Chapter 9

SUMMARY, CONCLUSION AND RECOMMENDATIONS

9.1 Introduction

The overall objective of this research was to obtain insights on current state of retail industry, factors affecting supply chain (SC) performance, supply chain practices (SCP), competitive advantage (CA), organizational performance (OP) and key performance indicators (KPI) for organized Non-Livestock Retailing (NLR) industry in India. Systematically following the series of steps a model has been developed for measuring SC performance of organized NLR. The focus was on organized NLR players operating in New Delhi, Gurgaon and the principal cities of Punjab.

The development of interest in organized NLR supply chain management is discussed in Chapter-1. It was spurred by socio-economic developments, market structure and competition, SC responsiveness, reducing SC costs, and technological developments. The socio-economic developments show increase in GDP, shift in family structure from joint-family to nuclear, increasing family income, and more demand for fresh and quality products. Also, more than half of the population is below the age of 30 years, which has shown a shift towards middle class. Nowadays, women are not only the homemakers but also add to the family income by doing job or business. This degree of business has pushed the demand for places where all family needs could be met. Hence, organized retail outlets are the best option to meet all family needs. It shows a good future for organized retailers in India.
To harvest the opportunities, many organized retail players are in the arena. They are operating either independently or in collaboration with national and international players. This has resulted in market competition. Now, the retail trade growth is more than the growth of GDP. The share of organized food and grocery rose from 0.69% in 2003-04 to 1.26% in 2008-09 with compounded annual growth rate of 23.8%. Images F&R research estimated Indian organized retail market of Rs. 66,500 crore in 2007 and was expected to touch Rs. 2,03,000 crore in 2010 which may constitute 15.5% of the total retail market.

This boost in this sector has increased the responsiveness of SC towards customers. Also, the intense competition has resulted in ways to reduce SC costs by reducing: wastage, purchase price, excess inventories and non-value added services. The support was provided by technological developments in this sector. It has provided ERP, MRP, RFID and EPC to ease and minimize operational costs. It was observed that up to 30% of the horticulture and agriculture products are wasted. Identifying the need to improve this sector, a critical evaluation of this sector has been undertaken in the present study. This research is an attempt to find solution for the same.

9.2 Research Objectives and Questions

The main questions for organized NLR were designed based on the gap analysis with the help of consultants and practitioners in this field. These were regarding current states of retail industry, factors affecting supply chain performance, supply chain practices, competitive advantage, organizational performance, and key performance indicators for measuring SC performance. Systematically following the steps we developed a model to measure supply chain performance
of organized non-livestock retail industry. More briefly they were covered in research objectives as follows:

- To examine the current state of retail industry
- To identify the factors affecting supply chain performance
- To examine supply chain practices and their impact on competitive advantage and organizational performance
- To develop metrics for successful supply chain performance measurement
- To develop and validate a supply chain performance measurement model.

These objectives systematically lead to develop a model for measuring supply chain performance of organized NLR industry.

9.2.1 Research Questions

Research Question 1

What is the current state of organized retail industry in India?

1.3 How many players are there in the industry?

1.4 What is the industry sale and growth pattern?

Research Question 2

What are the factors affecting supply chain performance?

2.1 What is supply chain performance?

2.2 How can we identify the factors affecting supply chain performance?

2.3 How can we classify the factors affecting supply chain performance?

Research Question 3

What is the impact of supply chain practices on competitive advantage and organizational performance?
3.1 What are supply chain practices?
3.2 How can we classify them?
3.3 What are competitive advantage factors?
3.4 What are organizational performance factors?
3.5 What is the relationship between supply chain practices, competitive advantage and organizational performance?

Research Question 4

How can we develop metrics for successful supply chain performance measurement?
4.1 What are supply chain performance indicators?
4.2 What are the indicators affecting supply chain performances of organized non-livestock retail industry in India?
4.3 How can we classify them?

Research Question 5

How can we develop and validate a model for measuring supply chain performance of organized non-livestock retail industry?
5.1 What are the various modeling methods for supply chain performance and their limitations?
5.2 What are the available models and their limitations?
5.3 How can we select a methodology for modeling supply chain performance?
5.4 How can we test and validate the model for organized non-livestock retailing?

