FACTORS AFFECTING IMPLEMENTATION OF SCOR MODEL IN SUPPLY CHAIN EFFICIENCY: A CASE OF AUTOMOBILE INDUSTRY OF KARACHI (TOYOTA-INDUS MOTORS)

By

Muhammad Humayun Inam

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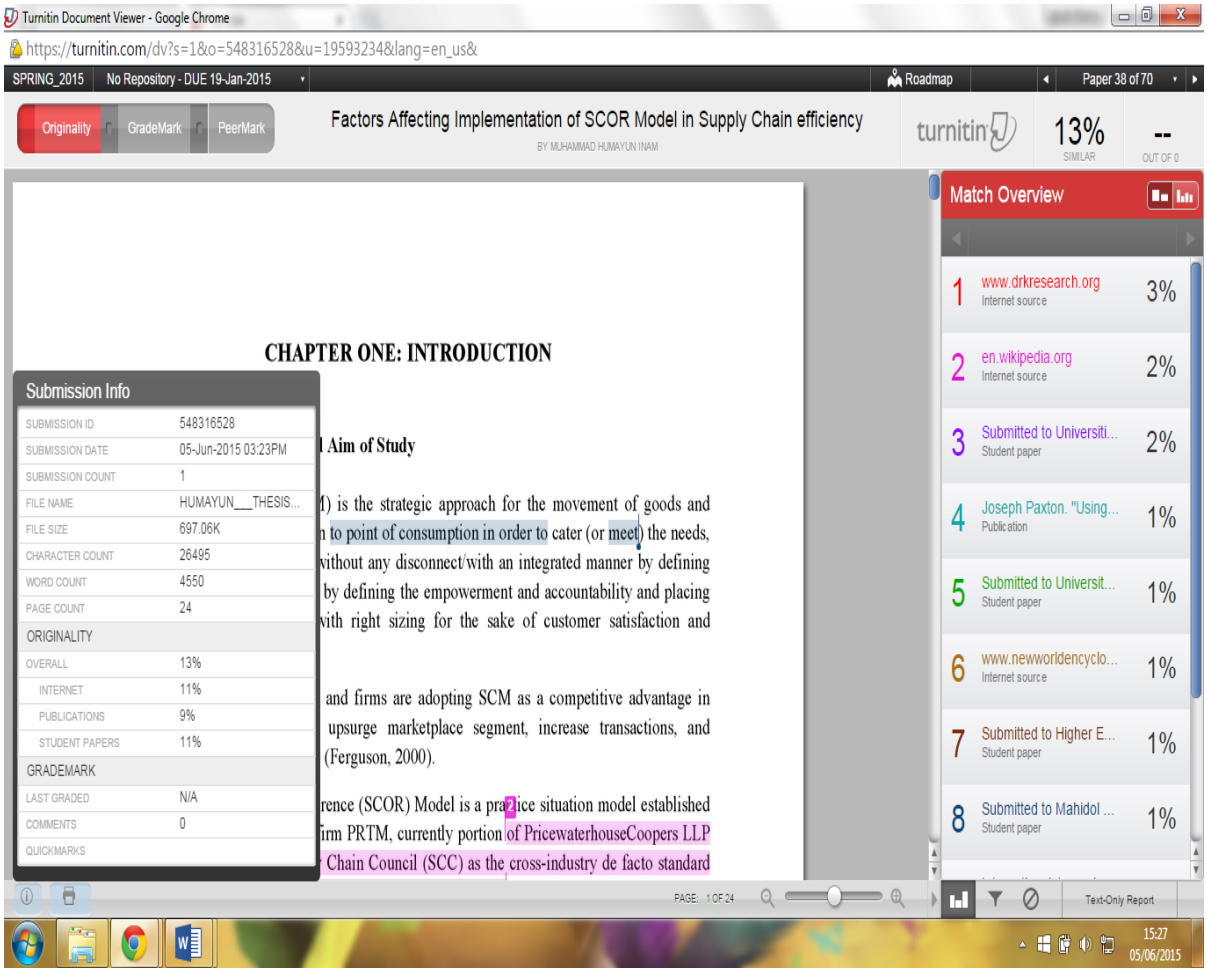
LIST OF ABBREVIATIONS

AFI	Areas for Improvement
ISCM	Integrated Supply Chain Management
KSF	Key Success Factors
MRO	Maintenance Repair Operations
SC	Supply Chain
SCC	Supply chain Council
SCM	Supply Chain Management
SCOR	Supply Chain Operations Reference Model
TMC	Toyota Motors Corporation
TTC	Toyota Tsusho Corporation

PLAGIARISM TEST REPORT



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Hopefully this report will serve a good purpose.

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ABSTRACT

Purpose of the Study: Supply Chain Management is an emerging area around the globe. In Pakistan also, Supply chain Market is increasing day by day. The Supply Chain Operation Reference (SCOR) Model is a process reference model developed by the management consulting firm PRTM, now part of PricewaterhouseCoopers LLP (PwC) and authorize by the Supply Chain Council (SCC) as the cross-industry de facto standard diagnostic tool for supply chain management.

The purpose of the study is to implement the SCOR Model in automobile industry of Karachi (Toyota-Indus Motors). So, as the implementation occurs, Supply Chain Efficiency increases.

Research Method/Sampling: The research is exclamatory in nature. Total of 30 samples have been collected through questionnaire, which are filled the top management level professionals like, senior managers, managers, and assistant managers.

Findings of the Research: For research findings, statistical tools are used, such as, SPSS, Frequency Analysis, Correlation Analysis, and Custom Tables.

Practical Implications of the Study: This study help us in finding increase in reliability, increase in flexibility, increase in responsiveness, reduction in cost, reduce organizations fat, and increase in asset utilization of the organization.

Keywords: Supply Chain Management, Supply Chain Efficiency

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CHAPTER 1

INTRODUCTION

1.1 Problem Background and Aim of Study

Supply Chain Management (SCM) is the strategic approach for the movement of goods and services from the point of initiation to point of consumption in order to cater (or meet) the needs, wants and demands of customer without any disconnect/with an integrated manner by defining the sequential flow of the process by defining the empowerment and accountability and placing the bench mark and standards with right sizing for the sake of customer satisfaction and organization profitability.

Trends are changing day by day, and firms are adopting SCM as a competitive advantage in order to diminish expenditures, upsurge marketplace segment, increase transactions, and construct strong client relationship (Ferguson, 2000).

The Supply Chain Operation Reference (SCOR) Model is a practice situation model established through the supervision referring firm PRTM, currently portion of PricewaterhouseCoopers LLP (PwC) and approve by the Supply Chain Council (SCC) as the cross-industry de facto standard analytical instrument for supply chain management. SCOR Model integrates professional practice reengineering, benchmarking and progression dimension into a cross efficient structure. The primary use of SCOR Model is to describe, measure, and evaluate supply chain configurations. SCOR Model is used to reduce cost, cut overhead, and improve efficiencies. The ultimate benefit of SCOR Model is bottom line improvement. Other benefits of SCOR Model are improve customer satisfaction, reduced work flows, improved efficiencies, and flexibility in the supply chain.

Some challenges of SC that SC0R will solve are: superior customer service, cost control, planning and risk management, supplier/partner relationship management and talent.

