

# Effect of Working Capital Management on Supply Chain Performance and Company Growth in Malaysian Manufacturing Industry

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**Abstract---**Manufacturing sector of each country has importance for their economy. Increase or decrease in manufacturing sector performance directly effect on the nation's economy. In case of Malaysian manufacturing sector, its performance is not in line with Asian region performance. Manufacturing sector performance in Asia is increasing, however, the Malaysian manufacturing sector performance is decreasing. The objective of the current study is to investigate the role of working capital in supply chain performance (SCP) among Malaysian manufacturing companies. A quantitative research approach is used in this study. Primary data were collected on one point of time. A survey was carried out to collect the data. It is found that working capital management has major role in SCP among manufacturing companies. Additionally, positive effect of working capital on SCP increases the company growth.

**Keywords:** Supply chain, working capital, company growth, manufacturing industry.

## 1. Introduction

Working capital comprises of two important part, asset as well as liabilities. These are taken as the basis of organization in maintaining their operations [1]. The parts of working capital under assets are inventories and payments to be received from clients after sale.

For liabilities, account to be paid to concerned supplier is also a part of working capital [2]. It effect significantly on supply chain because it has major role in company operations.

In the meantime, during economic period, effective administration of working capital is noteworthy for organizations [3]. In this specific time, organizations can have a legitimate arrangement and budgetary technique to enhance their focused position and get benefit. Since the significance to keep up the dimension of working capital can be predicted, most finance

administrators invest in the vast majority of their working energy overseeing current assets and short-term financing activity [4]. As per Gitman and Maxwell [5], for momentary exercises, budgetary directors give roughly 60 percent of their time.

Working capital has relationship with supply chain activities of companies [6-8]. Better working capital management has significant influence on supply chain activities of manufacturing companies. Working capital has influence on all the operations even at the end consumer [9]. Inappropriate working capital management causes to delay in operations which automatically effect negatively on supply chain management and finally effect negatively on company growth.

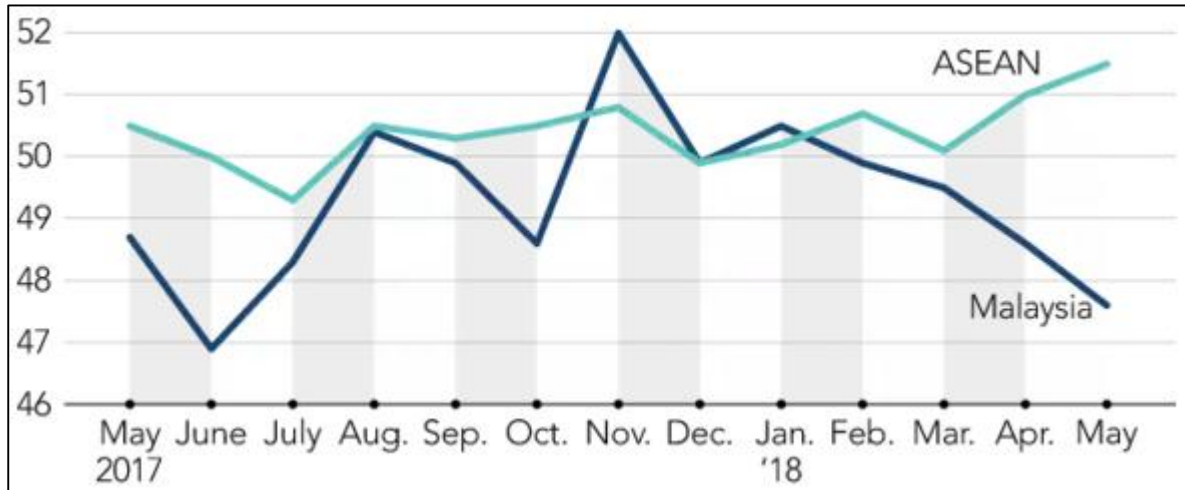
As indicated by Eljelly [10], proficient working capital administration happens when there is a legitimate arranging and controlling of current asset and liabilities in such way that can dispenses with the danger of powerlessness to meet temporary money related commitments. Weak money related administration particularly having poor working capital administration and lacking long term financing is fundamental driver of disappointment among private companies as per ponders in the UK and US [11, 12] which effect on the supply chain capacity.

