

Supply Chain Management in Agriculture: A Case Study of Eastern U.P. With Special Reference to Sugar Industry

THESIS

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*Dedicated To
My Beloved Parents*

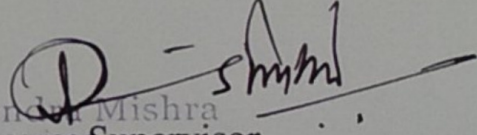


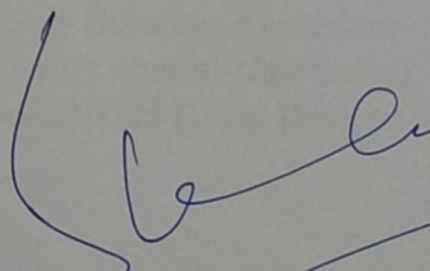
CERTIFICATE

This is to certify that the thesis titled “**Supply Chain Management in Agriculture: A Case Study of Eastern U.P. With Special Reference to Sugar Industry**” submitted by **Mr. Asim Kumar Rajbhar** is an original research work and has not been previously submitted in part or full for the award of any other degree or diploma to this or any other university

The thesis submitted to Babasaheb Bhimrao Ambedkar University Lucknow satisfies all the requirements as stipulated in the *Doctor of Philosophy (Ph. D.) regulation-1999 as amended in 2008/2010/2013* and it is fit for submission and evaluation for the award of the degree of Doctor of Philosophy of the University.

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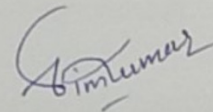
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I, **Asim Kumar Rajbhar**, hereby declare that this thesis entitled “**Supply Chain Management in Agriculture: A Case Study of Eastern U.P. With Special Reference to Sugar Industry**” is my own work conducted under the supervision of Prof. Kushendra. Mishra, Department of Rural Management, School for Management Studies, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow-226025 Uttar Pradesh, India and approved by Departmental Research Committee.

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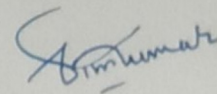
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PREFACE

This study is an earnest attempt to describe the issues related to the Supply Chain Management (SCM) in agriculture with respect to the Sugar Industry of Eastern Uttar Pradesh. (Srivastava and Kumar, 2010) claims that till harvesting more than 25% of the agricultural produce specially horticulture produce goes directly to the dustbin. One of the most important reasons behind the occurrence of this event is the inefficient SCM in agriculture sector. 25% loss of agricultural produce till harvesting is huge loss making it so pertinent to be addressed not only for the nation like India whose economy's backbone is agriculture but also for the entire world. The importance of the study increased many folds due to the description of this abysmal situation of the agriculture and the study, in real sense, can assumed to be successful only if various nations of the world will try to minimize this loss to below 10% of total agricultural produce.

Most of the previous researches focused only on developing models of SCM and the methodology or process of the working of the Supply Chain Management of Sugar Industry but in this study the basic concern is to find out the relationship of Supply Chain Management with Organizational Performance, Organizational Strategic Competence and Socio-economic Condition of sugarcane farmers. Therefore three basic conceptual models have been framed in which the first model is related to SCM from Managers' point of view and Organizational Performance of Sugar Industry of Eastern Uttar Pradesh, the second models is related to SCM from Managers' point of view and Organizational Strategic Competence of Sugar Industry of Eastern Uttar Pradesh and the third model is concerned with SCM from managers' point of view and Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Sugar industry of India is facing the issue of well-knit supply chain and ineffective and inefficient Supply Chain Management whose negative impacts are being reflected on Organizational Performance, Organizational Strategic Competence and Socio-economic condition of farmers. The study describes that if sugar industries develop a well-knit supply chain then, it will definitely improve the performance and strategic competence of sugar industries. Around 15-20% sugarcane is wasted till harvesting in the field of farmers and almost 10% sugarcane is wasted during the processing in the sugar mills. It means around 30% sugarcane is wasted without giving any economic

value and this loss is a huge loss for the farmers, sugar industry and ultimately for the whole society. From last few decades a number of cases of suicides committed by farmers due to debts have been observed despite of utmost effort Government to help the farmers. The issues of farmers' income and employment are a national issue of India which must have to be addressed. Application of Supply Chain Management and developing a well-knit supply chain in the arena of agriculture and agriculture based industry will definitely help Government to address this national issue.