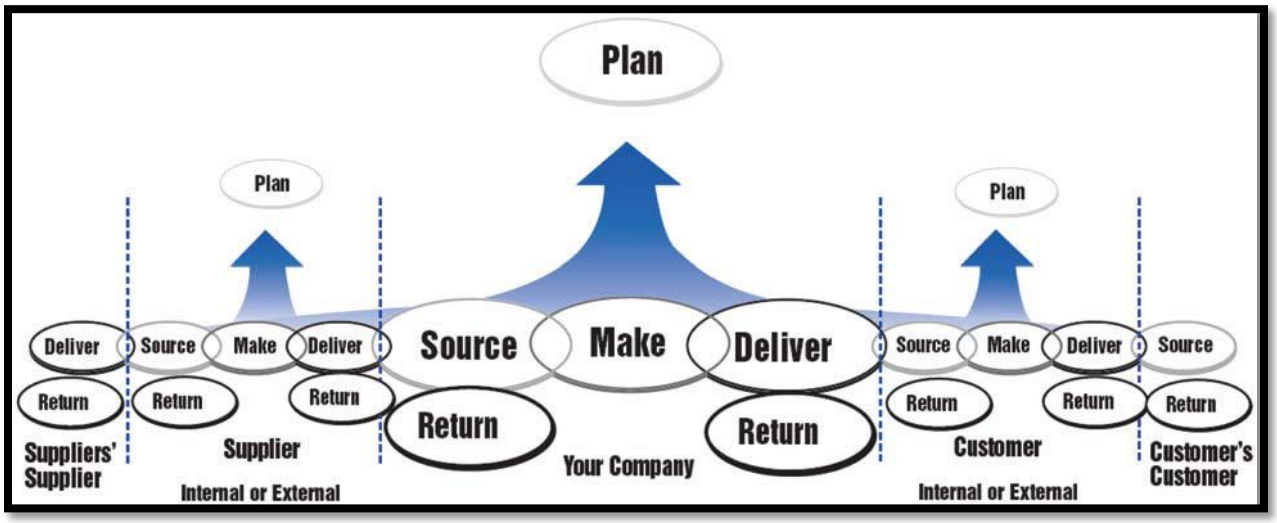
The five drivers of SCM are: Plan, Source, Make, Deliver, and Return. These five drivers of SCM are known as SCOR Model. Before 1999, there were only four drivers (Plan, Source,

Make, and Deliver). During the period of 1999-2003, the SCC introduced a new driver which is known as *return*. Another driver introduced in 2012, which is known as enabler.

One study said that SCOR is organized around five management processes (Plan, Source, Make, Deliver, and Return) that are further subdivided into process categories, elements, tasks, and activities (Huang et al., 2005; Hwang et al., 2010; Kasi, 2005; Schnetzler et al., 2009; SCC, 2008).

According to Li et al., (2011), SCOR helps the organization to eliminate their organization's fat. It also classifies and eradicate the wasteful practices of the supply chain.

Figure 1: SCOR Model



As classified in Figure-1, the SCOR Model of Supply Chain Management Consists of five components:

- Plan
- Source
- Make
- Deliver
- Return

Plan is the first element of SCOR Model. It consists of two divisions, i.e., demand planning and supply planning. These elements manage and balancing resources. The plan likewise compacts with determining corporate instructions to improve and extent supply chain competence. Plan also transact the supply chain with financial plan of the company.

Source is the second element of SCOR Model. It consists of Procurement (Raw Material and Packing Material) and Indirect Procurement or Indirect Buying. It deals with how to manage inventory, how to manage and built strong relationships with suppliers. It also deals with how to knob provider expenditures, and at what time to obtain, authenticate the order or product.

Make is the third element of SCOR Model. It consists of three divisions, which are: Production, Engineering and Projects, and Maintenance Repair Operations (MRO). It includes make-to-order, make-to-stock and engineer-to-order. The make element contains manufacture, packing, performance product, and discharging activities. It correspondingly accomplish the manufacture system, apparatus and conveniences, and conveyance.

Deliver is the fourth element of SCOR Model. It consists of three divisions, i.e., Distribution Planning, Warehousing, and Transportation. It moreover comprises getting guidelines from clients and charging them when the product consumes. Deliver phase encompasses supervision of ended records, properties, carriage, product life cycles, and importing and exporting necessities.

Return is the fifth element of SCOR Model. It consists of two division, which are: Reverse Logistics and Complaints/Feedbacks/Areas for Improvement (AFI). Every organization must be prepaid to handle the reverse logistics in the form of return of their goods, transportation, inventory, assets, and regulatory requirements. Customer complaints and feedbacks played a vital role in improving the defects of the product.

Enable is the sixth element of SCOR Model. Enable driver is a resemblance to technology. It is used in all the five drivers of SCM.

The SCOR model is implemented in some of the industries, which are: the lamp industry (Vanary et al., 2005), transistors liquid crystal display (Hwang et al., 2008), the ethanol and petroleum industry (Russel et al., 2009), geographic information systems (Schmitz, 2007),

the construction industry (Cheng et al., 2010; Pan et al., 2010), automotive industry (Potthast et al., 2010), the professional service industry (Ellram and Billintin, 2004), the wood industry (Schnetzler et al., 2009), information technology and technology consulting (Dong et al., 2006), the tourism industry (Yilmaz and Bititci, 2006), and shipbuilding (Zangoueinezhad et al., 2011).

The importance of SCOR model is increasing day by day, and every organization aims to implement it in his firm, in order to increase efficiency, one must reduce cost, increase reliability, increase flexibility, increase responsiveness, and increase asset utilization.

Therefore, the supply chain efficiency is the measure of the right product, at the right place, at the right time, and at the least cost.

Due to the rapid growth of automobile sector around the world where people trends are changing and where consumer is flourishing at an enormous pace. Automobile industry are providing better and better product with so much emphasis on quality. In order to compete with the emerging industries around the globe, automobile industry is emphasizes on providing best quality, best performance, improve efficiency, reduce cost, and cut organization fat. With the increasing awareness level among customers, SCOR Model is a tool for improving business performance through effectiveness, i.e., revenue, profits, and reduction in organization fat.

Pakistan’s prominent automobile industry is Indus Motors Company is a joint venture between House of Habib, Toyota Motor Corporation, Japan (TMC), and Toyota Tsusho Corporation, Japan (TTC) for accumulating, advanced engineering and promoting of Toyota automobiles in Pakistan since July 1, 1990. The corporation is amalgamated in Pakistan as a public limited company in December 1989 and started marketable assembly in May 1993. The stakes of corporation remain estimated on the stock exchanges of Pakistan. Toyota Motor Company and Toyota Tsusho Company have 25% stake in enterprise equity. The common stakeholder is the House of Habib. Indus Motor Company are manufacturers, assemblers, distributors, and importers of Toyota and Daihatsu vehicles, spare parts, and accessories in Pakistan. Indus Motor Company’s plant is the only manufacturing site in the world where both Toyota and Daihatsu brands are being manufactured.

1.2 Problem Statement

Globally, integrated supply chain management remains a developing zone for revolutionizing the supply chain performance. SCOR Model is considered as a significant for this type of integration. In the meantime, the rivalry is receiving harder consequently corporations take arrived into a violent rivalry and converging on changing their supply chain into competent and operative supply chain management by amalgamation. In Pakistan, only few companies has adopted SCOR Model to increase its supply chain efficiency. It would become further difficult to compete with other companies of the world, if we did not work on new technologies which our competitor is practicing. The things are still untapped and there is not enough work is done on supply chain efficiency in Pakistan, so in order to compete with the market we have to manage supply chain efficiency by virtue of SCOR Model (Plan, Source, Make, Deliver, and Return) with special reference to Toyota-Indus Motors Company, as Toyota-Indus Motors is the largest and leading AUTOMOBILE INDUSTRY in Pakistan.

1.3 Objectives

- To determine the supply chain efficiency by using supply chain planning
- To determine the supply chain efficiency by using supply chain sourcing
- To determine the supply chain efficiency by using supply chain making/manufacturing
- To determine the supply chain efficiency by using supply chain delivery
- To determine the supply chain efficiency by using supply chain return

1.4 Significance of the Study

With growth opportunities by AUTOMOBILE SEGMENT in emergent marketplace of Pakistan and preparing them through additional and more progressive organism, there is a need for forming an association amongst SCOR Model and supply chain efficiency. Very few studies have been conducted on implementation of SCOR Model in supply chain efficiency, that's why we are exploring it. The consequence of this research has been further boosted due to Pakistan's emergent marketplace alongside with fluctuating tendencies and lifestyles.

1.5 Limitations:

- Information privacy rule at Toyota-Indus Motors, would be a restriction in some circumstances while collecting statistics

- Information convenience would rely on secondary foundations where Toyota-Indus Motors would hesitant to share their numeric statistics

- Owing to extensiveness of this study area and time limitation, the study is constrained to Toyota-Indus Motors.

1.6 Scope of the Study:

The thematic scope of this research is the concepts and application of SCOR Model in supply chain efficiency of AUTOMOBILE sector of Pakistan. For this purpose, Toyota-Indus Motors is selected, as it is the largest and leading automobile company in Pakistan. The geographic scope is Karachi, which is the economic hub of Pakistan. The time frame for this research is four months.

CHAPTER 2

LITERATURE REVIEW

In this segment of study, an organization construction consumes remained formulated to review the literature and data offered on the association amongst SCOR Model and supply chain efficiency. The arrangement is completed with the intention to determine the applicable aspects that would care the authorities in their work and effort for efficiently handling Supply Chain Efficiency which is empowered by SCOR Model.

