

Application of Supply Chain Management Practices in Banks: Evidence from Indonesia

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Abstract---The present study aims to examine the idea of supply chain management in the financial institutions like banks in the region of Indonesia. After the detailed examination of existing literature current research work has developed a model for the supply chain in financial perspective with its physical implication as well. By focusing on 5 multinational banking firms, current research work has studied the causal association between the SCM and banking sector for their performance. Findings of the study explain that both SCM and working of financial institutions are highly linked to each other. In short, SCM is a meaningful tool for the banking firms or the organizational performance and various departmental heads are very much aware to SCM practices for the greater banking performance. The core limitations of the study are very limited sample size and just focusing on the one selected banking category (International banks). However, the practical implications of the study are very much significant.

Keywords: *SCM, financial institutions, banking firms, performance and Supply chain integration*

1. Introduction and background

With the increasing competition in the global market, it is found that there is very limited product lifecycle for the business firms and more attention is required on supply chain management SCM as well [1-3]. The idea of SCM is

For the present study analysis, following key research questions have been developed and addressed

RQ1: what is the major role of financial institutions like banks for the integration of the financial supply chain for better performance

RQ2: what is the role of financial institutions like banks for the integration of supply chain coordination, collaboration, information visibility and its sharing for the better performance

RQ3: Up to how many levels the employees in the banking firms are aware of the better integration of SCM and related activities.

2. Literature Review

In the existing body of literature, various factors have been discussed which are playing their key role for the better SCM in banking firms here are the key indicators for the SCM in banks.

known as the set of activities and related approaches which integrates the various suppliers, manufacturers, warehouses and other activities for the timely delivery of products and services [1]. For the better business outcomes, it is very much necessary for all the patterners to involve in SCM to provide a better work output which can timely cover the order and its fulfilment [4]. Numerous theories have argued that effective SCM contributes to the better business outcomes including the financial sector as well [5, 6]. The speed of uncertainty and immediate change in the overall environment of the financial market has made it very much significant to focus on the idea of SCM and related practices. Those banking firms which have to learn how to integrate their core activities with better SCM practices will have a competitive advantage in the market.

In existing studies, various factors have been discussed which are playing their role. These factors are entitled as the supply chain integration or SCI as explained by [8], collaboration within and outside the organization [9],[10], [11] sharing of information between the parties and key stakeholders and finally the visibility of the information as well [12], [13], [14]. The overall process for the physical and financial supply chain can be expressed with the figure 1 below.

2.1 Information Sharing

The title of information sharing in the banking firms also covers the extent to which the relevant and exact information is shared between one supply chain partner to the other one. This information can be entitled to the customer orders, scheduling for the orders and between the private patterns which enables them to monitor the progress of products and services as well [16], [17]. It is also expressed that information sharing is a key indicator in explaining the overall performance of the banks [18].

2.2 Customer Relationship Management

The theme of customer relationship management or CRM helps the banks to develop a structure for managing the link with the customers. Under CRM, key customers will be discovered and identified with their needs from the business and finally the development of products and services as per their requirements.