The present study will bring out the problem and prospect of "Supply Chain Management in Agriculture: A Case Study of Eastern U.P. With Special Reference to Sugar Industry." The study is related to the application of Supply Chain Management in the field of agriculture and intent of the study is to describe what the impact Supply Chain Management has on Organizational Performance, Organizational Strategic Competence and Socio-economic Condition of famers of Eastern Uttar Pradesh. The importance of the study can be understood as that the agriculture especially the agriculture of sugarcane has been one of the most pertinent driver of the rural economy of Eastern Uttar Pradesh but since last few decades the contribution of agriculture of sugarcane and sugar industry to rural economy have continuously been decreased and many researchers contend that Supply Chain Management has the tremendous ability to enhance the performance and to create strategic competence to organizations. This study is an earnest attempt to examine and explain how the application of Supply Chain Management in agriculture and agriculture based industries will contribute the Organizational Performance, Organizational Strategic Competence and Socio-economic Condition.

CONTENTS

<i>Certificate</i>	i
<i>Declaration</i>	ii
<i>Acknowledgement</i>	iii-iv
<i>Preface</i>	v-vi
<i>List of Tables</i>	ix-xvi
<i>List of Charts</i>	xvii
<i>List of Pie Charts</i>	xviii-xx
<i>List of Figures</i>	xxi
<i>List Of Abbreviations</i>	xxi
CHAPTER I: <i>Introduction</i>	1-27
<i>Introduction</i>	1-2
<i>Concept of Supply Chain Management (SCM)</i>	2-7
<i>Evolution of Supply Chain Management</i>	7-17
<i>Supply Chain Management in Agriculture</i>	17-19
<i>Organizational Performance</i>	19-20
<i>Organizational Strategic Competence</i>	22-21
<i>Socio-economic Condition</i>	21
<i>Sugarcane and its uses</i>	22-23
<i>Sugar Industry</i>	23-26
<i>Rationale of the study</i>	26
CHAPTER II: <i>Review of Literature</i>	27-48
<i>Introduction</i>	27
<i>Review of Literature</i>	27-39
<i>Research Gap and Conceptual Framework</i>	39-44
<i>Objectives</i>	44
<i>Hypothesis</i>	44-46
<i>Alternative Hypothesis</i>	46-48
CHAPTER III: <i>Research Methodology</i>	49-70
<i>Introduction</i>	49
<i>Sample</i>	49-50
<i>Variables</i>	50-56
<i>Tools</i>	56-61

	<i>Procedure of Data Collection</i>	62
	<i>Reliability and Validity Analysis</i>	62-69
	<i>Validity Analysis</i>	69
	<i>Data Analysis</i>	69-70
CHAPTER IV:	<i>Data Analysis and Interpretation</i>	71-213
	<i>Introduction</i>	71
	<i>First Stage Analysis</i>	71-170
	<i>Second Stage Analysis</i>	171-213
CHAPTER V:	<i>Findings and Discussions</i>	214-252
	<i>Introduction</i>	214
	<i>Demography of Managers</i>	214-215
	<i>Findings and discussions of items related to SCM from managers' point of view</i>	216-220
	<i>Findings and discussions of items related to Organizational Performance</i>	220-229
	<i>Findings and discussions of items related to organizational strategic competence</i>	229-233
	<i>Demography of Farmers</i>	233-235
	<i>Findings and discussions of items related to SCM from farmers' point of view</i>	235-238
	<i>Findings and discussions of items related to socio-economic condition of farmers</i>	238-242
	<i>Objective wise findings and discussions</i>	242-252
CHAPTER VI:	<i>Conclusion and Implication of the Study</i>	253-259
	<i>Conclusion</i>	253-257
	<i>Implication of the Study</i>	257-259
	<i>Bibliography</i>	260-266
	<i>Appendix 1</i>	267-270
	<i>Appendix 2</i>	271-276