The literature review is designed to determine the key success factors (KSF) which are permitting Supply chain Efficiency through SCOR Model, this comprises outlining the ideas of supply chain management in diverse studies, supply chain operation reference model (SCOR) and its drivers i.e. plan, source, make, deliver, and return. So effectiveness of SCOR Model leads to increase in reliability, increase in flexibility, increase in responsiveness, decrease in cost, and increase in asset utilization.

In accumulation to this, a determination has been approved out for expressing a conceptual agenda affecting to SCOR Model facilitated supply chain management and supply chain efficiency.

Trends are changing day by day, and firms are adopting SCM as a competitive advantage in order to decrease price, rise market share, increase trades, and form strong consumer link (Ferguson, 2000).

Cooper and Ellram (1993) associate the subsequent features through operative SCM: Channel-wide record controlling; supply chain budget competence; long term period prospects; joint preparation, mutual data involvement, and checking; network management; common visualizations, and well-matched business philosophies; merchant relations; and the distribution of danger and rewards.

The examination deliver important image on the role of forecasting in simplifying the actual controlling of supply chain.

SCM's viewpoint consume a confidence that each firm in a supply chain directly or indirectly upset the routine of all the additional supply chain members, as well as ultimately generally supply chain performance. (Cooper et al, 1997)

Foster (2008) labelled supply chain management as a coordination founded tactic for cultivating the presentation smooth in accumulation to that likewise encouragements the prospects progressed due to downstream and upstream links with clients and merchants.

Lambert et al (1998) termed the supply chain management is essentially the amalgamation of main key practices of the professional from finish worker through sole merchants for the sake of significance calculation and improved facilities to investors and consumers too.

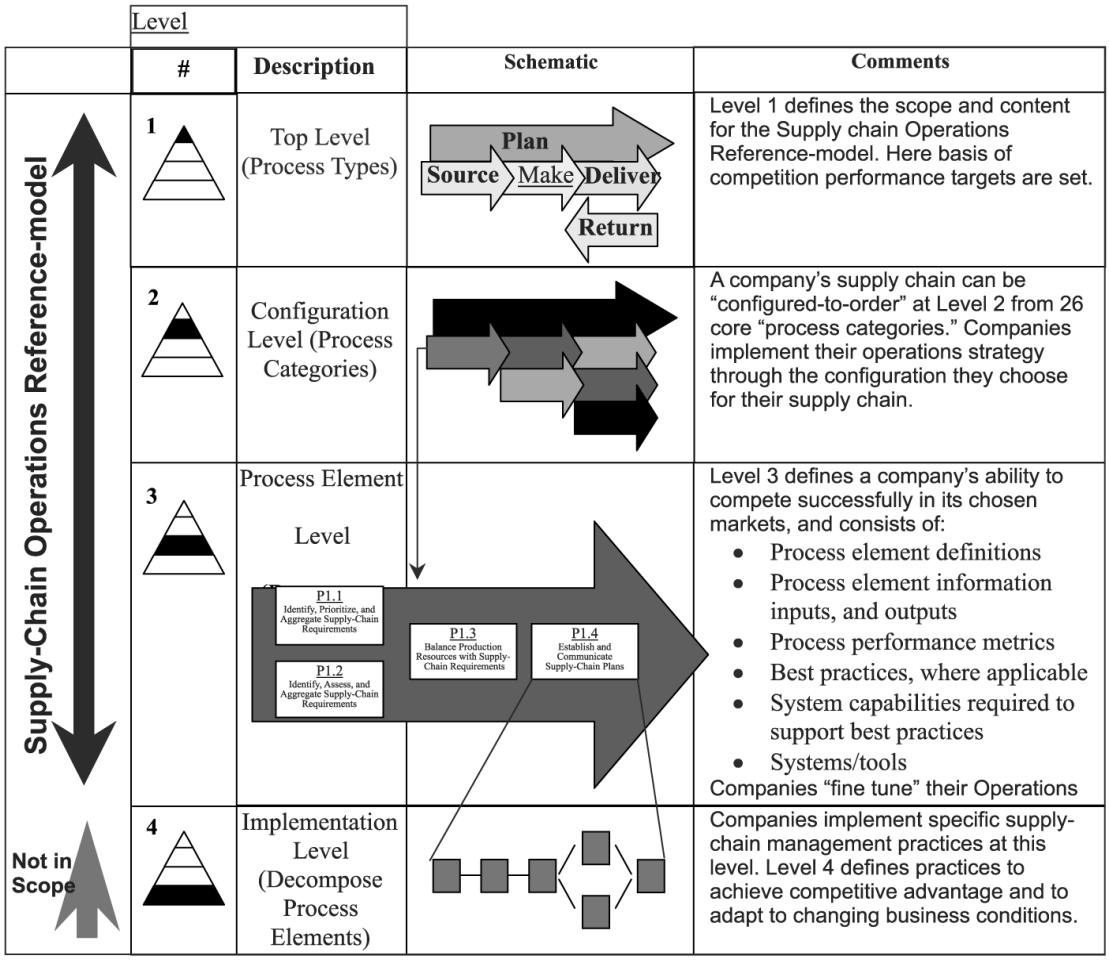
Another meaning specified by Hanfield and Nicholas (1999) that supply chain management encompasses the grouping of a set of tasks and accomplishments through nonstop boosted Supply Chain affiliation for the sake of accomplishing sustainable advantage.
One study said that SCOR is organized around five management processes (Plan, source, Make, deliver, and return) that are further subdivided into process categories, elements, tasks, and activities (Huang et al., 2005); Hwang et al., 2010; Kasi, 2005; Schnetzler et al., 2009; SCC, 2008).

SCOR Model contains four levels and as the SCOR Model is the main framework of our study, therefore, a short explanations of the four levels of SCOR Model is required. These for levels of SCOR Model is shown in figure 2.

Level 1 describes the scope and content of the essential organization procedures on behalf of the overhead stated conclusion zones. For instance, the SCOR Plan manner consists of two divisions, i.e., demand planning and supply planning. These elements manage and balancing resources for emerging activities which greatest encounter obtaining, manufacture, and distribution desires.

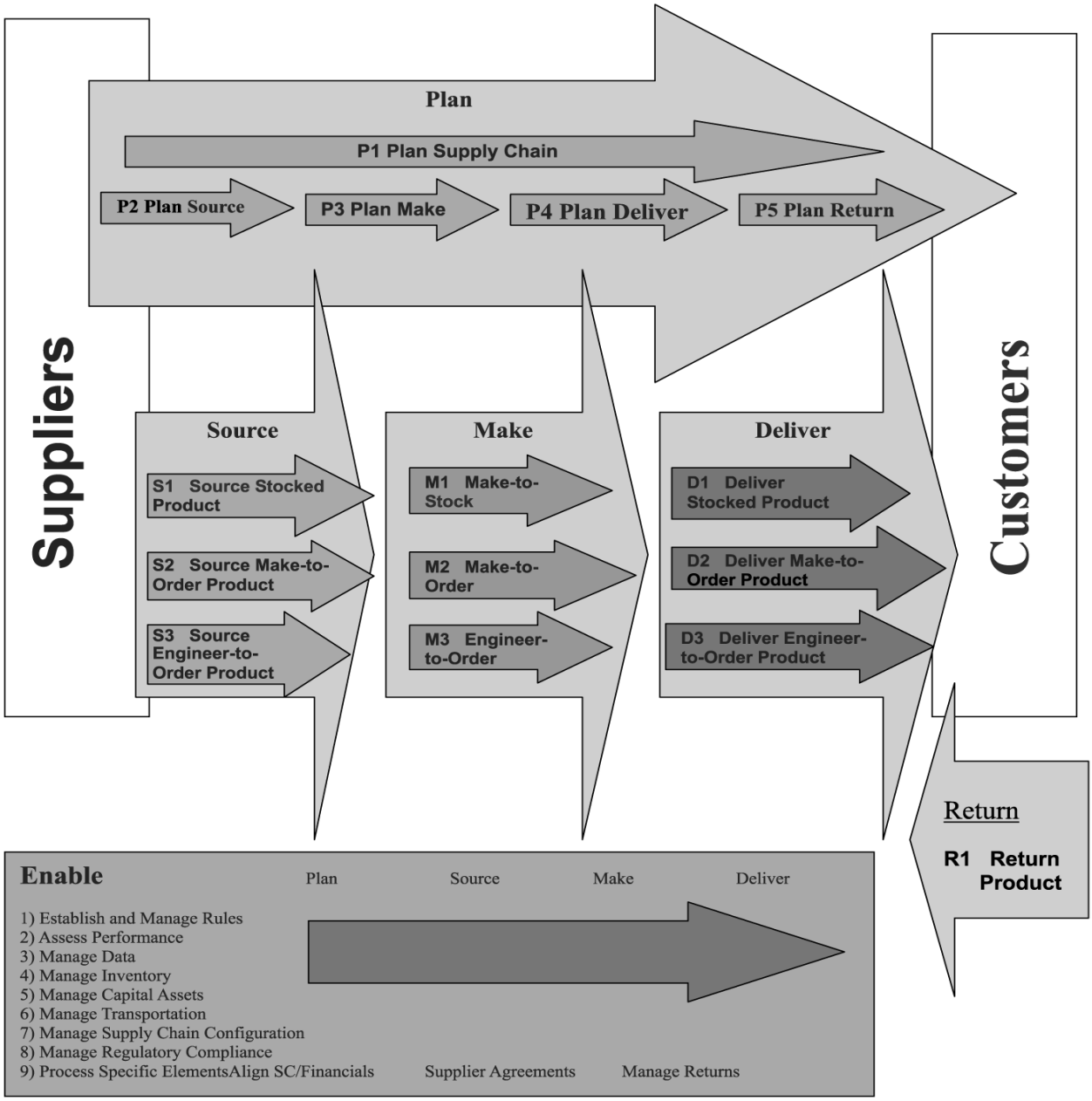
Level 2 illustrates the appearances associated through the following progression categories systematized inside the principal routes: forecasting completing and facilitate. For instance, supply chain companion's basic processes for scheduling the complete supply chain, as well as formation practices for supportive source, make, deliver, and return verdicts. An illustration demonstrating level 2 for SCOR model Version 4.0 is shown in Figure 3.