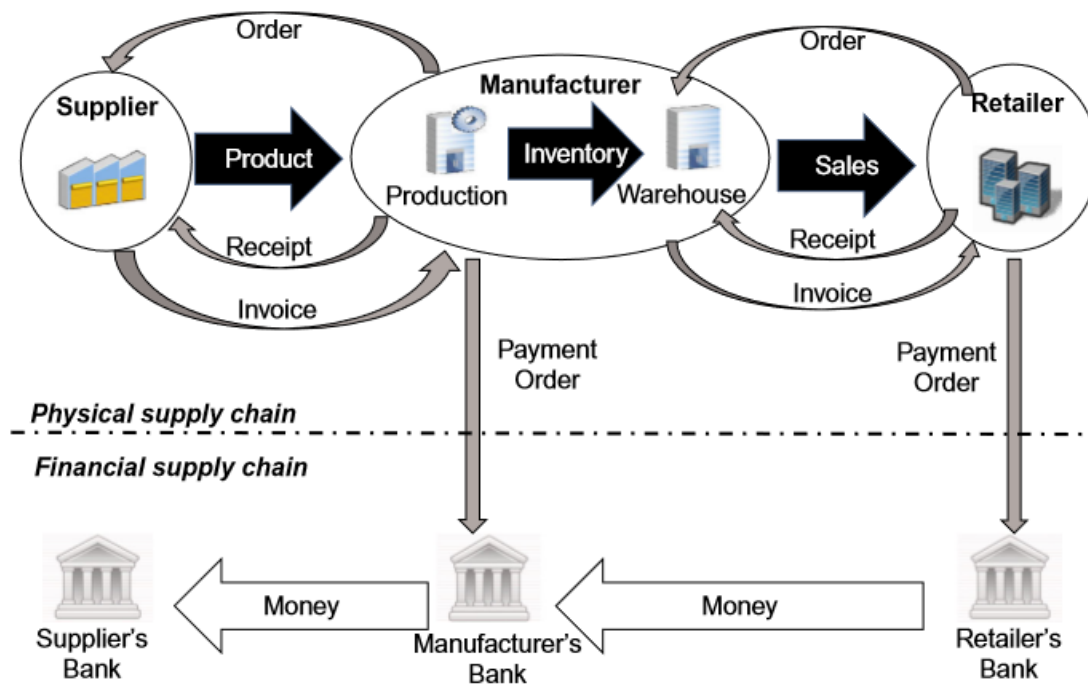


Figure 1: Physical and Financial Supply Chain in Banks

Source: [15]

With the passage of time relationship with the customers can be congealed by sharing the information regarding existing and new products with the customers, and formation of the team across the departments for the new products. The idea of collaboration covers the formation of products and services to meet customer needs, product packing and its transportation and storage with the ultimate guidelines for the customers as well (Mentzer et al., 2000).

2.3 Customer service Management (CSM)

The idea of customer service management covers the service being provided to the customer. Such idea entails the agreement done by the business firms with its customers to satisfy the needs and wants [19]. To serve the customers in a better way, policies have been developed and communicated through numerous channels, responding in an adequate way towards the complaints of the customer and finally the most effective communication ways for the improved products and services as well [20].

2.4 Control of Quality

In overall SCM, quality is among the key indicators which can be inspected during the manufacturing or from the starting point of delivery of the services to the customers. It is the prime obligation of the relevant department to express that raw material which is going to use has its best quality

for the further consideration [21]. Quality also plays a significant role in the supply chain when it is checked with the supplier, delivery of the product or services and finally the response from the customers with their ultimate satisfaction. However, one of the most significant focus on quality is the inspection of items which arrive at the facilitated time from the supplier [22].

2.5 Customer's Demand Management

As per the findings of [23], it is expressed that the idea of demand management covers the process and procedure which create a balance for the customer demand through business output. Demand management theme captures the demand forecasting. For the better output through demand management various activities like time frame to cover the customer needs, knowledge available to forecast the demand, getting point of sales information from the customer and finally the forecasting models in enterprise resource planning systems [24] [25] [35] [36].

In addition, various effective techniques are also addressed in the present literature which covers the increase or increase in the demand capacity. For instance, have explained the idea that future contingency plans should be developed to be used in coming time regarding the demand management of the customers. Besides, the idea of information sharing between the various departments to

meet the customer needs on time is also another indicator [26].

2.6 Flow Management

to meet the cycle time requirements, flow management process is responsible for the actual delivery of the products or services [5]. It is very much obvious to interlink the demand management with the flow management so that customer needs will be fulfilled on time. there is a significant association between the business firm and its collaboration with the customers for the quick transfer of changing needs with the help of flow management and related solutions [27] [28] [29] [31] [32]. Besides, the idea of flow covers the impact from the supplier, for example, with the lower batch sizes and lead time requirements, the delivery from the supplier will be more efficient and frequent as well [28] [30] [33] [34].

3. Research Method

The present study has focused on the causal association between the SCM practices in the financial institutions (banks) for the better organizational outcome. The idea of a causal association between the variables is expressed by in a sense that it covers the specific changes on existing norms and processes. Therefore, this research design will help the researchers to cover the title of SCM in financial institutions with their integrated association among the selected

3.1 Data analysis and explanation

a total number of 150 questionnaires were finalized which were disturbed to the targeted respondents for the filling and unbiased opinions. Out of 150, a final accurate sample of 121 questionnaires has been received with the final response rate of 80.67%. A response rate of above 75 % is considered as a good for the final analysis in primary data analysis.