Working capital administration is additionally altogether related in deciding corporate development and survival of organizations that is uncovered by activities in financial related administration. The efficiency and capability of the board of working capital contribute to survival, development and dependability of organizations [13]. Additionally, for all size working in both developed and developing nations, working capital administration is imperative especially for business firms working in open market condition [14]. As it

has important role in supply chain activities of the firm, particularly manufacturing companies where the working capital management is significant to get success[15-17].

Manufacturing sector of each country has importance for their economy. Increase or decrease in manufacturing sector performance directly effect on the nation's economy. Malaysian manufacturing

sector is shown in Figure 1. It is evident the performance is low as compared to the Asia. Previously the performance of Malaysian manufacturing sector was up to the mark, but it decreased at the end of 2017 and now also decreasing in 2018. Therefore, the firms need to focus on working capital management to enhances performance[17-19].



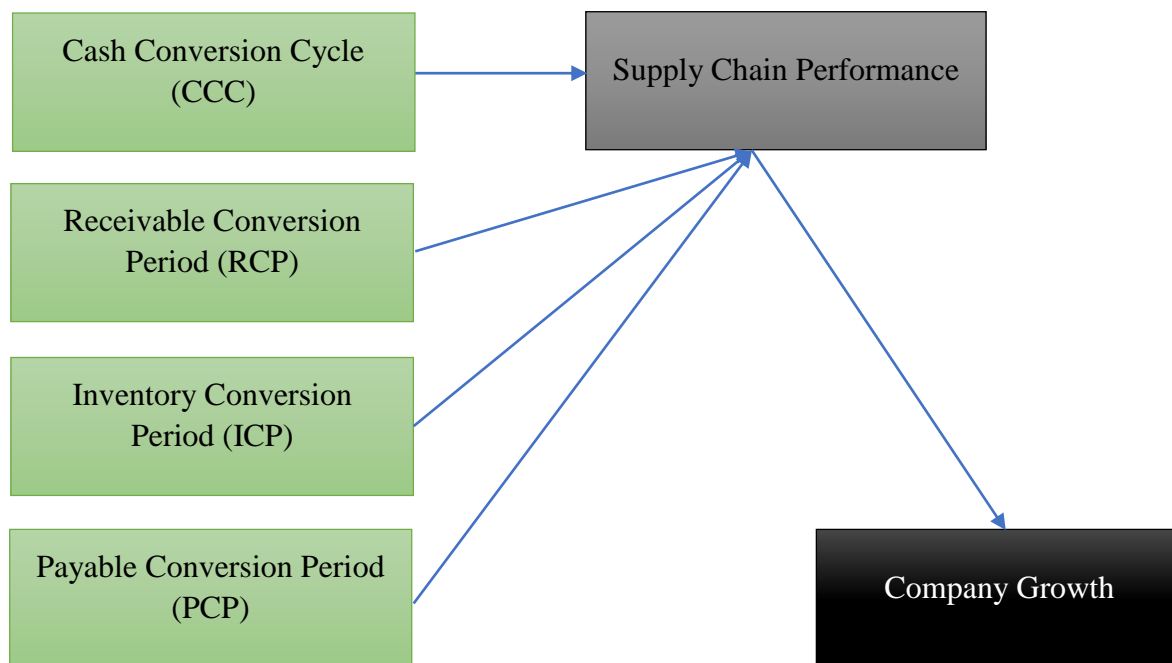
**Figure 1.** Malaysian Manufacturing Sector

Various studies work on supply chain of companies [20-25], however, rarely any study discussed the effect of working capital on supply chain management. Therefore, this study is going to inspect the connection between supply chain and working capital in Malaysian manufacturing companies[26-28].