Figure 2: SCOR Model Levels



Source: Adapted from *Supply Chain-Operations Reference Model Version 4.0, SCOR Version 4.0*, Supply-Chain Council (August 2000)

Figure 3: SCOR Model Level 2



Source: Adapted from *Supply Chain-Operations Reference Model Version 4.0, SCOR Version 4.0*, Supply-Chain Council (August 2000)

Level 3 explains comprehensive method constituent evidence for each level 2 method class. Efforts, productions clarification and the elementary stream of procedure foundations are engaged at this level of the SCOR Model.

Level 4 is considered as a need for implementation level, for effective and efficient supply chain management. This level lies outside of its current scope.

The literature review likewise shown the significance of partnership planning activities aimed at cooperating amongst supply chain associates (Corbett et al., 1999; Narasimhan and Das, 1999; Raghunathan, 1999; Boddy et al., 2000; Ellinger, 2000; Kaufman et al., 2000; Waller et al., 2000), combining cross-efficient practices (Lambert and Cooper, 2000), unifying the supply chain (Kim, 2000), build supply chain objectives (Wong 1999; Peck and Juttner, 2000), emerging tactical coalitions (McCutcheon and Stuart, 2000; Whipple and Frankel. 2000), forming evidence-distribution limitations (Lamming et al., 2001), revising tracking amd subcontracting opportunities (Ansari et al., 1999; Heriot and Kulkarni, 2001) and describing supply chain supremacy associations amongst interchange associates (Cox, 1999; Maloni and Benton, 2000; Cox, 2001a,b,c; Cox et al., 2001; Watson, 2001).

The SCOR Model has been established to describe all commercial and corporate accomplishments related with supply chain [12, 23].

The SCOR Model has five performance attributes, which are: Reliability, Flexibility, Responsiveness, Cost, and Asset Utilization.

To recover record controlling, [6] proposed a planning to take SC record problems and openings.

[2] Defined objectives and planning of Integrated SCM system (ISCM) that can be achieved by a set of intellectual representatives, accountable on behalf of forecasting and implementation.

[12] Studied Supply Chain universal thoughts to retain all elements coordinated and explain entire business complications by rotating through upstream and downstream statistics. Successful mechanisms comprised glowing decision making, elimination of purposeful blockades, early prominence to modification in demand through SCM and sets of strategies that drive SC processes and integration.

The vision of [5] Supply Chain's forthcoming is an opportunity for nonstop real-time communication between companies, as well as between merchants and their clients. It will incorporate significant business progressions from finish-worker through unique supplier. Supply Chain reliability is the result of this survey and there are both tangible and intangible results for this Supply Chain Management. Supply Chain Management is being effectively used by world class organizations like Wal-Mart, Procter and Gamble, Cisco and HP.

Supply chain leaders are committed on time density work with their restraints on three fronts: first, they effort to deliver each company in the series with improved and more timely information about instructions, new products and special needs; second they help affiliates of the sequence, including themselves, to cut work cycles by eliminating the problems to density that one company often accidently imposes on another; third, they coordinate lead times and measurements between the intensities or among level of the SC so that more work can flow in a synchronized manner up and down the sequence. Each of the three types is inspiring, and it takes a gigantic effort to get the several companies in the chain collaborating in all three areas [4,8,9].

Another study conducted by Schniederjans and Garvin (1997) specified that tactical ideas (cost, quality, delivery, etc.) were also extremely combined to straight judgement building. They are comprehensive plus general classifications through an assembly of potential explanations. For instance, "quality" can mean reliability, durability, or artistic appeal. Many scholars and researchers have specified that the procedure of involving strategic objectives to actions is often ignored and poorly executed.

Another perspective is of Balanced Scorecard (BSC), given by (Kaplan and Norton 1992), said that it's not used only to measure performance but also it can facilitate managers to find performance drivers.

Another study (Ballou 1992) states that Supply Chain typically categorized to three stages; strategic, tactical, and operational.

Another study is (Towill 1991), says that replication and optimization are dual common performs which direct a significant character in supply chain design and preparation. As a general practice, replication is very appropriate for the examination of difficult and energetic structures.

According to Li et al., (2011), SCOR helps the organization to eliminate their organization's fat. It also classifies and eradicate the wasteful practices of the supply chain.

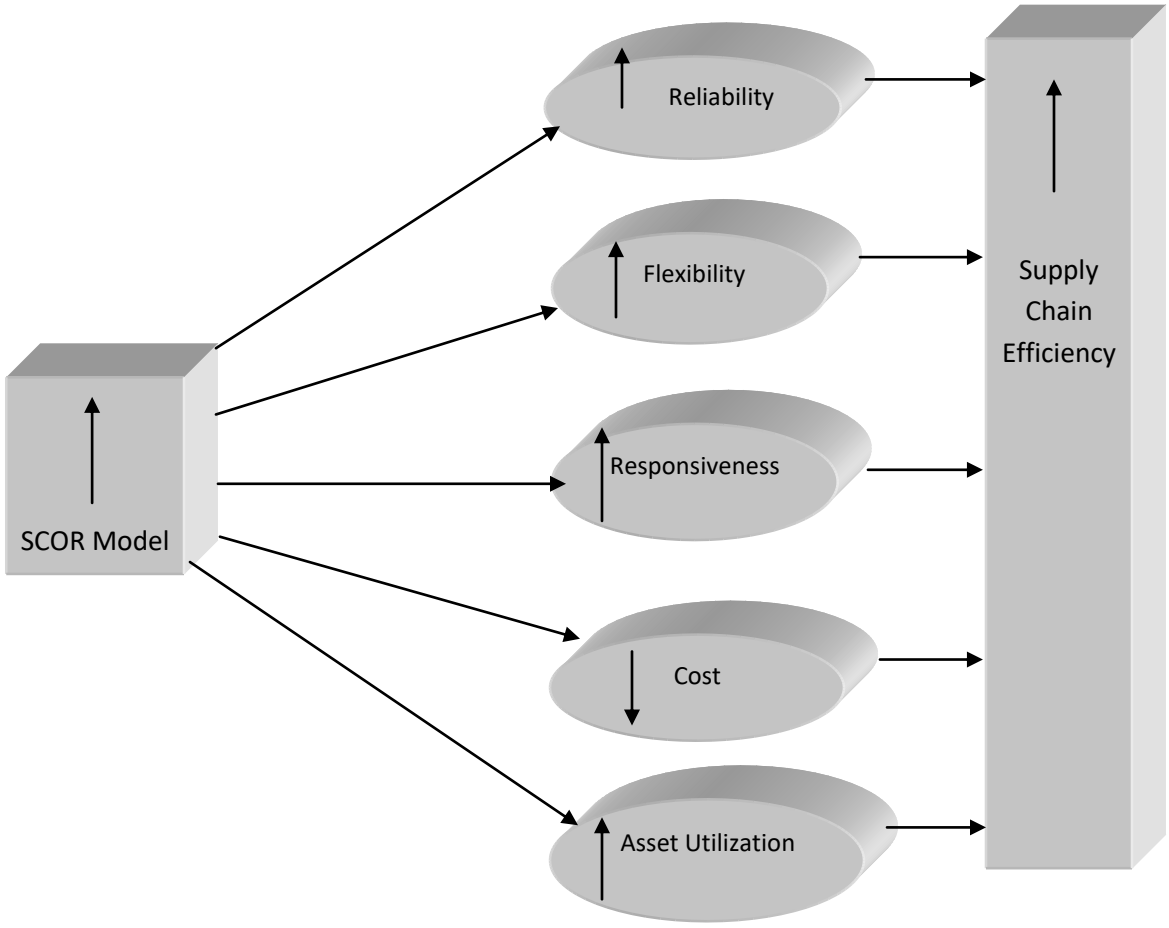
By improving SCOR (Plan, Source, Make, Deliver, and Return), it will help you in increasing the Reliability of the company. Similarly by improving SCOR, the company will become more Flexible, increased Responsiveness, SCOR helps company in Cost Reduction, and finally company must increase its asset utilization.