9.2.2 Research Hypothesis

In this research study, a confirmatory model has been tested for factors affecting SC performance and developed a model for measuring SC performance of organized NLR. In addition to this tested the following null hypotheses have been formulated and tested:
H01: Retailers have good understanding of match between SCP and CA.
H02: They try to match CA with OP.
H03: They have less understanding to match SCP with OP.
H04: Firms with more focus on inventory need more focus on flexibility.
H05: Firms with more focus on flexibility shall have high level of learning and growth.
H06: Firms with more focus on inventory shall have high level of learning and growth.

9.3 Data Base and Research Methodology

9.3.1 Sample Size

It was quite difficult to determine the population variance. The variance was calculated based on pilot survey. The variance found in the pilot study was used to investigate the sample size being investigated. The value of the sample size was calculated as:

\[ N = \left( \frac{ZS}{E} \right)^2 = \left( \frac{1.96*77.4/9.4}{9.4} \right)^2 = 261 \text{ respondents} \]

The reliability level was 95% and an error E=9.4, pre-test standard deviation was 77.40.

Where,

\[ Z= \text{level of precision at level of significance (p =0.05) } = 1.96 \]
\[ N = \text{sample size} \]
\[ S= \text{the standard deviation of population}=77.40 \]
\[ E= \text{acceptable magnitude of error or maximum sampling error tolerated}=9.4 \text{ at 95% confidence level.} \]

As a general rule, there should be at least five times as many observations as the number of variables to be analyzed and more acceptable sample size would be 10:1 ratio. In this study, a maximum of 25 variables have been taken. Hence, the sample size of 250 was considered
sufficient. However, keeping in view the requirement of structural equation modeling, the sample size up to 402 has been used for data analysis.

9.3.2 Sampling Plan

A list of expected respondents was prepared based on India Retail Reports (2007 and 2009), organizational websites, Retail Telephone Directory 2009, and PROWESS database maintained by CMIE. The respondents so selected were picked randomly and their willingness to respond was obtained. Later on they were mailed the questionnaires and followed for the response.

9.3.3 Research Process

Properly sequenced activities which form the research process are considered significant to carry out the research effectively. The present study takes into consideration the following necessary steps:

1. Problem Definition: The research problem was defined by collecting information from the various seminars, conferences, journals, books, and discussions with leading consultants and practitioners in the field of SCM and statistics in India and abroad. The discussions and literature gap led to the fact that organized retailing is new in India and many national and international players are in the arena. It has vast potential and opportunities where research was needed. Also, despite good agricultural production, this sector lacks in efficiency and effectiveness. Hence, it was decided to focus on organized NLR.

2. Literature Survey: The previous research findings, theories and concepts were studied. Various books available on SCM, retailing, research methodologies and SC modeling were collected. Similarly the research papers published in national and international journals on SCM,
retailing, operations management, logistics management, operations research, decision sciences, and simulation modeling were collected. These were reviewed in depth to understand the aspects and issues of the present study in a better and effective way.

3. **Questionnaire Design**: Based on the literature survey, in consultation with the consultants and practitioners in the field of organized NLR, the questionnaire was designed on a 5-point Likert scale. It was sent to the leading practitioners in the field of organized NLR for pre-pilot survey. Their recommendations and suggestions helped to improve the questionnaire. Based on the recommendations and suggestions, a pilot survey was done and the questionnaire was further improved. Later on, a full survey was done.

4. **Organizations and Respondents Selected**: The unit of analysis consists of organized non-livestock retailers operating in principal cities of Punjab, Chandigarh, Gurgaon and New Delhi. The respondents were selected based on Retail Report 2007, organizational websites, Retail Pitch, Retail Telephone Directory, PROWESS, and Retail Report 2009. The respondents were the top players in this industry. The telephone numbers and addresses were collected from the secondary sources for CEOs, Presidents, Vice-Presidents, General Managers, Managers and Supervisors engaged with the organized NLR. The respondents were selected randomly and their willingness to fill the questionnaires was obtained. Later on, the questionnaires were mailed and followed for response. Some of the respondents were also personally visited to provide better insight on the research problem. However, due to secrecy and confidentiality, their names are not showed in the list of respondents, but publicly published data was shown in the research.

