

# Working Capital Management: An Antecedent of Successful Supply Chain Management

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**Abstract**— The prime objective of current study is to investigate the impact of working capital management tools such as cash conversion cycle, inventory management, and receivable management on the performance of supply chain of manufacturing firms operating in Indonesia. In addition to that, the current study is also interested in examining the moderating role of corporate cash holdings in the relationship between cash conversion cycle and firm supply performance, inventory management and firm supply performance, and receivable management and firm supply performance. To achieve the objective of the current study, we have employed the structural equation modeling and used the statistical package of smart PLS-3. The data by mean of an adapted survey instrument in the form of questionnaire is collected from the operation and finance managers of Indonesian manufacturing firms. The results of the current study are providing support to the hypothesized results as working capital management appears in significant relationship with firm supply performance. The corporate cash holdings also appear in significant relationship with firm supply performance. The corporate cash holding also appears as a significant moderator between working capital and firm supply performance. The current study which in author knowledge is among few pioneering studies on this issue, will be helpful for financial experts, operation managers, academicians, researchers and other policy makers in formulating policies.

**Keywords:** working capital management, Firm Supply Chain performance, corporate cash holdings, Indonesia

## 1.0 Introduction

In the mid-20th century, the business practice had moved towards the going concern concept of an entity and away from the idea of immediate liquidation of business. This had resulted in a new paradigm of working capital concept to maintain a business operating cycle and simultaneously maximize its profitability [1]. Under the Accounting discipline, Aktas et al. [2] had suggested that the usage of the term WC was categorically in their statutory reporting of

Statement of Financial Positions (or Balance Sheet). Instead, it had adopted the term current assets fewer current liabilities [2]. Consequently, this led to absence of any uniformity or understanding of the term WC as it does not appear in any account form in financial statements of a firm ever since [1]. In the context of finance, WC consists of current assets and current liabilities components of an entity. The quantum of a company investment in WC is the net of the total current assets and total current liabilities [3]. The finance terminology used to describe this difference is net working capital [NWC]. Traditionally, NWC has been identified in finance as a measurement of firm liquidity position. Therefore, the higher reliance of current liabilities will lead a firm to lower liquidity.

Generally, WC represents the amount of funds required to sustain the daily expenses incurred by the operational activities of a firm. According to Mandal, and Goswami [4] it metaphors ‘oil lubricant’ required to ensure the smooth running wheels of a business. It could be said as the life blood and nerve centre of a firm [5],[6].

Currently, numerous studies ([7],[8]) have shown that quantifying WC of a business is an uphill task because of the different and uncertainty conditions existed in a turbulent business environment. In practice, it differs across firms in an industry and over time for a business. Also, it was found that WC requirement differs by business and other factors [7]. Critically, any decision making made on working capital will have a direct impact on the trade-off between firm profitability and risk [9].

The corporations around the world are focusing on the development of models to mitigate the risk arising in various forms. The dynamic environment of the business world is bringing many unique challenges and forcing the corporation to develop a unique set of strategies to manage and mitigate the risk [10],[11]. The researchers [11] with different theoretical models have tried to explore the risk events and their plausible solutions. One of the risk factors which emerged in the limelight during the first decade of the twenty-first century s supply chain risk. The procurement failure, technological advancement,

failure in integration and risk management strategies are initially or collectively discussed as key events leading to supply chain risk failures [12]. However, according to [11] the cost-effectiveness and mitigation of the cost risk has been a key focus of researchers, and the impact of risk management practices, supply chain technology risk and supply chain integration risk has largely been ignored.