Two types of performance attributes are defined in SCOR. First is customer-facing attributes, and the other is internal-facing attributes. Customer-facing attributes includes reliability, responsiveness, and flexibility and the internal-facing attributes includes costs and assets.

The SCOR Model is implemented in some of the industries, which are: the lamp industry (Vanary et al., 2005), transistors liquid crystal display (hwang et al., 2008), the ethanol and petroleum industry (Russel et al., 2009), geographic information system (Schmitz, 2007), the construction industry (Cheng et al., 2010; Pan et al., 2010), automotive industry (Potthast et al., 2010), the professional service industry (Ellram and Billintin, 2004), the wood industry (Schnetzler et al., 2009), information technology and technology consulting (Dong et al., 2006), the tourism industry (Yilmaz and Bititci, 2006), and shipbuilding (Zangoueinezhad et al., 2011).

As illustrated from the literature review the combination of SCM through improving or increasing Supply Chain Efficiency is quite crucial for operative performance that's why now Automobile Sector are also concentrating on implementation of SCOR Model in order to achieve Supply Chain efficiency. The key objective is to take out the maximum out of their professional performance.

2.1 Conceptual Framework



2.2 Hypotheses:

Constructed on the above-mentioned investigates, studies, and concepts following Hypothesis are shaped for examining and exploring the factors affecting the implementation of SCOR Model in supply chain efficiency: A case of automobile industry of Karachi (Toyota-Indus Motors).

H1: SCOR is correlated with Reliability

H2: SCOR is correlated with Flexibility

H3: SCOR is correlated with Responsiveness

H4: SCOR is correlated with Cost

H5: SCOR is correlated with Asset Utilization

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Natures of Research

The research is co-relational in nature.

3.2 Sampling Technique and Sample Size

Sampling unit of this research is automobile industry of Pakistan, i.e., Toyota-Indus Motors. Sampling Technique used in this research is stratified sampling technique with proportionate sampling.

- Senior Managers
- Managers
- Assistant managers

3.3 Data Collection Method

Since, the research is quantitative, therefore, it comprises of both primary and secondary data. Primary data comprises of interviews and questionnaires that have been taken from top management. Secondary data will be taken from past researches.

3.4 Data Integration Method

The questionnaire used in this research will be designed on LIKERT Scale. Collected data will be tested on statistical tools like; Frequency Analysis, SPSS, Correlation Analysis, and Custom Tables.

CHAPTER 4

DATA INTEGRATION

4.1 Custom Tables

	Mean	Standard Deviation
SCOR	4.33	.48
RELIABILITY	4.13	.35
FLEXIBILITY	3.77	.43
RESPONSIVENESS	3.37	.49
COST	4.07	.37
ASSET UTILIZATION	4.40	.50

Table 1: Custom Tables

Since, the mean of all the variables is greater than 3, therefore, all the top management of Toyota Indus Motors agrees that by implementing SCOR; Reliability, Flexibility, Responsiveness, Cost, and Asset Utilization increases the efficiency of their organization.

4.2 Frequency Tables

Frequency Table (Gender)

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	27	90.0	90.0	90.0
	Female	3	10.0	10.0	100.0
	Total	30	100.0	100.0	

Table 2: Frequency Table (Gender)

Bar Chart

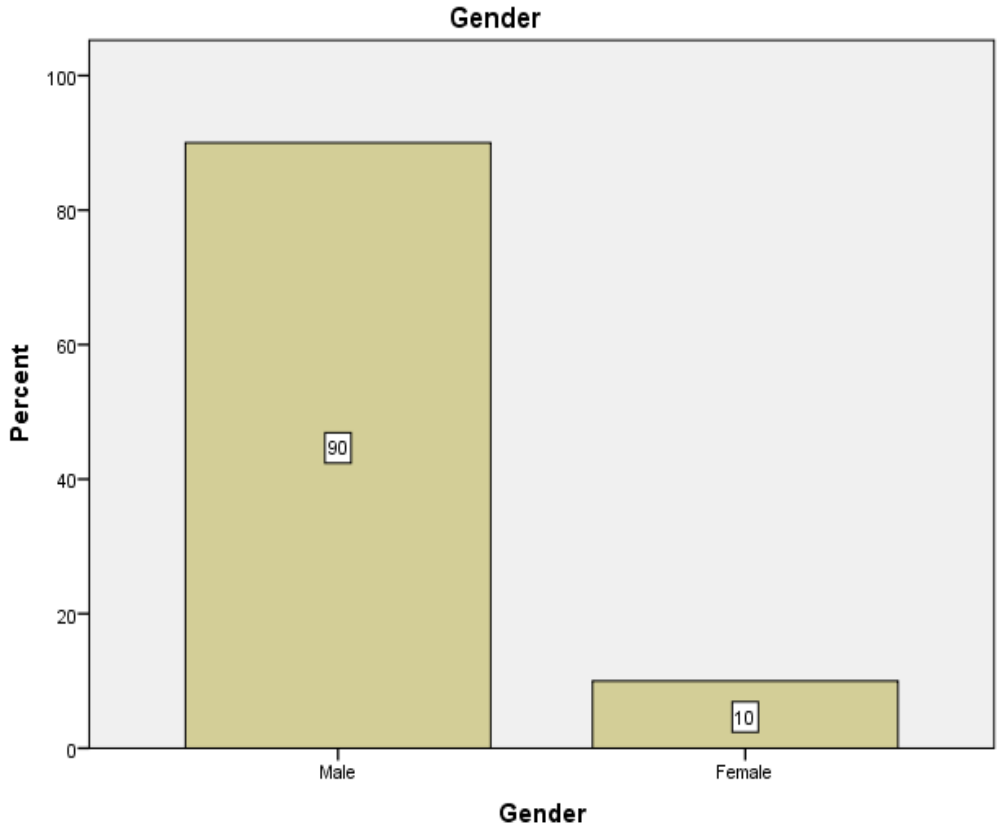


Figure 4: Bar Chart (Gender)

The above frequency table clearly shows that there is a sample of total 30 candidates of top management, in which 27 are male candidates and 3 are females. So the male candidates consists of 90% of the total sample, whereas, females are only 10% of the total sample.