5. **Data Analysis**: The research was based on both the secondary and primary data. The secondary data was collected from The Retail Report 2007, The Retail Report 2009, PROWESS,
organizational websites, various journals and magazines. The data so collected was used to identify the retail players, industry sales, and respondents. The primary data was collected using a questionnaire for factors affecting SC performance, SCP and KPI. The approximate respondent base of 560 was used for collecting the information on a well structured questionnaire. The technique of factor analysis using principal component analysis with Varimax rotation was used to classify the factors affecting SC performance, SCP and KPI. Structural models were developed to test the hypothesis using structural equation modeling (SEM). Also, SEM was used to develop test and validate a SC performance measurement model. The reason behind the use of SEM was its ability to test multiple relations at a time.

9.3.4 Sample Characteristics

A survey questionnaire based on strong literature support was used as a primary research instrument and a total of 560 questionnaires were distributed. It was found that a good many questionnaires were found incomplete, thus yielding an effective response of 402 respondents (72%). A detailed profile of the respondents is given in the table 1:

Table 9.1
Profile of the Respondents

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Designation and Number</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Level (100)</td>
<td>CEO=2; President=1; Vice-President=1; Business Head=3; General Manager=3; Senior Officers=68; Quality Head=22</td>
<td>CEO=0.5; President=0.25; Vice President=0.25; Business Head=0.75; General Manager=0.75; Senior Officers=16.9; Quality Head=5.5</td>
</tr>
<tr>
<td>Middle Level (134)</td>
<td>Manager (Marketing)=25; Manager (Supply Chain)=16; Manager (Quality Assurance)=18; Officer (MIS)=16; Coordinator (MIS)=10; Deputy Manager (Marketing and Sales)=21; Deputy Manager (Purchase)=28</td>
<td>Manager (Marketing)=6.2; Manager (Supply Chain)=4.0; Manager (Quality Assurance)=4.5; Officer (MIS)=4.0; Coordinator (MIS)=2.5; Deputy Manager (Marketing and Sales)=5.2; Deputy Manager (Purchase)=7</td>
</tr>
<tr>
<td>Lower Level (168)</td>
<td>Store Managers=90; Store Supervisors=78</td>
<td>Store Managers=22.4; Store Supervisors=19.3</td>
</tr>
</tbody>
</table>
The unit of analysis consists of organized non-livestock retail industry and items of analysis were the retail professional dealing with SCP in this industry. The target population of the study was organized NLR personnel engaged with SCM in the principal cities of Punjab, viz. Patiala, Ludhiana, Jalandhar, Amritsar, Mohali, Kharar, Ropar, Bathinda, Gurdaspur, Faridkot, Chandigarh, Fatehgarh Sahib, Morinda, Kurali, Mansa, Moga, Muktsar, etc. The respondents were also selected from New Delhi and Gurgaon. An agreement was signed with the organizations not to disclose their name.

9.3.5 Non-response Bias

Non-response bias was evaluated using two methods. The first method tested for significant differences between early respondents and late respondents. The late respondents were considered as surrogate for non-respondents. F-tests were also performed using locational position. The population was divided into three areas, Top (New Delhi), Middle (Punjab) and Lower (Gurgaon). The results show that no significant differences existed in the responses.

9.3.6 Scale Development and Testing

In this research the following considerations were made for unidimensionality, reliability and validity:

1. **Unidimensionality:** It refers to the existence of a single concept underlying a group of measures. It helps to assess before structural model testing is done. The assessment was based on screen plots and Eigen values greater than 1.0. Also, each item loaded on single factor.

2. **Reliability:** It is an assessment of degree of consistency between multiple measures of a variable. It represents the systematic variance of the constructs. First method is to test and re-test
by which consistency would be measured between the responses for an individual at two points at a time. Second method is reliability of internal consistency, which applies to the consistency among the variables in a summated scale. Here, the rationale for internal consistency is that the individual items or indicators of the scale measuring the same construct should be highly inter-correlated. The single measure is not perfect. Hence, a series of diagnostic measures were considered to assess internal consistency as hereunder:

1. Item-to-total correlation (correlation of the item to summated scale) ≥0.5
2. Inter-item correlation (Correlation among items within a factor) ≥0.3
3. Reliability coefficient (Cronbach’s alpha) ≥0.6 general constructs and ≥0.4 for broadly defined constructs.
4. The reliability measures derived from confirmatory factor analysis focus on construct reliability where:

$$\text{Construct Reliability} = \frac{\text{sum of squares of factor loading}}{\text{sum of squares of factor loading + sum of error variance terms for constructs}} = \frac{\sum_{i=1}^{n} \lambda_i^2}{\sum_{i=1}^{n} \lambda_i^2 + \sum_{i=1}^{n} \delta_i} \geq 0.6$$