According to Speier et al., [13] the tightly and loosed and supply chain both have cost and benefits. Earlier the emphasis was being placed on the tightly coupled supply chain. However, later because of risks such as disruptions, and process slack, there is a paradigm shift, and new definition of integrations are under discussions. Thus, according to Blome and Schoenherr, [14] the integrated approach of risk identification and analysis with the underlying objectives of mitigation or acceptance of uncertainty assorted with supply chain operations is known as supply chain risk

The twenty-first century because of technologically advance production, globally spread mass media, and well aware customers have witnessed an intense competition. In response to intense competitive pressure in the business world, organizations are facing numerous challenges to attain sustainable competitive advantages. The ultimate goal of all kinds' types and size of organizations is to provide a high-quality product with shortened lead time and high responsiveness to its consumer [12]. Therefore production flexibility with improved agility level has become an important subject in an ever-changing market; many companies found outsourcing by decentralizing their production as a solution to this problem and focus is to create virtual enterprises. This shows how information technology is changing market determinants and management styles. But to meet customer need and come up with the same quality from all outsourced, information sharing among all partners is of great importance. In a survey about planning and implementation of SCM initiatives from managers of about 300 firms which were involved in supply chain related activities, the researcher found planning as strong deterrent of managerial activities as 92 % of managers were planning to implement about two supply chain initiatives. The explanation of the importance of information management in SCMP is incomplete without highlighting the emerging paradigm of supply chain design and management. This emerging paradigm emphasis on inclusion of advanced information technologies for communication and data interchange, the complexity of SCM function is also a reason for this concept [15]. Thus, we can argue that the supply chain risk in the form of

supply chain integration risk, supply chain technology risk, and supply chain risk management implications are significant determinates of firm supply chain performance

## 2.0. Literature Review

### 2.1. Working Capital

There are many studies in the field of working capital management in relation to firm's performance, profitability and financing. For instance, Shin and Soenen [16] investigated the efficiency of working capital management of a sample of USA firms for the period 1975 - 1994. Deloof [17] investigated how working capital management affects profitability of a sample of Belgium firms for the period 1992 - 1996. Other researchers, including Gill et al. [18], studied the relationship between working capital management and corporate profitability of a sample of USA manufacturing firms in the period of 2005 - 2007. Ching, Novazzi and Gerab [19] investigated the influence of working capital management on profitability of a sample of Brazilian companies within the period 2005 - 2009. Charitou, Elfani and Lois [20] examined the influence of working capital management on firms' Martínez-Solano and García-Teruel [21] argue that an efficient working capital management increases a firm's profitability and financing. Ademola [22] adds that working capital management is critical and most important to a firm's growth and sustainability. Every organisation, profit or non-profit oriented, large or small, manufacturing or trading or service providers, needs to manage working capital.

Working capital management is an important strategy for a firm's survival, liquidity (solvency) and profitability aspiration [23]. Working capital management means management of short period resources of business (current assets) and short period obligations (current liabilities) [24]. It involves the relationship between a firm's current assets and current liabilities. That means the relationship between a firm's short-term investments and short-term financing, usually within one accounting period describe working capital management as a criterion of a debtor's ability to pay debt when it falls due. Furthermore, working capital management is defined as representing operating liquidity available to a business. To analyse a firm's working capital, two approaches are commonly used: ratio analysis approach and analysis of individual components of working capital. For the ratio analysis approach, some of the key performance ratios of the working capital management are used, such as the working capital ratio, liquidity ratio, debtors' ratio and

inventory turnover ratio [25]. Ratio analysis assists owners/managers to ascertain the areas of focus, like liquidity management, inventory management and/or trade credit management. The working capital management approach assists managers to optimise each of the components of the working capital for increase in the firm's profitability and value [18].

The main aim of working capital management is to maintain a balance between liquidity and profitability by optimising each of the components of working capital [17]. This means working capital should be sufficient to ensure liquidity, but not too much as it can diminish the firm's profitability [19]. According to Gill et al [18], the objectives of efficient working capital management is to effectively manage the firm's short-term resources so that the marginal returns on the investment is greater or equal to the cost of capital employed to finance it.