LIST OF TABLES

Table No.	Title	Page No.
1.1	<i>Performance Measures for Sugar Industry</i>	20
1.2	<i>Measures for Organizational Strategic Competence of Sugar Industry</i>	21
1.3	<i>Measure of Socio-economic Condition of Farmers</i>	21
1.4	<i>Statistics of Sugar Industry of India</i>	24
1.5	<i>Key Statistics of Sugar Industry of Uttar Pradesh</i>	24
1.6	<i>Sector wise State of Sugarcane Purchase, Crushing and Sugar Production (on Dec.13)of Uttar Pradesh</i>	25
3.1	<i>Independent Variable- Supply Chain Management from Managers' point of view</i>	51
3.2	<i>Dependent Variable- Organizational Performance</i>	52-53
3.3	<i>Dependent Variable- Organizational Strategic Competence</i>	54
4.4	<i>Independent Variable- Supply Chain Management from Farmers' point of view</i>	55
3.5	<i>Dependent Variable- Socio-Economic Condition</i>	56
4.6	<i>Items Related to Independent Variable- Supply Chain Management from Managers' Point of View</i>	58
4.7	<i>Items Related to Dependent Variable- Organizational Performance</i>	59
4.8	<i>Items Related to Dependent Variable- Organizational Strategic Competence</i>	60
3.9	<i>Item Related to Independent Variable- Supply Chain Management from Farmers' Point of View</i>	61
4.10	<i>Item Related to Dependent Variable- Socio-economic Condition</i>	61
3.11	<i>Reliability Analysis for Independent Variable- Supply Chain Management from Managers' Point of View</i>	63
4.12	<i>Reliability Analysis for Dependent Variable- Organizational Performance</i>	64-65
4.13	<i>Reliability Analysis for Dependent Variable- Organizational Strategic Competence</i>	66
3.14	<i>Independent Variable Supply Chain Management from Farmers' point of view</i>	67
3.15	<i>Dependent Variable Socio-economic Condition</i>	68
4.1	<i>Level of Managers</i>	72
4.2	<i>Age of the Managers</i>	73
4.3	<i>Gender of the Managers</i>	74
4.4	<i>Marital status of Managers</i>	74
4.5	<i>Family Type of the Managers</i>	75
4.6	<i>Qualification of Managers</i>	76

Table No.	Title	Page No.
4.7	<i>Monthly salary (in Rs.) of the Managers</i>	77
4.8	<i>Sugarcane Waste During Processing in Sugar Mills</i>	78
4.9	<i>Items Related to Supply Chain Management</i>	80
4.10 (a)	<i>Descriptive Statistics of Flow of Sugarcane During Crushing Time</i>	81
4.10 (b)	<i>This organization has an efficient flow of sugarcane from farmers to the sugar mill.</i>	81
4.11 (a)	<i>Descriptive Statistics of Work in Progress</i>	82
4.11 (b)	<i>This organization has an efficient flow of work in progress between various production sub-systems.</i>	82
4.12 (a)	<i>Descriptive Statistics of Flow of Finished Goods</i>	83
4.12 (b)	<i>This organization has an efficient flow of finished goods (sugar) from the mill to the ultimate user.</i>	84
4.13 (a)	<i>Descriptive Statistics of Inventory</i>	84
4.13 (b)	<i>This organization maintains an inventory that meets demand and minimizes cost.</i>	85
4.14 (a)	<i>Descriptive Statistics</i>	86
4.14 (b)	<i>This organization has the Flexibility to meet unforeseen requirements of demand and supply.</i>	86
4.15 (a)	<i>Descriptive Statistics Flow of Cash From End User</i>	87
4.15 (b)	<i>This organization has an efficient flow of cash from the end user to the sugar mill.</i>	87
4.16 (a)	<i>Descriptive Statistics of Flow of Cash From Sugar Mills</i>	88
4.16 (b)	<i>This organization has an efficient flow of cash from sugar mill to farmers.</i>	89
4.17 (a)	<i>Descriptive Statistics of Forward Flow of Information</i>	89
4.17 (b)	<i>This organization has an efficient forward flow of information</i>	90
4.18 (a)	<i>Descriptive Statistics of Availability of Information</i>	91
4.18 (b)	<i>In this organization Supply Chain related information is available as and when required.</i>	91
4.19 (a)	<i>Descriptive Statistics of Backward Flow of Information</i>	92
4.19 (b)	<i>This organization has an efficient backward flow of information.</i>	92
4.20 (a)	<i>Descriptive Statistics of Coordination and Integration of Activities</i>	93
4.20 (b)	<i>The Supply Chain activities are well coordinated and integrated into this organization</i>	94
4.21	<i>Items Related to Organizational Performance</i>	95
4.22 (a)	<i>Descriptive Statistics Return to Assets</i>	96
4.22 (b)	<i>This organization has a good Return on Assets.</i>	96
4.23 (a)	<i>Descriptive Statistics of Return to Equity</i>	97
4.23 (b)	<i>This organization has a good Return on Equity</i>	98
4.24 (a)	<i>Descriptive Statistics of Profit Margin on Sales</i>	98