The reliability and validity for SEM was also tested by fit indices like TLI, IFI, and RMR, etc.
5. The constructs should have minimum loading of two items.
6. The Eigen value should be ≥1.0.
7. Bartlett’s test of sphericity; a test for the presence of correlation among variables. It provides a statistical significance that the correlation matrix has significant correlation among at least some of the variables. The value is acceptable for p (level of significance) ≥0.05.
8. The value of Cronbach’s alpha greater than 0.7 is considered reliable. While several researchers suggested 0.6 should be often used as practical lower bound. In this research, analysis was performed to retain and delete scale-items for the purpose of developing a
refined reliable scale. Here, inter-item correlations and Cronbach’s alpha were used. Inter-item correlations show the extent to which an item is correlated to another items of the set under consideration. The items with low inter-item correlation were deleted. The Eigen values greater than 1.0 were considered. The Cronbach’s alpha of the scale was above 0.7 which was a good indicator to go ahead for factor analysis and structural equation modeling.

3. **Validity**: It is the extent to which a scale or a set of measures accurately represent the concept of interest. This research focuses on the following:

**Content Validity**: The content or face validity is the subjective agreement among professionals that a scale logically appears to reflect accurately what it purports to measure. This validity was done in consultation with various consultants and practitioners in the field of retail SCM. The scale was developed and tested through pre-pilot and pilot survey. The necessary corrections were made and later on a large scale survey was done.

**Convergent Validity**: It refers how well the item measures relate to each other with respect to common concept and was exhibited by having significant factor loadings ($\geq 0.5$) of the measurement hypothesized constructs and high inter-item correlation among items ($\geq 0.3$) within a construct.

**Discriminant Validity**: It represents how well the item measures relate to its hypothesized constructs vs. other constructs in the model. It is also interpreted as the degree to which two conceptual concepts are distinct. The empirical test here again is correlation, but this time the summated scale is correlated with a similar but conceptually distinct measure. Now, the
correlation should be low demonstrating that summated scale is different from other similar concepts.

**Construct Validity:** The validity establishes the degree to which a measure confirms a network of related hypotheses generated from a theory based on the concepts. The results obtained from data analysis were consistent with theoretical logics. This was explained by the consonance of results with results existing in literature. The communality (h² ≥0.5) is good for sufficient explanation of the constructs.

**Criterion Validity:** The criterion validity is classified as either concurrent validity or predictive validity depending upon the time sequence in which the “new” measurement scale and the “criterion” measurement scale were correlated. To verify, the two columns were selected for the single item rating. It was found that they were highly correlated. The predictive validity shows the gap when two measures differ on the time scale. This was done by repeated survey. There was not much difference in the results of two different time recorded responses.

### 9.4 Major Findings of the Study

The overall objective of the present research was to obtain insights on current state of retail industry, factors affecting SC performance, SCP, CA, OP and KPI for organized NLR industry. Systematically following series of steps a model was developed for measuring SC performance of organized NLR. The focus was on organized NLR players operating in New Delhi, Gurgaon, and principal cities of Punjab. The main questions so designed are explained as follows:

#### 9.4.1 What is the current state of organized retail industry in India?

Following are the major findings of study in relation to current state of organized retail industry in India:
The current state of retail industry was examined on the basis of secondary data source. In India, eight retail formats are popularly operated by more than twenty leading players including rural and wholesale retailing. Many players have collaborated with the national and international players. The data showed the population shift towards the middle class. Also, it showed that organized retail was 3% of the total retail trade in 2004 and picked up to 15.5% in 2010. This part of the study helped to understand the market and players for collecting secondary data for the next objectives.

9.4.2 What are the factors affecting supply chain performance?

Following are the major findings of study in relation to factors affecting supply chain performance:

A detailed discussion of this question was done in section 1.2.1. Here, twenty-two factors were identified affecting SC environment after having consultations with various practitioners and consultants in the field of organized retailing. These were classified into three groups, i.e., strategic management, operations management, and environmental dynamics. The results showed that operations management and environmental dynamics play more important role in managerial decision-making as compared to strategic management.