## **2.2. Working Capital and Firm Supply Chain Performance (FSP)**

### **2.2.1. Cash conversion cycle, cash flow and firm Supply performance**

The cycle defines the number of days on average taken by a firm from the purchase of inventories on credit to the time of cash collection from customers.[17]. Cash conversion cycle was introduced in 1974 by Gitman and modified in 1980 by Richards as an instrument for analysing a firm's cash management and as a predictor of firm outcomes. According to Gutman [26] the cash conversion cycle is one of the most important determinant of working capital or simply saying the component of it . He continued and argued that it is span between when actually the cash paid for the purchase of raw material used in production till the time when product sold in the market. Cash conversion cycle has been defined differently by scholars. For example, according to Richards and Laughlin [27], cash conversion cycle is, "the net time interval between actual cash expenditures on a firm's purchase of productive resources and the ultimate recovery of cash receipts from product sales". Gill et al. [18] defines it as a standard measure of the average period of time a firm takes to turn a dollar invested in purchasing raw materials into a dollar collected from receivables. Similarly, Deloof [17] describe cash conversion cycle as the time lag between the payments for the purchase of a firm's raw materials to the time of collection of receivables associated with the credit sales. In effect, cash conversion cycle refers to the time-period between the purchase of raw materials, converting to finished goods and to accounts receivable and then to cash.

According to Basheer et al. [11] A performing supply chain is one which can offer products with various specifications have complex supply chain and successful in implementing lean supply chain concept which advocates low cost with minimal lead time. Qi et al. [27] worked on the relationship between supply chain strategy and firm performance and explored a positive relation with arguments that supply chain strategy enhances supply chain responsive and increase production flexibility which in turn affect performance. Qi et al. [27] shown consistency with Whybark et al. [28] and Hines [29] as they also declared supply chain responsiveness a major determinant of performance. To achieve supply chain goals employment of the most appropriate course of action is prerequisite and it should be consistent with the firm's long-term strategy. Leading firms like Toyota and Wall Mart are using this method to achieve their supply chain goals. But it is not that it always works firms like Barilla Spa and Hewlett-Packard are badly affected by this method. Shih et al. [30] solved this issue with an argument that these practices should be consistent with supply chain strategy and goals.

H1: cash conversion cycle has significant impact on the firm supply performance

### **2.2.2. Inventory Management and firm Supply performance**

Inventory holding period (inventory turnover period or stock holding period or days of inventory or inventory conversion period) is one of the major items of working capital. It is the number of days on average that a business takes to turn inventories or stock into cash or debtors in a year (inventory turnover per annum [17]. The goal of inventory management is to maintain an optimal level of inventory that ensures continuous and uninterrupted business operations at minimum cost [5]. According to Gill et al [18], efficient inventory management is one of the key factors that influences firm's profitability and value. Thus, efficient working capital management ensures optimal inventory level that minimises cost and maximises profitability while satisfying customers' demands. Inventories represent a firm's short-term investment which requires efficient management in order to maximise shareholders value [31]. According to Horne and Wachowicz [32], inventory constitutes the major portion of current assets which a firm holds in the form of either raw materials, work-in-process and/or finished goods. However, this depends on the nature of the business for a manufacturing firm's inventory which can be in all the three forms, (raw materials, work-in-process and finished goods); while for non-manufacturing firms, inventory can only be

stock of finished goods. Efficient inventory management involves balancing between the benefits and cost of holding inventory. The question of how much inventory a firm should hold has been extensively discussed in the operational management literature. For example, Koumanakos [33] elucidates that holding too much inventory involves cash tied up funds in stock which generates no return, increases holding cost and increases possibility of spoilage, damage and stock loss. However, Gill et al. [18] argue that larger inventories can prevent interruptions in the production process due to stock-out and loss of business as a result of scarcity of products and can also reduce supply cost and price fluctuation.