Frequency Table (SCOR)

SCOR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	20	66.7	66.7	66.7
	Strongly Agree	10	33.3	33.3	100.0
	Total	30	100.0	100.0	

Table 3: Frequency Table (SCOR)

Bar Chart

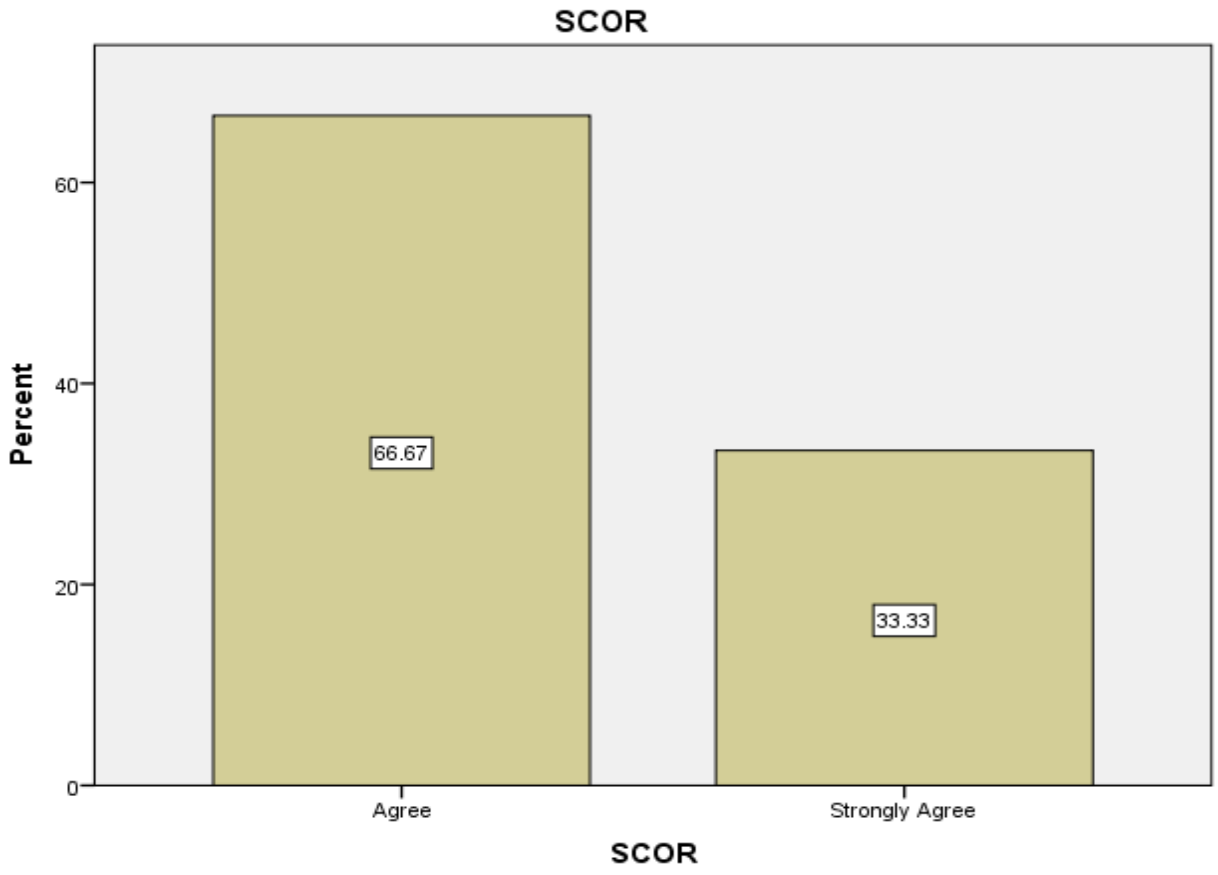


Figure 5: Bar Chart (SCOR)

The frequency table of SCOR shows that by applying SCOR Model, suppliers are agree with 66.7% and strongly agree with 33.3% that organization performance improves, and so the performance of organizations suppliers also improved.

Frequency Table (Reliability)

RELIABILITY

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	26	86.7	86.7	86.7
	Strongly Agree	4	13.3	13.3	100.0
	Total	30	100.0	100.0	

Table 4: Frequency Table (Reliability)

Bar Chart

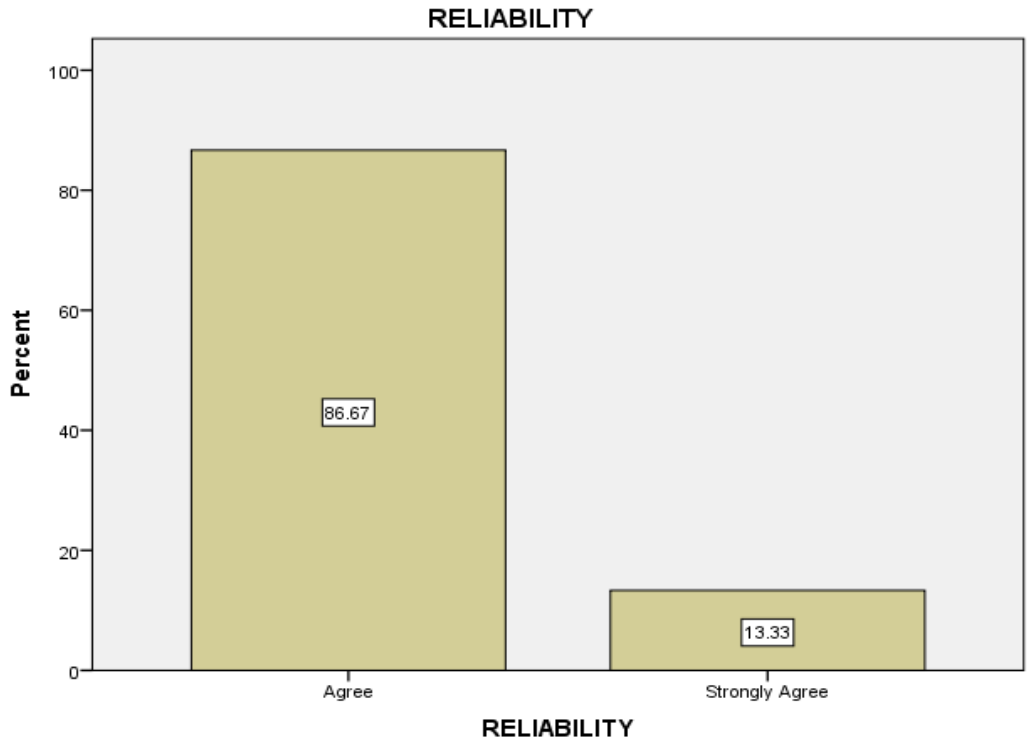


Figure 6: Bar Chart (Reliability)

The frequency table of RELIABILITY shows that 86.7% of top management agrees that after the implementation of Reliability factor, organization become Reliable, and 13.3% are strongly agree.

Frequency Table (Flexibility)

FLEXIBILITY

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither Agree Nor Disagree	7	23.3	23.3	23.3
	Agree	23	76.7	76.7	100.0
	Total	30	100.0	100.0	

Table 5: Frequency Table (Flexibility)

Bar Chart

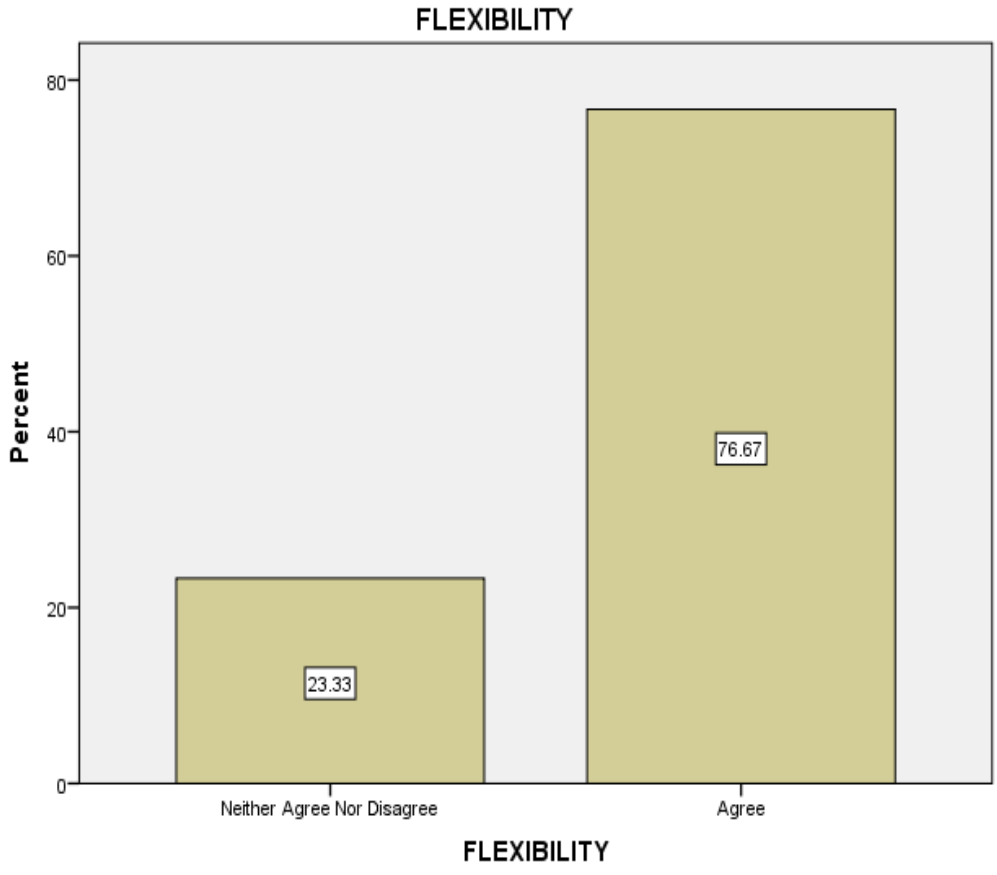


Figure 7: Bar Chart (Flexibility)

The frequency table of FLEXIBILITY show that, top management 76.7% agrees that implementation of SCOR Model increased flexibility of the organization.