9.4.3 What is the impact of supply chain practices on competitive advantage and organizational performance?

Following are the major findings of study in relation to impact of supply chain practices on competitive advantage and organizational performance:
A detailed discussion of this question was done in section 1.2.1. Here, twenty-five supply chain practices were identified and one item, i.e., lean practice was reduced leading to twenty-four practices. The factor analysis classified them into four groups, i.e., technology use, supply chain speed, customer retention, SC integration, and variety management. The four items selected for competitive advantage were inventory management, customer satisfaction, profitability, and identification of customer needs. The six items selected for organizational performance were market performance, SC competencies, stakeholder satisfaction, innovation and learning, satisfied customers, and financial performance.

The tested hypothesis proved that Indian managers have good understanding to match SCP with CA. Also, they have understanding to match CA with OP. However, they have less understanding to match SCP with OP. The results shall help the Indian managers to understand this limitation well.

**9.4.4 How can we develop metrics for successful supply chain performance measurement?**

Following are the major findings of study in relation to how we can develop metrics for successful supply chain performance measurement:

Here, twenty key performance indicators were identified and one indicator, i.e., shipping error was reduced during data analysis. These nineteen indicators were classified into four groups using factor analysis, i.e., customer metrics, inventory metrics, growth and learning metrics, and SC flexibility metrics. The results for hypothesis tested showed that firms with more focus on inventory need more focus on flexibility, and more focus on flexibility and inventory shall lead to high level of learning and growth.
9.4.5 How can we develop and validate a model for measuring supply chain performance of organized non-livestock retail industry?

Following are the major findings of study in relation to how we can develop and validate a model for measuring supply chain performance of organized non-livestock retail industry:

In this section, various models and modeling techniques were explored. The technique of SEM was applied to test and validate the model. The reason behind using SEM was its ability to test and validate multiple relationships at a time. The results validated a model out of four options. This model shall help the organized NLR players to measure SC performance.

9.5 Conclusion

9.5.1 Current State of Retail Industry

The current state of retail industry answered the questions quoted in the research methodology. It was observed that organized retail doubled during the period 1990 to 1999. The retail market was estimated to be Rs. 1,234,000 crore in 2009 and touched Rs. 1,308,000 crore by 2010. The organized retail share was approximated Rs. 1,40,000 crore in 2009 and touched Rs. 203,000 crore in 2010. It witnessed a growth of 11.3% in 2009 and reached 15.5% by 2010. The food and grocery share rose from 0.5% in 2004 to 1.1% in 2007. The GDP growth is continuous and is expected to touch 9% by 2011.

There is a shift from lower class to middle class which is the driving force for this sector. Here, it is pertinent to mention that more than half of the Indian population is below the age of 30 years. It is also a motivating point for the growth of this industry. The family structure also shifted from joint family to the nuclear family with more disposable income and less time for home making.
This is due to the reason that women, nowadays don’t not sit idle at home, but add to the family income by doing various jobs or running their own business. This degree of business made them to search for locations where all the household items are available. The organized retailers have harvested this opportunity by making all the products available under a single space along with entertainment facilities.

The opportunities in this sector have attracted big industrial houses in this industry. The major players in this sector are: Reliance Retail, RPG Retail, Raheja Group, The Tata Group, Piramyd Retail, SPAR, Vishal Group, Namdhari Fresh, Mother’s Dairy, Big Apple, EasyDay, LM365, Aditya Birla, Markfed and ITC Group, etc. In addition to these players, the international players have also joined hands with Indian players. These are Metro, Wal-Mart, Tesco, etc. In the coming years, the competition is going to be stiffer and not only customer satisfaction but also customer retention shall be a big challenge for this industry. This part of the research enabled to understand this industry.

**9.5.2 Factors Affecting Supply Chain Performance**

The results showed that loadings on Strategic Management factor range from 1.0 to 0.72. The loading of 1.0 for Supply Network Structure and 0.96 for e-communication showed that these items play more important role for this construct as compared to other items. The customers take help of Internet to locate and select a particular store for satisfying their needs. Here, it was also interesting to note that strategic alliance and supplier relationships have the same loading of 0.73, indicating the closeness of these constructs. The other items also loaded significantly on this factor. The loading on Operations Management factor had the range from 1.0 to 0.25. The maximum loading was for Cycle Time (1.0) and CFO (0.76) indicating the dominance of these
factors. The other loadings were also significant and different to explain this factor. Here, it was interesting to note that Top Management item also loads on Operations Management. So, it was concluded that Operations Management shall not be executed without support of top management.