Supply chain management (SCM) has many challenging problems [34] [35], increasing reliance on suppliers performance; and dynamic changes of suppliers. To compete successfully in the global market economy, firms gradually find themselves dependent on having effective supply chains [21]. Many of the operational research scientist have shown the consensus on the common goals of SCM. Kaufman and Ülku [22] declared the removal of communication barrier and eradication of redundancies as ultimate goals of SCM. Later Choon et al. [36] defined waste reduction, synchronized operation, delivery performance, quality management, and flexibility in production as SCM goals. Kaufman and Ülku [37] also confirmed Choon et al. [36] and added customer satisfaction, time cost, where housing and supplier relation as SCM goals in literature.

H2: Inventory management has significant impact on the firm supply performance

### **2.2.3. Account receivable and firm Supply performance**

The next important item of working capital is accounts receivable (i.e., average collection period or days of accounts receivable). Accounts receivable period is defined as the number of days a firm takes to collect debts (receivables) from its customers. In other words, it is the number of days a firm takes to collect the amount owing by customers or debtors in a year (i.e., average collection period per annum). According to Horne and Wachowicz [32] accounts receivable constitutes a major portion of current assets of a business concern after inventory. A firm needs a normal stock and debtor's level (permanent working capital) to keep it moving. Thus, firm's profitability is partly affected by accounts receivable management [18]. They further assert that an efficient management of receivables will improve firm's performance. Firms create accounts receivable as a result of trade credit arrangement with its customers in which the customers are

allowed to defer payment for the product or services to future date [17]. The primary aim of trade credit is to increase sales which consequently can increase a firm's profitability.

Trade credit here focuses on the seller's side (accounts receivable). Scholars have advanced different motives for trade credit, i.e., why firms grant trade credit to their customers. For example, Martínez-Sola et al. [39] enumerate four different motives for trade credit: financial motive, operational motive, commercial motive and product quality motive. The scholars suggest that SMEs owner-managers can minimise firm's operational cost and increase profitability through efficient trade credit management. Similarly, Gill et al. [18] states that, firms have an optimal level of accounts receivable where the marginal revenue of the trade credit lending is equal to the marginal cost, and this level produces an optimal credit period. Therefore, firm owners/managers should endeavour to efficiently manage the firm's trade credit (both receivables and payables) which make up the largest proportion of working capital of most SMEs.

Hence, in last decades SCM has emerged as an integrated approach, which ensures defined waste reduction, synchronized operation, delivery performance, quality management, flexibility, customer satisfaction, time cost, where housing and long-term supplier relation [39] to achieve competitive advantage [36], [40], [56-60] enhance effectiveness [39]. Though supply chain collaboration can be operationalized in many forms, but according to Holweg et al. [41][42] the most significant and important is one which speeds up the demand and supply by bringing overall efficiency in whole supply chain. But failed or ineffective operationalization of supply chain collaboration can bring cost inefficiency [39].

Supply chain integration effectiveness can be measured by the successful integration of all internal and external supply chain members into a supply chain network with shared strategic vision [36]. Merely integration is not enough, customer satisfaction, cost reduction, and sustainable product quality are most important. Though you are sometimes trying SCM implementation results, some failures [36],[43] managers and researchers paying attention to them and concepts suggested by Kaufman and Ülku [46] are the solutions to this issue.

H3: Inventory management has significant impact on the firm supply performance

### **2.3. Corporate Cash Holdings, working capital and Supply Chain Performance**

Corporate cash holding is an important component of working capital. According to Iturralde and

Maseda [44], researchers have paid little attention to cash management in spite of its relevance to working capital management. Cash is the lifeblood of any organisation [45]; hence, a firm needs sufficient cash to be able to run the business operations, but at the same time, keeping idle cash generates little or no return at all. Management of cash is one of the major tasks of the financial manager in working capital management. Thus, effective cash management is critical to all organisations, especially in a depressed economy [45]. Similarly, Larsson and Hammarlund [46], affirm that improving cash management can create a better profit margin and high turnover ratio which results in increase in firm's profitability. According to Horne and Wachowicz [32], management of cash encompasses determining the firm's motives for holding cash (transactional, precautionary and speculative), cash collection and payment policies, outsourcing, electronic commerce and determining the firm's cash balance.