Frequency Table (Responsiveness)

RESPONSIVENESS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither Agree Nor Disagree	19	63.3	63.3	63.3
	Agree	11	36.7	36.7	100.0
	Total	30	100.0	100.0	

Table 6: Frequency Table (Responsiveness)

Bar Chart

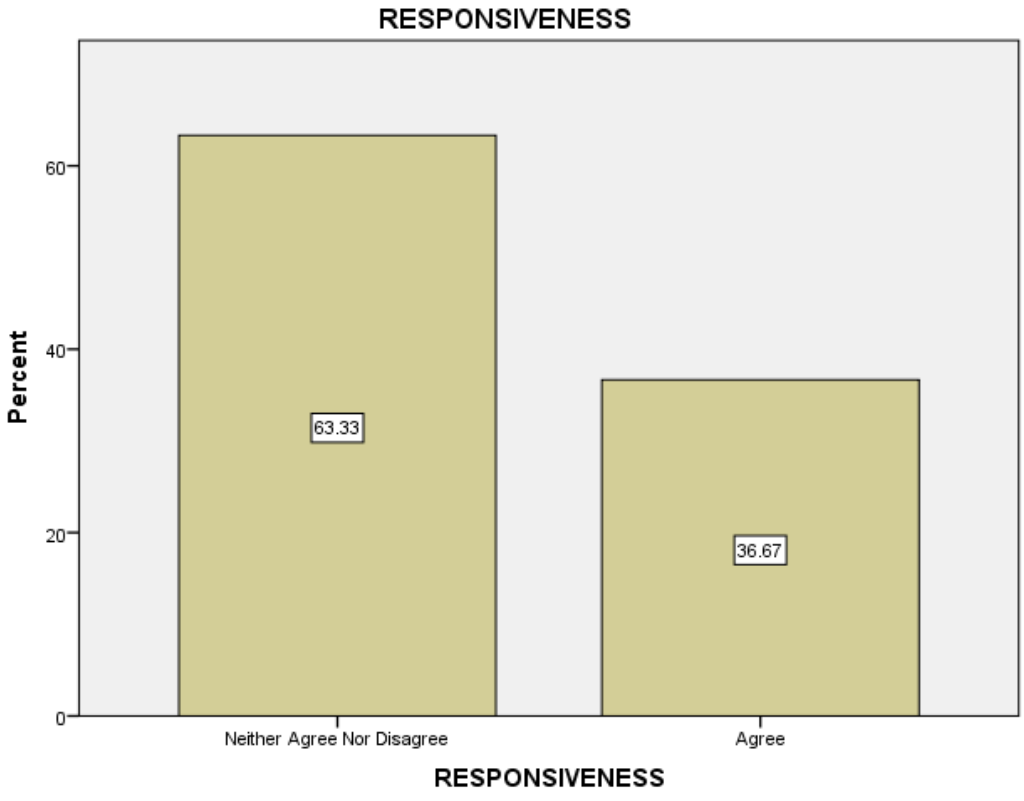


Figure 8: Bar Chart (Responsiveness)

The frequency table of RESPONSIVENESS shows that, by the implementation of SCOR Model, the Responsiveness of the Toyota Indus Motors is somehow better. In this circumstances, 63.3% of the top management officials are neither agree nor disagree, while the other 36.7% are agree.

Frequency Table (Cost)

COST

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither Agree Nor Disagree	1	3.3	3.3	3.3
	Agree	26	86.7	86.7	90.0
	Strongly Agree	3	10.0	10.0	100.0
	Total	30	100.0	100.0	

Table 7: Frequency Table (Cost)

Bar Chart

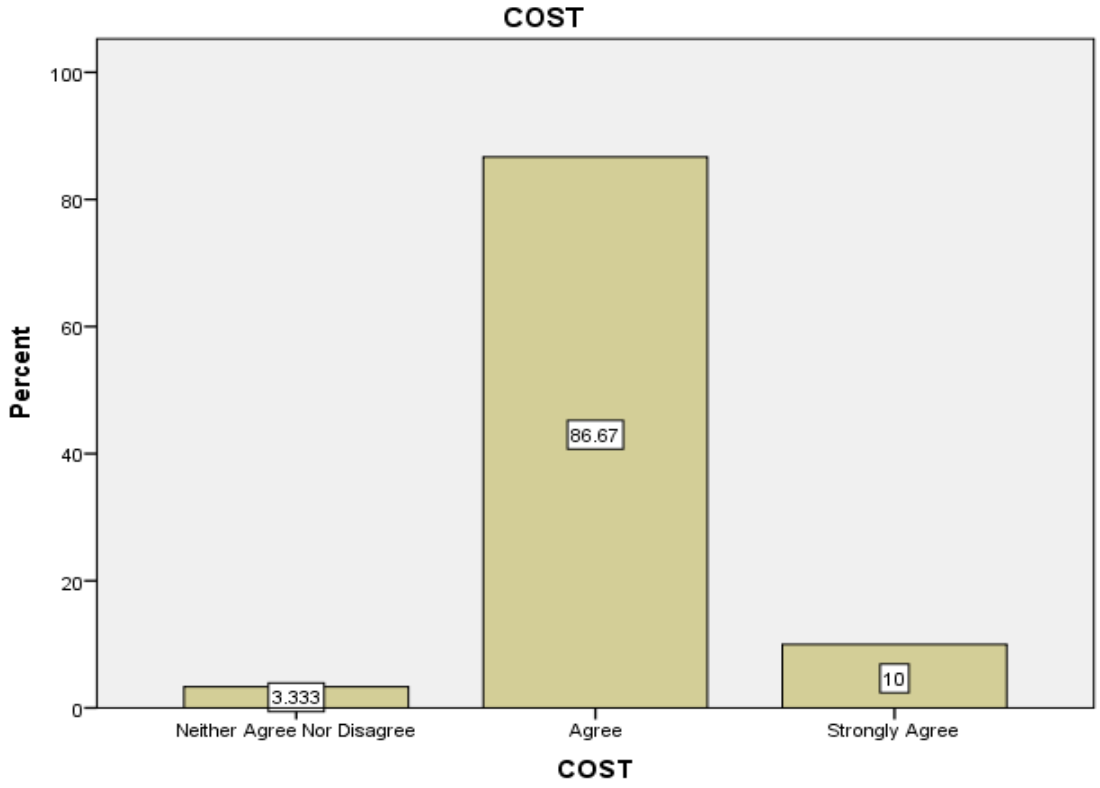


Figure 9: Bar Chart (Cost)

The frequency table of COST shows that by reducing Cost, or by reducing organizations fat, the 86.7% of the top management professionals agrees that Toyota Indus Motors improved its effectiveness and efficiency.