Therefore, the main objective of the current study is to explore the role of working capital in SCP. Figure 2 shows that how supply chain working capital effect on SCP. The sub-objectives are given below.

1. To examine the role of Cash Conversion Cycle (CCC) in SCP.
2. To examine the role of Receivable Conversion Period (RCP) in SCP.
3. To examine the role of Inventory Conversion Period (ICP) in SCP.
4. To examine the role of Payable Conversion Period (PCP) in SCP.
5. To examine the role of SCP in company growth.

### Supply Chain Working Capital Management (SCWCM)



**Figure 2.** Theoretical framework of the current study

## 2. Literature Review

A businessperson can initiate a firm to raise by detailing a reasonable mission as well as vision set up by the executives [29]. It is imperative to have a very good strategic preparation for the accomplishment of organizations' growth. Carpenter, Fazzari [30] have examined firm growth, found that result can be grown with a learning of strategic conduct, advertise intensity, and advancement of market structure. These elements are connected toward the growth of the total economy.

However, Bonaccorsi and Giannangeli [31], considering a progressively unpredictable connection between size and growth, battled that when small firms are utilized as used, discoveries demonstrated a positive relationship which proposes that, there is a level beneath which there is no growth. Firms' efficiencies would thus be able to be improved if the organizations have extensive initial size in working capital. Abu Bakar, Awang [32] explained that, firm growth can be controlled by increments in employment size and assets.

In working capital administration, growth of organizations has been connected as a needy variable. As indicated by Rossi, Salieri [33], the estimation of growth is an essential element. Abu Bakar, Awang [32] opined that growth assumes an

imperative job in estimating firm performance. The analysts expressed that the estimation of an association's growth can be as far as estimation of the firm that is asset. Geroski, Machin [34] decide deals growth and changes in desire for future productivity, to demonstrate that advertises have built up a positive affiliation.

Working capital administration is connected as an instrument for the good strategic usage to run business tasks in accomplishing the mission as well as vision of the company. In this manner, the board of working capital has turned into an essential component in making an incentive for investors [35]. As indicated by Gill, Biger [36], working capital administration is characterized as the everyday management of current asset as well as current liabilities. In this manner, the executive's ineptitude toward working capital affects money related performance. Firm liquidity and gainfulness may diminish, and in genuine case, a firm can't meet their momentary commitments inside the time period given. Gill, Biger [36] repeated in their discoveries from different examples taken from various nations tests, that administration finds that working capital administration significantly affects gainfulness and liquidity. Additionally, Figure 3 shows the management of working capital and Figure 4 shows the working capital cycle in manufacturing firms.