The corporations around the world are focusing on the development of models to mitigate the risk arising in various forms. The dynamic environment of the business world is bringing many unique challenges and forcing the corporation to develop a unique set of strategies to manage and mitigate the risk [36],[11]. The researchers [11] with different theoretical models have tried to explore the risk events and their plausible solutions. One of the risk factors which emerged in the limelight during the first decade of the twenty-first century is supply chain risk. The procurement failure, technological advancement, failure in integration and risk management strategies are initially or collectively discussed as key events leading to supply chain risk failures [11]. However, according to [11] the cost-effectiveness and mitigation of the cost risk has been a key focus of researchers, and the impact of risk management practices, supply chain technology risk and supply chain integration risk has largely been ignored.

Efficiency in working capital management is a vital area of corporate finance strategies. Corporate finance traditionally focuses on long-term capital structure and capital budgeting; however, in recent times, many firms from different industries have focused their attention on working capital management efficiency to increase profitability and growth [32]. Efficient working capital management means keeping the components of working capital, accounts receivable, inventory and accounts payable at optimal level and efficient utilisation of cash for the day-to-day operations .

According to Speier et al., [13] the tightly and loosely coupled supply chain both have cost and

benefits. Earlier the emphasis was being placed on the tightly coupled supply chain. However, later because of risks such as disruptions, and process slack, there is a paradigm shift, and new definitions of integrations are under discussions. Thus, according to Blome and Schoenherr, [14] the integrated approach of risk identification and analysis with the underlying objectives of mitigation or acceptance of uncertainty associated with supply chain operations is known as supply chain risk

The twenty-first century because of technological advances in production, globally spread mass media, and well aware customers have witnessed an intense competition. In response to intense competitive pressure in the business world, organizations are facing numerous challenges to attain sustainable competitive advantages. The ultimate goal of all kinds' types and size of organizations is to provide a high-quality product with shortened lead time and high responsiveness to its consumer [17]. Therefore production flexibility with improved agility level has become an important subject in an ever-changing market; many companies found outsourcing by decentralizing their production as a solution to this problem and focus is to create virtual enterprises. This shows how information technology is changing market determinants and management styles. But to meet customer need and come up with the same quality from all outsourced, information sharing among all partners is of great importance. In a survey about planning and implementation of SCM initiatives from managers of about 300 firms which were involved in supply chain related activities, the researcher found planning as a strong determinant of managerial activities as 92 % of managers were planning to implement about two supply chain initiatives. The explanation of the importance of information management in SCMP is incomplete without highlighting the emerging paradigm of supply chain design and management. This emerging paradigm emphasizes on inclusion of advanced information technologies for communication and data interchange, the complexity of SCM function is also a reason for this concept [11]. Thus, we can argue that the supply chain risk in the form of supply chain integration risk, supply chain technology risk, and supply chain risk management implications are significant determinants of firm supply chain performance. Based on the literature reviewed we have proposed the following hypothesis.

**H4: corporate cash holdings have a significant impact on the firm supply chain performance.**

**H5: corporate cash holdings moderate the relationship between cash conversion cycle and supply chain performance.**

**H6: corporate cash holdings moderate**

**the relationship between inventory management and supply chain performance.**

**H7: corporate cash holdings moderate the relationship between receivable management and supply chain performance.**

Figure 1 depicts the theoretical framework of this study. The resource-based theory and agency theory are used to conceptualize the framework shown in figure 1.

