE OPERATING CYCLE THEORY

The operating cycle theory is one of the very important theories in working capital management. Operating cycle is one of the measures of efficiency of working capital management. It takes into cognizance the receivables and inventories related to working capital. The cycle traditionally commences from the receipt of raw materials to the collection of receivables from debtors of the stock sales produced from those raw materials.

The Link:

The traditional approach of relying on current or acid-test ratios as solvency indicators is quite defective compared to the operating cycle approach of relying on current or compared to the operating cycle approach where accounts receivables and inventory turnover measures are incorporated as useful in liquidity management. This is quite clear because Average Collection Period (ACP) as a proxy for firms average receivables investment is converted to cash. One critical aspect to note is that changes in collection and credit policy have a direct effect on the balance of accounts receivable outstanding, in relation to annual firm's sales (Richard & Laughlin, 1980).

According to operating cycle theory when firms grants more liberal credit terms to its customers there is a higher tendency of having a bigger, but ultimately less liquid investment in cycle (that is, the inventory turnover) shows the number of times with which business firms converts the totality of their raw materials stock, their work-in-progress and ultimately the finished goods into product sales.

4.5 RESOURCE-BASED THEORY

Resources are the basis of business survival and corporate profitability. The resources could either be human or

material. When taking stock of a firm's resources, a distinction needs to be made between resources and capabilities. Resources are inputs into the production process—they are considered as the fundamental unit of analysis. The resources of a firm include items such as capital equipment, patents, brand names, the skill associated with individual employees, finance and so on.

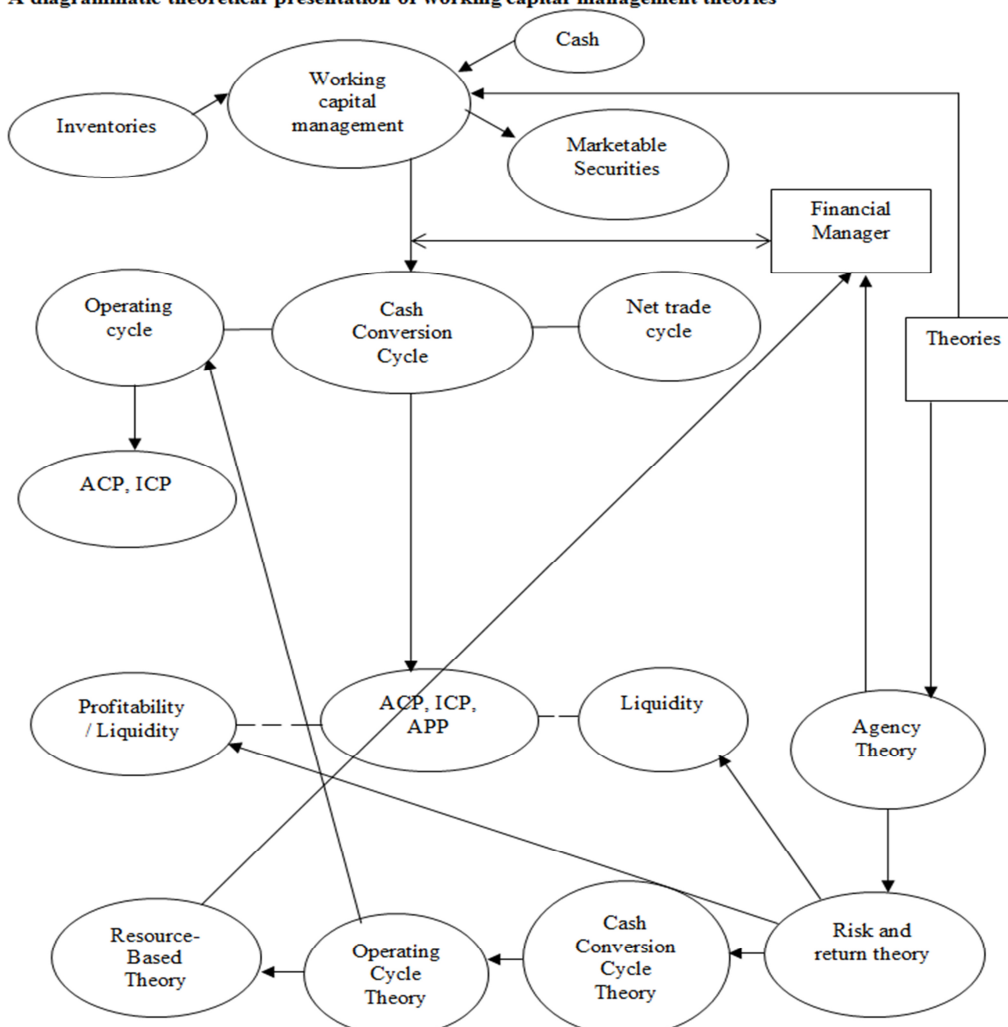
Independently, fewer resources are productive. Any productive activity must require the coordination and cooperation of teams of resources, while a capability is viewed as the ability or capacity of a team of resources to perform certain activity or task. Therefore, by implication resources are the sources of a given firm's capability (Grant, 2001).

The Link:

Resource-based theory is used in this context to include the cognitive ability of individual managers of businesses as to ensure effective management of the short-term asset of the business (working capital) (Alvarez & Busenitz, 2001). This therefore connotes that managers have individual-specific resources that facilitates and ensures the recognition of new opportunities, effective assembling of resources, as well as the psyche of making payments, and recovering of receivables as and when due to ensure effective management of working capital and ultimately the firm's profitability.

However, to sum it up, the link between working capital management concept and components, with these theories highlighted above could be described in a conceptual, theoretical and diagrammatic presentation below:

A diagrammatic theoretical presentation of working capital management theories



5. CONCLUSION

Effective management of current assets of a business (working capital management) has always been a key to firm's profitability and survival. An attempt has been made to review those capital concepts and components such as the cash conversion cycle and its components, inventory conversion period, Average collection period and Average payment period and establish a link with those theories considered relevant in explaining those concepts. The theories such as agency, risk and return, cash conversion cycle, operating cycle and the resource-

based theory were employed. Having done that, a nexus was established, in order to have a proper integration and understanding of these theories and how many they relate to the working capital management concepts. Future research could focus on bringing out more theories that are relevant in explaining the antecedents of working capital management, due to its strategic importance in the survival of business today.

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