Figure 3. Working Capital Management

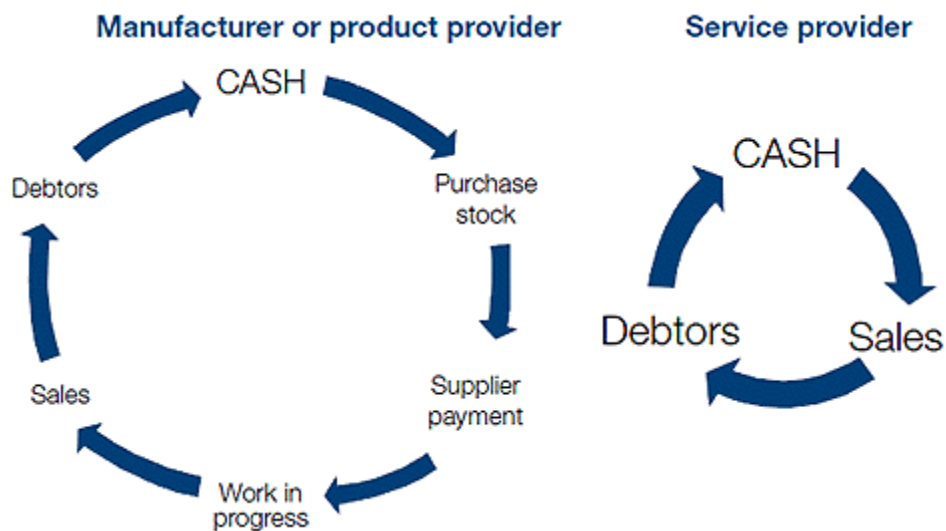


Figure 4. Working Capital Cycle in Manufacturing Company

Fundamentally, the current connection between working capital and performance have been characterized and inspected by earlier researchers from various perspectives in which a choice of factors for research examination are presented.

CCC is the first standard estimation for working capital administration. CCC expandable from cash cycle was presented by Gitman in 1974. This cycle is grown-up from the quantity of days among inventory as well as records receivable. The extension of this cycle by Richards and Laughlin [37] was then connected to get CCC by deducting the quantity of day's records payable [38-40]. The cash conversion cycle is a pointer for a continuous

liquidity estimation that contributes from accounting report and pay explanation. It has significant role in supply chain performance of manufacturing companies.

Abuzayed [14] noticed that working capital administration aptitudes are estimated utilizing cash conversion cycle. The researcher inspected an example of recorded companies in Jordan from 2000-2008. The outcome demonstrated that there is a relationship among CCC and firm use. It was reasoned that, when CCC turns out to be longer, firms may get remotely, an activity that added to greater expense of borrowing.

Uyar [39] originate there is a noteworthy negative connection between CCC and profit for

assets, however no huge association with profit for value. The author explains that “liquidity of cash held in working capital can be alluded to the length of cash conversion cycle. This length can be positive or negative. The shorter cash conversion cycle is, the more beneficial firm can win contrasted with firms with longer cash conversion cycle.”

The second dimension of working capital administration (receivable conversion period (RCP)) was observed to be impacted by credit terms give to clients. To stay in industry, organizations must reinforce great and long associations with their clients. Organizations can use exchange credit to enhance their deal and adaptability with respect to terms of exchange credit to pick up clients or win massive requests [41]. In connection to this, Linderhof [42] investigated that the greater is the RCP, the more is the credit terms given to client. Organizations who give more terms of credit to customer may expand their deals because of client having chances to flow their items as far as quality before instalments are made [43, 44].

The third measurement of working capital is inventory conversion period (ICP), characterized by the quantity of days inventory is held as holding stock. In holding the inventory, there is an extra cost that company would bring about, particularly cost for warehousing, comprehensive of protection and security. Holding more inventories would anyway empower the organizations to be all around arranged for high volume of generation; this can likewise lessen danger of a stock-out [44-46]. Interestingly, less inventory holding, or keeping the inventory at the specific least dimension, may chance organizations losing their deals because of stock-out [38]. Notwithstanding, Deloof [45] expressed that huge inventory support can be caused by a drop in deals, and secured up cash flow working capital since organizations need to put their cash in circumstance where speculation is secured to inventory [41]. Along these lines organizations must be practicality enough to guarantee that their inventories are kept up at the ideal dimension to satisfy their clients' needs [47]. Additionally, open innovation strategies can bring new ideas and increases the performance [48].

The last measurement of working capital management is payables conversion period (PCP), inferred by ascertaining the normal terms of credit received from the provider. It is invaluable for organizations to amplify their exchange payables account since this record does not devour much asset, and since organizations regularly want to execute for momentary wellspring of financing [7].

Utilizing exchange payables account, at whatever point organizations postpone instalment to providers, the openness toward nature of items or administrations turn out to be high and the adaptability of credit can give preference of financing [7, 44]. However, in this process, enterprise risk management and employee satisfaction is crucial [49, 50].