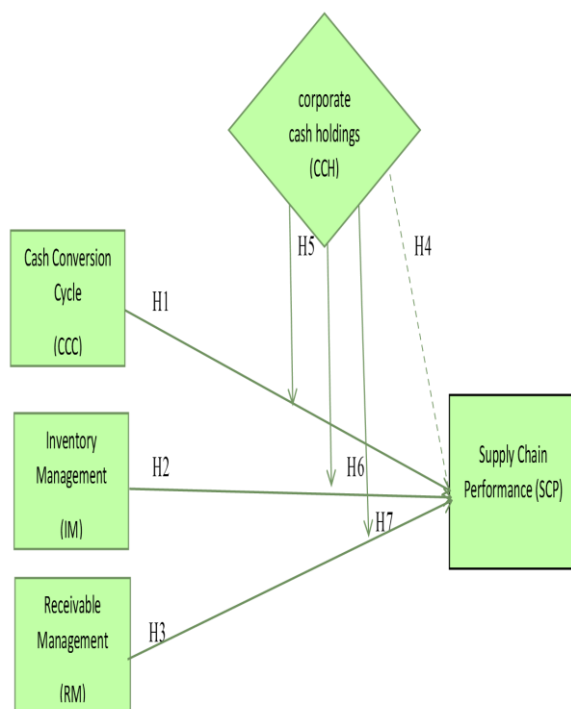


Figure 1: Conceptual framework

### 3.0. Methodology

The current study has used the operation managers and finance managers as a sample of the study. The firms operating in manufacturing sector are chosen as a sample of the study. The number of aggregate managers was 520 for this examination information was gathered by pre-planned questionnaires to every one of the 340 managers. The required number was sent to the departments for dispersion. Respondents were stiff-necked. They returned the questionnaire within the period. This procedure took four weeks to gather every one of the questionnaires from the respondents. In this study, researchers have used the questionnaire method for

collecting data. This questionnaire is divided into four sections which the entire question was conducted in English. Section A in this questionnaire asked about the respondent background. Gender, ethnicity, educational level, age, marital status, length of services, job category and income (per monthly) were asked. Meanwhile, the question from Part B, C and D are the part of the instrument that tested for this study. The measurement scale for all the section is based on the Likert Scale of 1 to 5, where 1 = strongly disagreed, 2= disagreed, 3 = neutral, 4 = agreed and 5 = strongly agreed. 520 respondents were selected to distribute questionnaires. Three hundred twenty-nine questionnaires were received out of 278; the response rate was 57 per cent and hence accepted for further evaluation. Respondents' average age was 47 years, and around 60 percent of them were working in operation departments from last 15 plus years. The greater part of the respondents was held highest degrees; the response rate is above the threshold of 45-50 percent [11]. Male respondents were 252 and the female was 45. The average working experience was 13.5 years.

### 4.0. Research Analysis and Discussion

Hair et al., [47], stated that the PLS-SEM is recent generation in structural equation modelling, which not only new but also a robust as it integrates all the model into a structure of the equation and produces results with a simultaneous operation by producing a relationship with all direct and intervening phenomena. According to Hair et al., [47], Hameed et al. [48] and Basheer et al. [11] PLS-SEM is one of the robust and most reliable statistical technique. Therefore, this study adopted PLS SEM to analyses the data. Before testing the hypothesis, data reliability and validity was scrutinized. These steps were taken through PLS 3. It is revealed in Table 1 which shows that factor loading is more than 0.5, average variance extracted (AVE) is more than 0.5 and composite reliability is also more than 0.7. Therefore, it is revealed that the current study attained convergent validity.

Table 1. Convergent and Discriminant Validity

	Indicators	Loadings	CR	AVE			
<b>CCC</b>	CCC1	.722	0.915	0.812			
	CCC2	.955					
	CCC3	.990					
	CCC5	.825					
<b>IM</b>	IM1	.843	0.895	0.772			
	IM2	.855					
	IM4	.802					
	IM5	.925					
<b>RA</b>	RA1	.884	0.932	0.617			
	RA3	.955					
	RA4	.903					
<b>SCP</b>	SCP1	.822	0.910	0.671			
	SCP2	.855					
	SCP3	.722					
	SCP4	.825					
	SCP5	.841					
	SCP6	.800					
	SCP7	.880					
	SCP8	.881					
	SCP9	.826					
	SCP10	.821					
	SCP13	.882					
	SCP15	.928					
	SCP16	.840					
	SCP17	.921					
	SCP18	.882					
	<b>CCH</b>	CCH1			.821	0.925	0.719
		CCH2			.882		
		CCH3			.928		

To examine the validity, we have used the discriminant validity, the value is shown in Table 2. Discriminant validity is attained through the square root of average variance extracted (AVE). It is shown in Table 2 that square root in bold form is more than all other values.