Frequency Table (Asset Utilization)

ASSET UTILIZATION

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	18	60.0	60.0	60.0
	Strongly Agree	12	40.0	40.0	100.0
	Total	30	100.0	100.0	

Table 8: Frequency Table (Asset Utilization)

Bar Chart

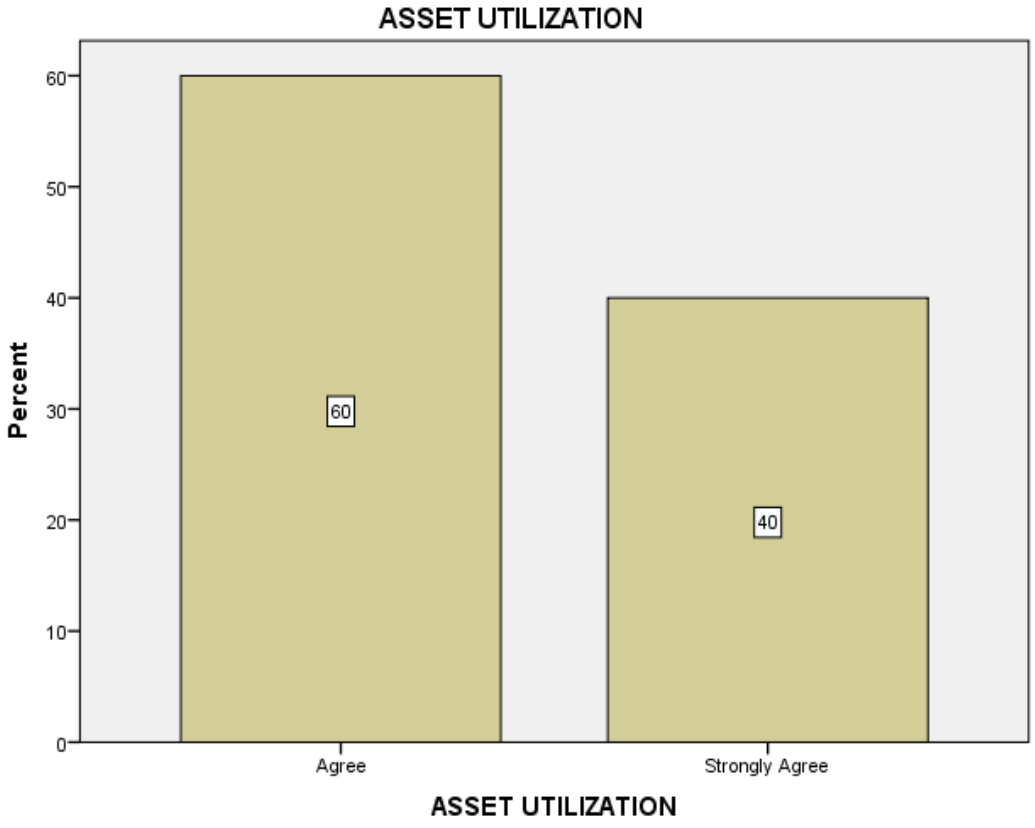


Figure 10: Bar Chart (Asset Utilization)

The frequency table of ASSET UTILIZATION shows that, 60% of the top management officials agrees on Asset Utilization, while the other 40% are strongly agrees on doing so. So, the Toyota Indus Motors, improves its performance through Asset Utilization

4.3 Hypothesis Testing:

H1o: SCOR is not correlated with reliability.

H1a: SCOR is correlated with reliability.

Correlation

		Reliability
SCOR	n	30
	r	0.378
	sig.	0.021

Table 9: Correlation (SCOR & Reliability)

There is weak positive relation between SCOR and reliability. At 5% significance level, the data provide sufficient evidence to conclude that SCOR and reliability are correlated.

H2o: SCOR is not correlated with reliability.

H2a: SCOR is correlated with reliability.

Correlation

		Flexibility
SCOR	n	30
	r	0.423
	sig.	0.002

Table 10: Correlation (SCOR & Flexibility)

There is a weak positive relation between SCOR and Flexibility. The relation is statistically significant at 5% significance level.

H3o: SCOR is not correlated with responsiveness.

H3a: SCOR is correlated with responsiveness.

Correlation

		Responsiveness
SCOR	n	30
	r	-0.098
	sig.	0.304

Table 11: Correlation (SCOR & Responsiveness)

There is weak negative relation between SCOR and responsiveness. At 5% significance level, the data do not provide sufficient evidence to conclude that SCOR and reliability are correlated.

H4o: SCOR is not correlated with cost.

H4a: SCOR is correlated with cost.

Correlation

		Cost
SCOR	n	30
	r	0.263
	sig.	0.08

Table 12: Correlation (SCOR & Cost)

There is a weak positive relation between SCOR and cost. The relation is not statistically significant at 5% significance level.

H5o: SCOR is not correlated with asset utilization.

H5a: SCOR is correlated with asset utilization.

Correlation

		Asset Utilization
SCOR	n	30
	r	0.144
	sig.	0.223

Table 13: Correlation (SCOR & Asset Utilization)

There is a weak positive relation between SCOR and asset utilization. The relation is not statistically significant at 5% significance level.

CHAPTER 5

DISCUSSION

Even though the limitations stated in the foundation of the research, this study on Toyota Indus Motors delivers numerous significant influences to the literature. Particularly, it simplifies the connection between the SCOR and Supply Chain Efficiency and governs the corresponding variables whose synergistic result improves this affiliation.

The research outcomes accomplish the consequence of SCOR in supply chain drivers is increasing on day-to-day basis and reliability, flexibility, responsiveness , cost reduction, and asset utilization with customers, suppliers, and with joined supply chain management is the need of forthcoming days for attainment an superiority in supply chain management. SCOR model drivers can better be handled in terms of cost and effectiveness by participating them through supply chain efficiency.

Hypotheses were verified and generally demonstrating the relationship of SCOR in terms of reliability, flexibility, responsiveness, cost reduction, and asset utilization.

With the declaration of this study, it is perfect that AUTOMOBILE SECTOR can carry on their up gradation in terms of SCOR by focusing on supply chain efficiency at every step mainly in tactic construction and business procedure planning.

This study also highlights the implication of describing SCOR backed organizational processes so that it will create a culture of Supply Chain in the organization.

Thus study conclusions deliver comparatively strong backing for the violent acceptance of SCOR Model in AUTOMOBILE sector for continual emphasis on supply chain efficiency. Further predicting is a key limitation to switch as its accurateness will result in enhancement of overall supply chain management and is a key factor in supply chain efficiency management.

Hence SCOR sponsored organizations are enhanced in terms of effective supply chain management by having appropriate tactical fitting between SCOR and the other complementing variables like Supply Chain drivers which is the essence of this study and proved empirically too.

CHAPTER 6

CONCLUSIONS & RECOMMENDATIONS

- ✓ Strong visualization concerning SCOR Model practice in organization with top management responsibility, must remain well-defined since the beginning for more emphasis on business performance improvement particularly in supply chain.

- ✓ Organizations should focus on SCOR Model practice improvement in supply chain evolutions for better prediction accuracy and overall supply chain efficiency improvement.

- ✓ Organizations should surrounded SCOR Model in business practices for reduction in plant fats, wastages and effective capacity utilization.

- ✓ Organizations must appraise the necessity of SCOR Model for improved interconnectivity with clients.

- ✓ Better usage of SCOR Model can bring supply chain effectiveness and reliability, flexibility, responsiveness, cost reduction, and asset utilization efficiency in organizations.

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APPENDICES

Apendix-1: Questionnaire

Gender:		M	F	
Age:				
Designation:				
Organization:				

Show your level of Agreement or Disagreement with the given statement.
1=Strongly Disagree; **2**=Disagree; **3**=Neither Agree Nor Disagree; **4**=Agree; **5**=Strongly Agree

SNO.		1	2	3	4	5
1.	You can improve suppliers planning, sourcing, making, delivery, and return to gain maximum profit.					
2.	Your suppliers increase the speed of systems implementation.					
3.	By applying SCOR, you should improve your overall SCM cost.					
4.	You think your supplier is reliable.					
5.	You think that your supplier will not work to harm you.					
6.	You and your supplier try to have win win situation.					
7.	Your supplier adjusts amount of supplies easily.					
8.	Your suppliers are ready to accommodate abrupt changes.					
9.	You should partner your suppliers to get long term relationships.					
10.	Your supplier accommodates the changes.					
11.	Your supplier does not mind if there is any change in order quantity.					
12.	Your supplier accommodates technological changes in the system.					
13.	Your suppliers establish baseline price and costs overtime.					
14.	You think market research is important for getting competitive suppliers and high spend materials or activities.					

15.	Develop cost structure of each component of your supplier's activity.					
16.	Through asset utilization, organizations are generating the maximum amount of revenue possible.					
17.	You think inventory optimization resulting in reduced working capital and improved working times.					
18.	You think Asset Utilization may result in improving your supplier's performance.					