The Environmental Dynamics had loadings from 1.0 to 0.26. The results showed that the loading of items, viz. Agility (1.0), Culture of Competitiveness (0.77) and Top Management Support (0.78) played more dominating role for this factor. All the loadings were different and sufficient to explain this factor. The loading for SC Decisions had the range from 1.0 to 0.21. The results showed that the loading of 1.0 for Environmental Dynamics and 0.89 for Operations Management played a more dominating role for this construct.

The total effect estimates showed that this effect was high for Environmental Dynamics (1.0) and Operations Management (0.888). It was least among factors for Strategic Management (0.207). Here, it was also interesting to note that among items total effect was very high for Agility (1.0) and Cycle Time (0.888). It was noted that these items played a more important role for SC decisions as compared to other items. The other items also showed significant loading on SC decisions.

9.5.3 Supply Chain Practices, Competitive Advantage and Organizational Performance

The supply chain practices (SCP) used in organized NLR industry was identified on the basis of available literature and in consultation with the practitioners and consultants in the field. These practices showed some variability among retail players. The discussions with organized non-livestock retailers revealed that different organizations follow almost the same practices. On the
basis of discussions with qualified retail operators and the results of this study, five main second order practices, viz. technology use, supply chain speed, customer retention, supply chain integration, and variety management were identified. Inventory management, customer satisfaction, profitability, and customer base identification were identified as the four major primary constructs for CA. The six main constructs for OP taken into consideration for the present study were market performance, supply chain competencies, stakeholder satisfaction, innovation and learning, satisfied customer, and financial performance.

The loading of -0.75 between SCP and CA showed that CA affects SCP. Here, it is pertinent to mention that organized non-livestock retailers try to take CA by adopting suitable SCP. The loading between CA and OP was as low as 0.05 which showed that they try to take advantage of competitive positions. Similarly, the loading between SCP and OP was also very low, i.e., -0.01 only. It reflects that organized non-livestock retailers fail to adopt the SCP for better OP. The results of structural models have highlighted the gap in understanding and using them.

The results of the structural models were in consonance with statements quoted by many researchers that Indian retailers try to link SCP, CA, and OP but fail to develop proper link among them. In this objective all the results were tested and validated by statistical tests. However, the purpose here was to provide insights to organized NLR practitioners.

9.5.4 Supply Chain Performance Indicators

Here, an attempt was made to identify the relationship among inventory metrics, flexibility metrics, and learning and growth metrics used for organized NLR supply chains in India. All the 19 key performance indicators taken for factor analysis were classified into four categories, viz., customer metrics, inventory metrics, growth and learning metrics, and SC flexibility metrics.
However, only inventory metrics, flexibility metrics, and growth and learning metrics were considered to find the relationship among them using SEM. The metrics had good and different loadings in the respective factors.

Here, endeavor was made to prove the hypotheses H4: Firms with more focus on inventory need more focus on flexibility; H5: Firms with more focus on flexibility shall have high level of growth and learning; H6: Firms with more focus on inventory shall have high level of growth and learning. Hence, the present study proved that good performance of lower level metrics (Inventory) may lead to better performance of higher level metrics (Growth & Learning). It was also important to note that the performance of whole supply chain depended upon the performance of its individual parts. Also, these individual parts were not independent but were linked to each other. Hence, good performance of inventory metrics was associated with better performance of flexibility, and growth and learning. The review of literature revealed that customer metrics were in consonance many studies quoted in the literature survey.

9.5.5 Modeling Supply Chain Performance

The structural model showed the proper place and space for key performance indicators. The inventory metrics and customer metrics are at the entry points. It shows that the retail business starts with these two entities. If any of them is not in existence the business shall fail at the entry point, i.e. they are considered as most important point in the organized NLR. Also, the inventory metrics were prerequisite for flexibility metrics. It showed that flexibility shall be exercised if and only if the inventory is there. Also, better performance at the inventory level shall lead to better performance at the flexibility level. The interrelationship of inventory metrics and flexibility metrics with growth and learning metrics shows that better performance of inventory
and growth levels shall lead to better learning and growth of the organization. This classification and structural placement of KPI shall help to find answer to the basic questions as follows:

**What to do?** - There are many people associated with organized NLR supply chains. The confusion may be there in the form of this question. This model shall answer this question by classifying the performance measure points and suggesting how to do well at your point. Your good performance shall lead to better performance at the next point.