Therefore, from the above discussion, it is concluded that working capital handling is most important in manufacturing companies. Better supply chain working capital increases the performance of supply chain in manufacturing companies. However, decreases in supply chain companies will automatically decreases the supply chain performance. And decreases in supply chain performance will decreases the growth of company. Thus, from this discussion, the current study proposed following hypotheses;

**H1:** There is a positive relationship between CCC and SCP.

**H2:** There is a positive relationship between RCP and SCP.

**H3:** There is a positive relationship between ICP and SCP.

**H4:** There is a positive relationship between PCP and SCP.

**H5:** There is a positive relationship between SCP and company growth.

### 3. Research Method

Research method is systematic process to conduct a research study. It must be in line with the nature of the study. Therefore, by examining the nature of the study, cross-sectional research design was selected with a quantitative research approach.

[45, 46] provides sample in a series for inferential statistics. “Sample having less than 50 participants will observed to be a weaker sample; sample of 100 size will be weak; 200 will be adequate; sample of 300 will be considered as good; 500 very good whereas 1000 will be excellent. In this study 300 sample size is selected.”

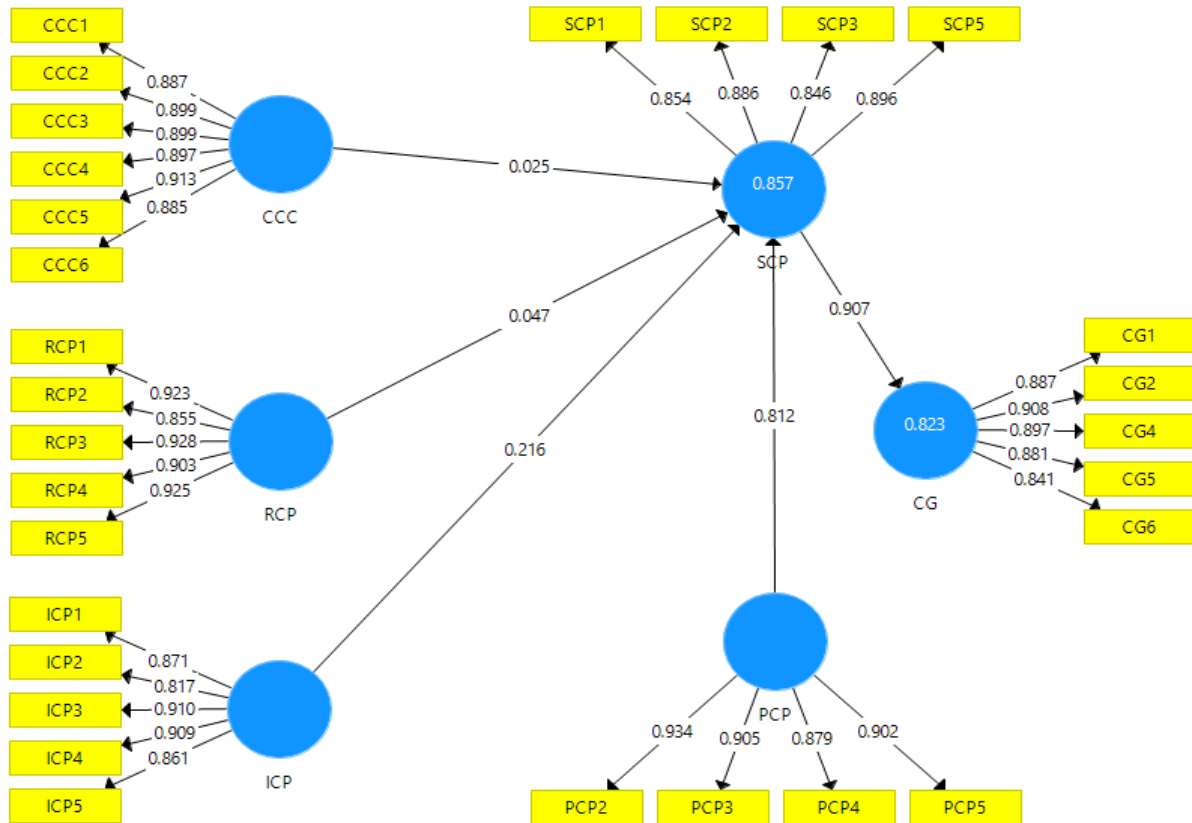
All the questionnaires were distributed through email. First of all, the email addresses of employees were collected from the companies and randomly selected from the list. From total 300 distributed questionnaires, only 148 employees were responded to the email. Thus, total 148 responses were used in this study. Moreover, seven-point Likert scale is used to collect the data. Reminders were also sent to those employees who did not respond. Total 3 reminders were sent to them.