3.2 Demographic information of the Respondents

In the very first step, the demographic information of the respondents has been presented in table 1. It is expressed that out of 121 respondents 83 members are male and 38 are females which are considered for the data collection. In addition, the age distribution belongs to 3 major ranges, 20-30 years, 31-40 years and finally above 40 years.

It is found that out of 121 respondents, 76 respondents belong to the age category of 20-30 years, which explains 62.80% individuals of the total sample. In addition, 26 members belong to the age category of 31-40 years which covers 21.48 % and finally 19 members are those who belong to the age category of above 40 years covering 15.70%. As per the education background, it is found that 61 individuals have completed their graduate studies covering 50.41 % for the whole sample of the study. While 37 are those who have completed their master's degree;

indicators of the study. The data collection approaches are both under the title of primary and secondary for the present

study. Primary data is collected from the selected banks working in Indonesia, their branch managers, head of departments in various branches like Finance, Human Resource, Information Technology, Credit and finally the marketing department as well. A total number of heads of department are 70 and a structural questionnaire has been developed and presented to them while covering all the stated variables of the study. A team of 10 research assistants (RAs) have been finalized to collect the data through a structural questionnaire and RAs are properly educated regarding the provision of guidelines to the targeted respondents as well. For the data analysis, IBM-SPSS 21 version has been considered a key tool by applying the descriptive statistics technique. In addition, inferential statistics technique has also been applied to the collected data to study the causal association between the selected variables of the study. To capture the idea of an association between the SCM in banks and outcomes, following the linear model has been developed

$$Y(\text{organizational outcomes}) = \text{information sharing or Supply chain Indicator SCI1} + \text{customer relationship management or SCI} \\ - \text{indicator2} + \text{control of quality or SCI} - \text{indicator3} \\ + \text{customer service management or SCI} - \text{indicator4} \\ + \text{customer demand management or SCI} - \text{indicator5} \\ + \text{flow management or SCI} - \text{indicator6}$$

representing a sample of 30.57% in the study. Finally, those who have completed their education above the master's degree are 23 individuals (19 % for the overall sample of the study). In addition, the time duration for the measurement has also been presented in table 1.

Table 1: Demographic Information

Gender	Number	%
Male	83	68.59
Female	38	31.41
Age Ranges	Number	%
20-30 years	76	62.8
31-40 Years	26	21.48
above 40 Years	19	15.70
Education	Number	%
Graduation	61	50.41
Master	37	30.57
Above Master's degree	23	19.00
Experience	Number	%
less than 1 year	59	48.7
1-3 Years	32	26.44
More than 3 Years	30	24.79

It is found that 59 are those who have experience of less than one year in the banking firms, while 32 are those which have an experience of 1-3 years. While 30 individuals are those who have an experience of 4 years and above in the relevant banking firms.

3.3 Supply Chain Practices in Banks by the Employees

After the detailed discussion about the demographic information of the respondents, in the next step respondents are requested to provide their meaningful response to the stated queries. For the very first step, they were asked either they know about the supply chain practices in their banks or not. Out of 121 respondents, 81 have stated the answer in “Yes” that they have the clear idea about the supply chain management practices. While 40 are those who have stated they don’t have the in-depth knowledge about the supply chain practices in their banks. Figure 2 explains the outcomes of this query with the relevant score of percentage as well. Table 2 explains the outcomes for the various SCM practices in the banks and overall responses by the targeted respondents. It is found that for the very first category under the title of awareness for the information sharing, 83 out of 121 respondents are agreed that there is a great extent for such sharing and related awareness. While 23 have their

opinion that there is a great extent of such information sharing. For the 2nd query, “Availability of the technology for information sharing” 72 have their agreed opinion that IT and related services are available for information sharing. Meanwhile, 32 have their opinion that IT services are not up to very great but great extent. In addition, only 09 are saying that IT services are up to moderate extent. However, 3 are agreed that there is a need for improvement for such services as they are not agreed that IT services are available for the information sharing in the banks. under the 3rd query, respondents are guided to provide their opinion for the quality control of effective SCM. Out of 121, it is expressed that 68 are agreed that there is very great extent of quality control for effective SCM in selected banks. 25 respondents have their argument that there is the great extent of quality control for the effective SCM in the banks. The fourth query is under the title of awareness about the customer relationship management practices. It is found that majority of the respondents (71) are agreed that for CRM practices there is a very great extent of awareness as well. the fifth query is dealing with the customer relationship and best SCM practices. For this query, it is found that majority of the respondents are agreed that there is a very great extent of SCM practices in banking firms. Overall findings of table 2 are also presented in figure 3 as well.