**When to do?** - The model has specified KPI at each point. As and when the performance is predicted to fall below, take action prior to it e.g. fill rack before it is completely empty, select product quality, personality etc. before they flow in the SC resulting into wastage of time and resources.

**Where to do?** - The model has selected KPI at the different stages of SC. These KPI shall help to diagnose the problem and accordingly corrective action shall be taken for better SCP.

**Who has to do?** - The corrective action has to be taken at the immediate entry point to avoid further flow and flaw of the problem. The staff concerned at the entry points should judge the deviations and prevent its further flow.

**How to improve?** - The model shall guide the retail practitioners by taking the inputs of inventory, customer and flexibility points for growth and learning. It shall help in better sales profit, stakeholder satisfaction, innovations and return on investment.
9.6 Limitations of the Study

- Despite the statistical sophistication the present study is subjected to certain limitations. The SC environment in India is supposed to be indirectly affected by decision-making at the state and national level governments. All the factors affecting this environment may be indirectly linked with it. However, all these factors could not be considered as it was very difficult to go for a microscopic study. It was also found during discussion that many factors, such as firm size, seasonality, location of retail store, and promotional policies also affect KPI, SCP, CA and OP. These dynamic factors were difficult for organized retailers to manage.

- During the survey, it was found that the respondents at higher level were unable to spare time to fill the questionnaire. Only few persons at the CEO/President/Vice President/GM/AGM level responded. Here, it is pertinent to mention that as these people were instrumental in developing strategies and plans, their greater participation could have provided more valuable results. As many as 100 respondents at the middle level of management participated in the study. They gave highly valuable responses and were instrumental in the progress of this research. Again the number was not very much appreciable as they have a complicated procedure to respond. At these two levels, some variability was predicted in using the SCP in relation to CA and OP. Some of the lower level staff, i.e., retail store supervisors didn’t have full knowledge about the SCP, CA and OP. However, those having no knowledge were not included in the study. Despite these problems the potential respondents were consulted for this research.
In the fourth and fifth objectives of this research KPI applicable for this industry were selected. However, many middle level respondents focused on different sets of objectives. Here, the behavioural approach to manage the business was also important. Despite the analytical sophistication of SEM effort to model SC performance, a key element may be missing here: understanding the “market”–real customer demand and the interaction between market dynamics and SCP. Different market conditions (or “demographic dynamics”) may require completely different SC strategies with different objectives and goals, and therefore different KPI as well. However, here the objective was not to validate the results by statistical sophistication, but to provide insights for the betterment of this industry.

9.7 Scope for Future Research

In this research a sincere effort was made to produce the results in a nut-shell. Here, the focus was on organized NLR operating in Punjab, Chandigarh, New Delhi and Gurgaon, but the respondents need to be selected from whole of the country for better perspectives. Also, more insights are possible if unorganized retailers and customers are also involved. It was interesting to note that despite the low product offering and better ambience at the organized retail stores unorganized retailers were also growing. Hence, it is valuable to focus on factors attracting customers towards unorganized retailers. If customers and organized & unorganized retailers are studied together then better performance gaps shall be identified between organized and unorganized retailing for factors affecting SC performance.

The SCP has also shown some variability. It may be due to the type of organization i.e. those having all the manufacturing facilities and those having less manufacturing facilities or farms of
their own. The firm size shall also be a factor of consideration. It has been found that the segment visiting the organized retail stores consisted of younger generation and qualified people, whereas a large proportion of Indian population appears in the lower/medium income level category. They prefer to purchase from traditional retail stores on credit. Also, the traditional store owners have a personal rapport with them which is missing as far as organized retailers are concerned. So, organized retailers need to focus on this point for business growth.

The future research is also required to identify the KPI from the customers’ point of view because the development of PMS is meant for customer satisfaction. It was also observed that despite low product offering and better ambience majority of the customers still prefer traditional retailers. Here, research is needed to study the profile of the customers visiting organized retail stores and traditional stores. Last, but not the least there is a need to study the effect of individual KPI on inventory metrics, customer metrics, flexibility metrics, and growth and learning metrics. Also, future research is needed to understand demographic dynamics (customer-side) and to develop KPI (SC-side) for them. Future research can also be taken up on the following topics:

1. The sale of products with respect to date, time and customer profile.
2. All the factors affecting SC performance individually and in groups.
3. The SCP individually and in groups in relation to CA and OP.
4. The environmental scanning for CA and better OP.
5. Refined set of KPI for better assessment of SC.