**4. Analysis and Findings**

While preliminary analysis, it was found that data is not normality distributed. To overcome this issue, Partial Least Square (PLS) was used. Partial Least Square (PLS) is most suitable technique if the data is not normal [47, 48]. Moreover, missing value and outlier was also examined. It was found

that there is no missing value and outlier in the data.

Measurement model is shown in Figure 5 and results are shown in Table 1, Table 2 and Table 3. All the items have factor loadings above 0.5 which is minimum threshold level [51]. Composite reliability is also above 0.7 and AVE is above 0.5 [52].



**Figure 5.** Measurement Model Assessment

**Table 1.** Factor Loading

	CCC	CG	ICP	PCP	RCP	SCP
CCC1	0.887					
CCC2	0.899					
CCC3	0.899					
CCC4	0.897					
CCC5	0.913					
CCC6	0.885					
CG1		0.887				
CG2		0.908				
CG4		0.897				
CG5		0.881				
CG6		0.841				
ICP1			0.871			
ICP2			0.817			
ICP3			0.91			

ICP4	0.909				
ICP5	0.861				
PCP2		0.934			
PCP3		0.905			
PCP4		0.879			
PCP5		0.902			
RCP1			0.923		
RCP2			0.855		
RCP3			0.928		
RCP4			0.903		
RCP5			0.925		
SCP1				0.854	
SCP2				0.886	
SCP3				0.846	
SCP5				0.896	

Table 2. Reliability and Validity

	$\alpha$	rho_A	CR	(AVE)
CCC	0.951	0.953	0.961	0.804
CG	0.929	0.934	0.947	0.78
ICP	0.922	0.927	0.942	0.764
PCP	0.927	0.928	0.948	0.82
RCP	0.946	0.95	0.959	0.823
SCP	0.894	0.897	0.926	0.758

Table 3. Discriminant Validity

	CCC	CG	ICP	PCP	RCP	SCP
CCC	<b>0.897</b>					
CG	0.737	<b>0.883</b>				
ICP	0.606	0.773	<b>0.874</b>			
PCP	0.749	0.687	0.738	<b>0.906</b>		
RCP	0.896	0.756	0.818	0.712	<b>0.907</b>	
SCP	0.737	0.707	0.75	0.819	0.707	<b>0.871</b>

Discriminant validity is given in Table 3. It is achieved with the help of square root of AVE. It is evident that square root of AVE is greater than all values which confirms the discriminant validity.

Moreover, hypotheses testing is shown in Figure 6 and Table 4. It is clear that all the relationship has t-value above 1.96 and p-value

below 0.05. It shows that all the variables have significant relationship with each other's. Positive beta value shows direct relationship. These results supported H1, H2, H3, H4, and H5. Therefore, CCC, RCP, ICP, PCP and SCP has significant positive effect on company growth.