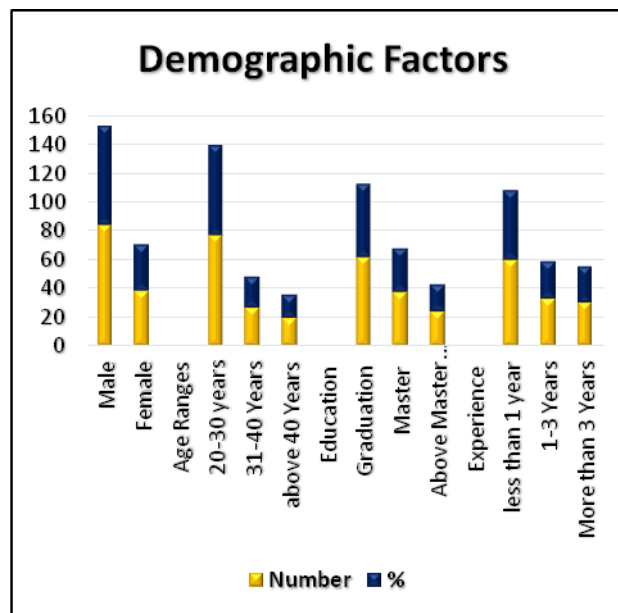


Figure 2: Demographic Factors

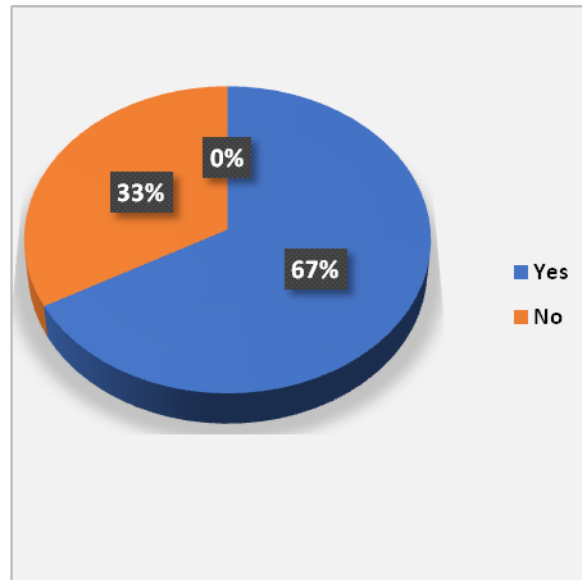
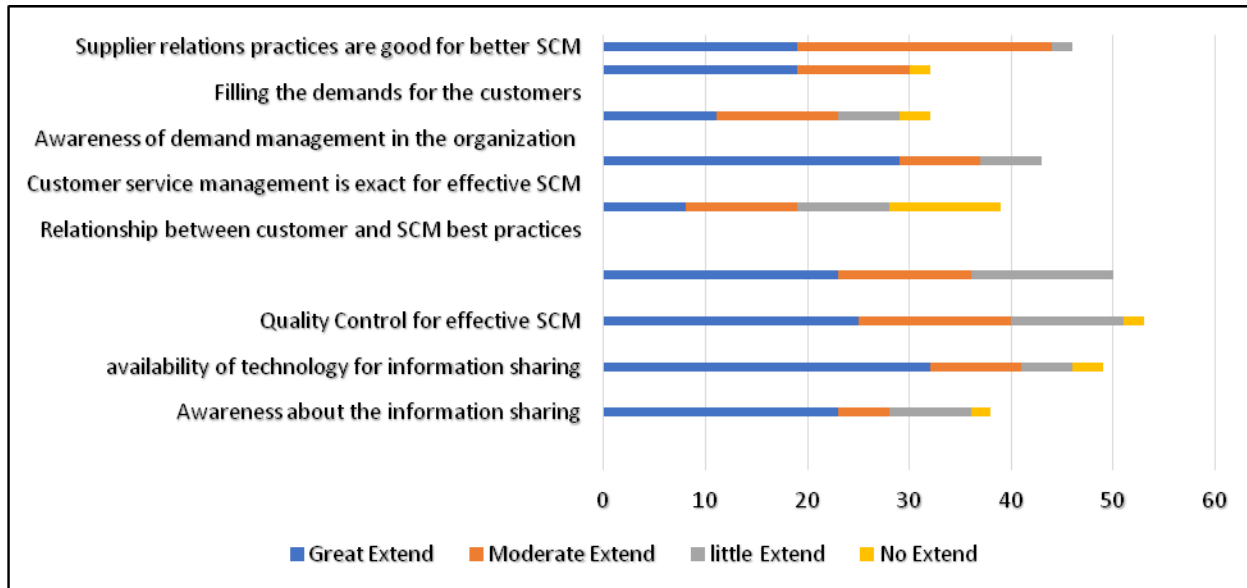