Table 2. Discriminant Validity

	1	2	3	4	5
<b>CCC</b>	0.898				
<b>IM</b>	0.821	0.798			
<b>RA</b>	0.718	0.650	0.801		
<b>CCH</b>	0.628	0.650	0.743	0.650	
<b>SCP</b>	0.627	0.730	0.823	0.734	0.821

Following the study of Basheer et al. [11], we have measured the structural equation model for direct and indirect results of this study. Indirect effect was examined to check the moderation. In this process, the p-value was considered. While analysing the data, 0.05 minimum level of p-value was considered to test the hypothesis. According to the direct results, it is shown that all hypothesis has a p-value less than 0.05. Therefore, it accepts H1, H2, H3 and H4.

Table 3. Direct Effect

	( $\beta$ )	SD	T-value	P-Values
<b>H1</b>	0.111	0.035	3.234	0.002
<b>H2</b>	0.207	0.043	-3.810	0.000
<b>H3</b>	0.447	0.109	-3.456	0.025
<b>H4</b>	0.467	0.132	3.978	0.027

Furthermore the moderating effect of corporate cash holdings is shown in the table 4. These results of moderation show that for both mediation hypothesis, the t-value is above 1.96 and p-value is below 0.05 which accept H5, H6, and H7.

Table 4. In-Direct Effect through Mediation

	( $\beta$ )	SD	T-value	P-Values
<b>H5</b>	0.109	0.018	4.319	0.000
<b>H6</b>	0.129	0.016	5.339	0.000
<b>H7</b>	0.112	0.021	6.331	0.000

Moreover, variance extracted is shown in Table 5. R-square value is 0.491. It indicates that all the independent variables are expected to bring 49.1% change in the dependent variable, namely; supply chain performance.

Table 5. Expected Variance

	R <sup>2</sup>
<b>SCP</b>	49.1%

The results of the current study have shown a great deal of agreement with the hypothesized results.

## 5.0. Conclusion

The main purpose of current study is to investigate the impact of working capital management tools such as cash conversion cycle, inventory management, and receivable management on the performance of supply chain of manufacturing firms operating in Indonesia. In addition to that, the current study is also interested in examining the moderating role of corporate cash holdings in the relationship between cash conversion cycle and firm supply performance, inventory management and firm supply performance, and receivable management and firm supply performance. To achieve the objective of the current study, we have employed the structural equation modeling and used the statistical package of smart PLS-3. The data by mean of an adapted survey instrument in the form of questionnaire is collected from the operation and finance managers of Indonesian manufacturing firms.

The results of the current study are providing support to the hypothesized results as working capital management appear in significant relationship with firm supply performance. The corporate cash holdings also appear in significant relationship with firm supply performance which indicates that the cash is the lifeblood of any organisation [45]; hence, a firm needs sufficient cash to be able to run the business operations, but at the same time, keeping idle cash generates little or no return at all. Management of cash is one of the major tasks of the financial manager in working capital management. Thus, effective cash management is critical to all organisations, especially in a depressed economy [45]. The corporate cash holding also appears as a significant moderator between working capital and firm supply performance. Following the conceptualization of agency theory [46] and resource-based theory, the current study has used the cash holdings as moderator. The findings of the current study have revealed the fact that the majority if the respondent has shown a great deal of agreement with our proposed hypothesizes [50, 51, 52]. The current study which in author knowledge is among few pioneering studies on this issue, will be helpful for financial experts, operation managers, academicians, researchers and other policy makers in formulating policies [53, 54, 55,61-64].

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