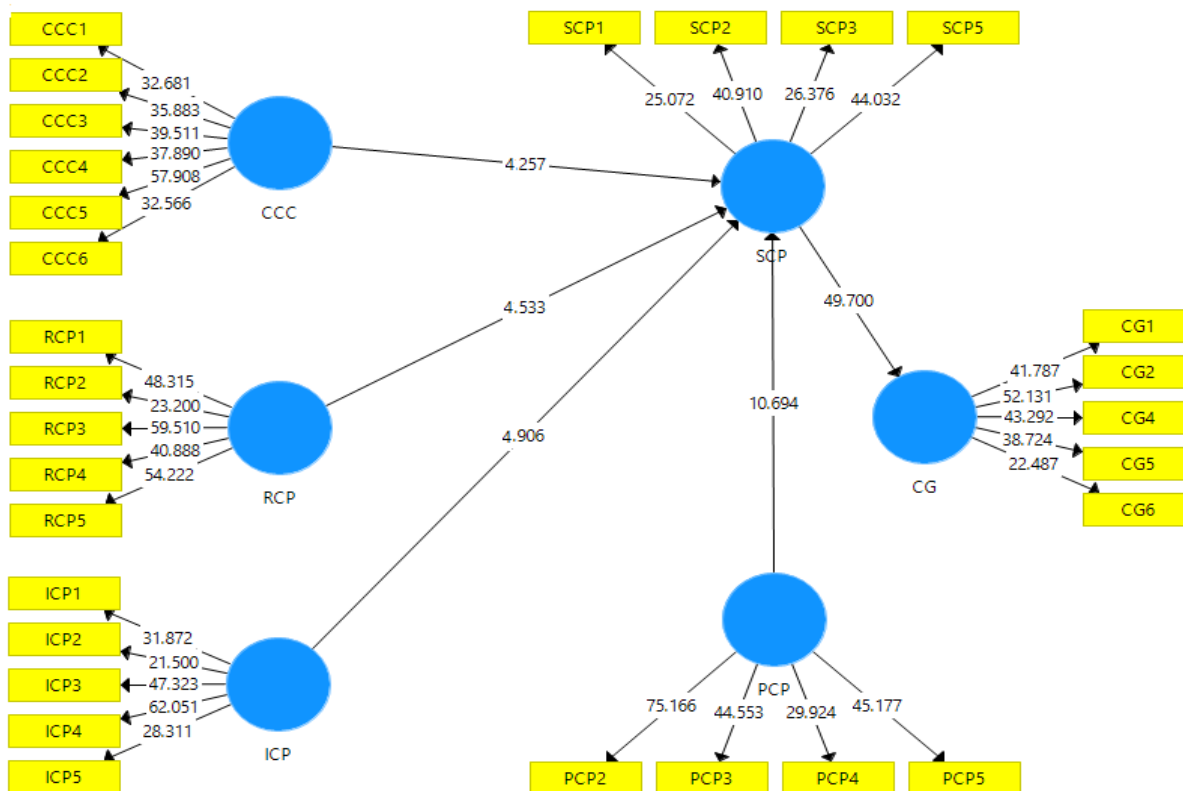


Figure 6. Structural Model Assessment

Table 4. Hypotheses Results

	$\beta$	(M)	(STDEV)	T Statistics	P Values
CCC -> SCP	0.025	0.017	0.006	4.257	0
ICP -> SCP	0.216	0.22	0.044	4.906	0
PCP -> SCP	0.812	0.799	0.076	10.694	0
RCP -> SCP	0.047	0.045	0.01	4.533	0
SCP -> CG	0.907	0.908	0.018	49.7	0

5. Conclusion

This study investigated the role of working capital management on SCP and company growth. Four elements of working capital, namely; CCC, RCP, ICP and PCP was considered to examine the effect on supply chain. Additionally, the effect of SCP was examined on company growth.

It is found that working capital management has major role in SCP among manufacturing companies. Additionally, positive effect of working capital on SCP increases the company growth. The elements of working capital, namely; CCC, RCP, ICP and PCP effect positively on SCP in manufacturing companies of Malaysia. Thus, better working capital management increases the performance of supply chain which ultimately increases the company growth. Therefore, Malaysian companies can resolve the issue of declining performance through better working

capital management and supply chain. Managers should adopt good working capital management strategies to enhance performance. Future research is required to add other elements of working capital in the current model.

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