Figure 2: Information about SC practices in Banks

Table 2. SCM Practices in Banks

SCM Practices	Up to very great extent	Great Extent	Moderate Extent	little Extent	No Extent	Total
Awareness about the information sharing	83	23	05	08	02	121
availability of technology for information sharing	72	32	09	05	03	121
Quality Control for effective SCM	68	25	15	11	02	121
Awareness about the customer relationship management practices	71	23	13	14	0	121
Relationship between customer and SCM best practices	81	08	11	09	11	121
Customer service management is exact for effective SCM	78	29	08	06	0	121
Awareness of demand management in the organization	89	11	12	6	3	121
Filling the demands for the customers	83	19	11	0	02	121
Supplier relations practices are good for better SCM	65	19	25	02	10	121

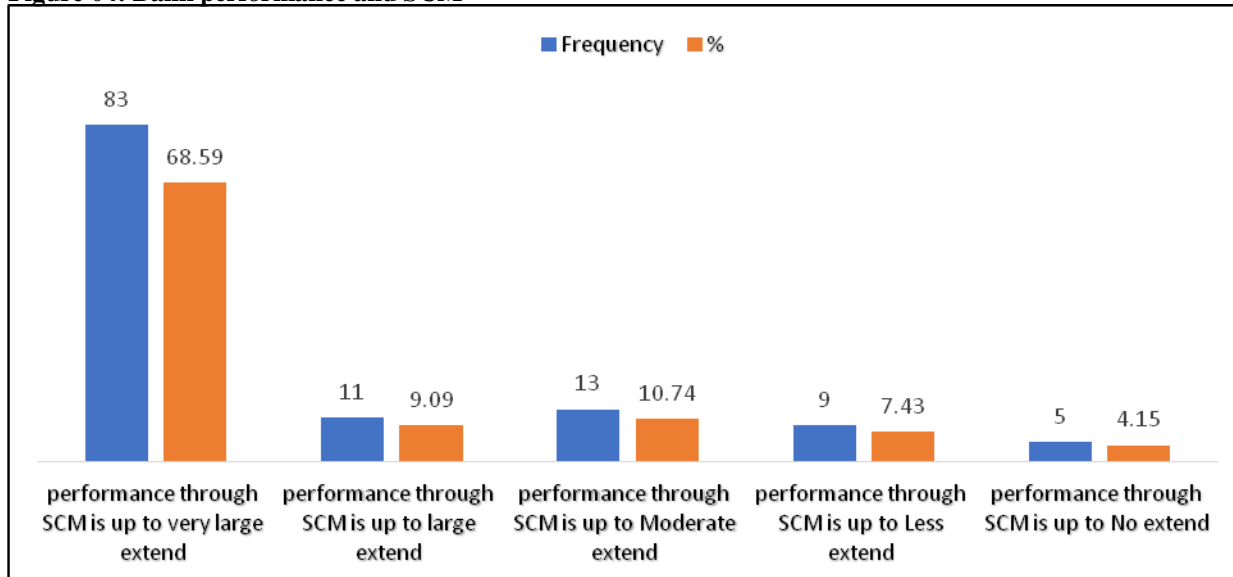
Figure 3: SCM practices in Banks

After the significant outcomes from the respondents regarding SCM practices, they were requested to provide their opinion regarding SCM and bank performance relationship. It is found that majority of the respondents are agreed that SCM and bank performance are very much

closely related to each other. While 68.59 % are agreed with the opinion that SCM and bank performance are up to very much extent. Table 04 and graph 05 explains the outcomes for such a relationship.

Table 04: Bank performance and SCM

Respondents argument for the level of satisfaction regarding bank outcome with best SCM practices	Frequency	%
performance through SCM is up to the very large extent	83	68.59
performance through SCM is up to a large extent	11	9.09
performance through SCM is up to the Moderate extent	13	10.74
performance through SCM is up to Less extent	9	7.43
performance through SCM is up to No extent	5	4.15
Total	121	100

Figure 04: Bank performance and SCM

3.3 Inferential Outcomes: Effect of SCM on the performance of the Banks

After the descriptive statistics for the above findings, regression outcomes of the study are presented below. It is found that both SCM and bank performance are linked to each other. The estimated regression equation as stated earlier has explained the relationship with the help of findings as presented in table 05 and 06. Table 5 explains the value of correlation coefficient among the predictors and outcome factors of the study. It is found that there is a good correlation of .73 between the variables and it is positive. Meanwhile, the value of explained variation in the bank performance as explained through R-square is 69% which indicates that overall change in performance of the banks through SCM is 69 % while the value of the adjusted value of R-square is 67 %, indicating an adjusted value of explained variation as per the sample size of the study. Table 06 explains the outcomes for the regression results

regarding SCM practices and performance of the banks. the selected indicators of SCM like information sharing known as SCI indicator 1 has explained the fact that unit change in the value of information sharing explains a significant and positive change of .256 in the value of bank performance. The value of coefficient is significant at the 01 % level of Significance. In addition, the 2nd factor for the SCM is entitled under control of quality or SCI indicator 2. It is found that control of quality has also its significant and positive influence on the value of bank performance. The Third indicator is entitled customer service management and it has also shown a significant impact of .45 on the value of SCM as well. however, the value of coefficient for the customer demand management has shown a positive but insignificant impact on the bank performance. The final factor for the SCM is known as flow management or SC indicator 5, has explained a significant and positive impact of .213 on the overall value of bank performance.

Table 05: Summary outcomes

Model	Correlation coeffiecnt	R-Square	Adjusted R-Square	S. E
Regression	0.73	0.69	0.67	0.532

Table 06: Regression outcomes

Key Variables	Coefficients	S.E	P-values
Cons_	4.96	1.29	.000***
Information Sharing	.256	.363	.005***
Control of Quality	0.126	1.29	.025**
Customer Service Management	0.45	.120	0.009**
Customer Demand Management	0.27	.101	0.14
Flow Management	.213	.402	.006***

***significant at 1% level, **significant at 5% level etc.

4. Conclusion and Future Direction

The present study has analysis has been conducted to examine the concept of SCM and relevant practices in the financial institutions like banks. Besides, the impact of SCM on the performance of the banks has also been examined. In the very first step, it is found that SCM practices under the title of information sharing, control of quality, customer service management, customer demand management and finally the flow management are very much obvious in banks. A comprehensive literature review has addressed the significance of SCM in the business firms. For the further analysis, both descriptive and inferential statistical tools are applied by using the SPSS 21 versions. Findings of the descriptive outcomes explain that respondents are very aware of the SCM practices in their banks. In addition, the majority of the respondents have agreed with the option that they are satisfied with the performance of the banks. The application of SCM practices with the help of selected indicators and most of the department heads and key employees are agreed for the association between the SCM and its implications for the banks. In addition, with the help of effective SCM, banking firms are increasing their market share and performance outcomes as well.

5. Recommendations

Present study outcomes are very much significant in covering the linkage between the SCM in financial institutions like banks. therefore, it is highly recommended that management in the banking sector should focus on the improved process of SCM with the creation of more values for the customers through its effective implications. However, management of the banking firms must provide training and development facilities to various departmental heads for the better integration of SCM and better outcome.

In addition, the study also recommends the idea that there should be a proper measure for the supply chain management practices and improved organizational performance. However, there is great need of development of matrix between the supply chain activities specifically in the banking firms.

As per the limitations followings, points are also observed in the present study

At first, the sample size of the respondents is very much limited and for the improved and more significant findings a better sample size should be under consideration

1. The study has focused on the limited indicators of the supply chain while ignoring some of the significant factors like just in time system for the inventory management, order fulfilment and supplier relationship management are ignored in the present study
2. In addition, there is very little access to the employees of the banks and other departmental heads because of the very much secret data and information associated with the bank. So, the present study has got the best of its data for the final consideration which still needs to be improved in future time.

6. Future Recommendations of the Study

The present study has recommended the fact that future research can be conducted while considering more number of respondents from the banking firms having in-depth body of knowledge for SCM and related practices.

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