Table No.	Title	Page No.
4.24	<i>(b)This organization has a profit margin on Sales</i>	99
4.25 (a)	<i>Descriptive Statistics of Return on Investment</i>	100
4.25 (b)	<i>This organization has a good Return on Investment</i>	100
4.26 (a)	<i>Descriptive Statistics of Net Income</i>	101
4.26 (b)	<i>This organization is earning good Net Income in comparison to industry standard</i>	101
4.27 (a)	<i>Descriptive Statistics of Sales of Organization</i>	102
4.27 (b)	<i>Sales of this organization have increased over years</i>	103
4.28 (a)	<i>Descriptive Statistics of Increase of Number of Employees</i>	103
4.28 (b)	<i>The number of employees in this organization has increased over years</i>	104
4.29 (a)	<i>Descriptive Statistics of Debt on Equity</i>	105
4.29 (b)	<i>Debt on Equity of organisation has decreased over years</i>	105
4.30 (a)	<i>Descriptive Statistics of Debt on Total Assets</i>	106
4.30 (b)	<i>Debt on Total Assets of the organization has decreased over years</i>	106
4.31 (a)	<i>Descriptive Statistics Cash at Hand</i>	107
4.31 (b)	<i>This organization has adequate cash at hand for its operating cycle</i>	108
4.32 (a)	<i>Descriptive Statistics of Short-term Loans</i>	108
4.32 (b)	<i>This organization has a few short-term loans</i>	109
4.33 (a)	<i>Descriptive Statistics of Cash Flow</i>	110
4.33 (b)	<i>This organization has adequate cash flow</i>	110
4.34 (a)	<i>Descriptive Statistics of Minimization of Crushing Time</i>	111
4.34 (b)	<i>This organization has minimized the crushing time of sugarcane</i>	111
4.35 (a)	<i>Descriptive Statistics of Reduction in Production Cycle</i>	112
4.35 (b)	<i>This organization has reduced production cycle of sugar</i>	113
4.36 (b)	<i>Descriptive Statistics of Increment in Production</i>	113
4.36 (b)	<i>This organization has increased production of sugar</i>	114
4.37 (a)	<i>Descriptive Statistics of Payments to Farmers</i>	115
4.37 (b)	<i>This organization makes timely payment to farmers</i>	115
4.38 (a)	<i>Descriptive Statistics Cost of Production</i>	116
4.38 (b)	<i>This organization has reduced the cost of production of sugar</i>	116
4.39 (a)	<i>Descriptive Statistics of Flow of Material</i>	117
4.39 (b)	<i>This organization has a smooth flow of sugarcane during the crushing time</i>	118
4.40 (a)	<i>Descriptive Statistics of Relationship</i>	118
4.40 (b)	<i>This organization has a good relationship with farmers</i>	119
4.41 (a)	<i>Descriptive Statistics of Return to Shareholders</i>	120
4.41 (b)	<i>This organization gives dividend every year to its shareholders</i>	120
4.42 (a)	<i>Descriptive Statistics of Long-term Survival</i>	121

Table No.	Title	Page No.
4.42 (b)	<i>This organization will survive a long time in the future</i>	121
4.43	<i>Items Related to Organizational Strategic Competence</i>	122
4.44 (a)	<i>Descriptive Statistics of Unloading Skills of sugarcane of Employees</i>	123
4.44 (b)	<i>Loading and unloading skills of sugarcane of employees of this organization have improved</i>	123
4.45 (a)	<i>Descriptive Statistics of Sugarcane Crushing Skills of Employees</i>	124
4.45 (b)	<i>Sugarcane crushing skills of employees of this organization have improved</i>	125
4.46 (a)	<i>Descriptive Statistics of Skills of Managers</i>	126
4.46 (b)	<i>Skills of managers in this organization have improved over the last few years</i>	126
4.47 (a)	<i>Descriptive Statistics of Sugarcane Harvesting of farmers</i>	107
4.47 (b)	<i>Sugarcane harvesting skills of farmers concerning to this organization have improved.</i>	127
4.48 (a)	<i>Descriptive Statistics of Knowledge of cane Harvesting</i>	128
4.48 (b)	<i>This organization has a sound knowledge of cane harvesting and supply</i>	128
4.49 (a)	<i>Descriptive Statistics of Knowledge of economic Situation of Cane Supplying Farmers</i>	129
4.49 (b)	<i>This organization has a good knowledge of economic situations of cane supplying farmers</i>	130
4.50 (a)	<i>Descriptive Statistics of Sugarcane Crushing Ability of Employees</i>	130
4.50 (b)	<i>This organization has enhanced the sugarcane crushing ability of employees</i>	131
4.51 (a)	<i>Descriptive Statistics of Employees' Loading and Unloading Ability of Sugarcane</i>	132
4.51 (b)	<i>This organization has enhanced employee's ability for loading and unloading of sugarcane</i>	132
4.52 (a)	<i>Descriptive Statistics of Ability to Compete with Others</i>	133
4.52 (b)	<i>This organization has the ability to compete with others</i>	133
4.53	<i>Age of the Farmers</i>	135
4.54	<i>Gender of the Farmers</i>	136
4.55	<i>Marital status of the Farmers</i>	137
4.56	<i>Family Type of the Farmers</i>	137
4.57	<i>Qualification of the Farmers</i>	138
4.58	<i>Annual Income (in Rs) of the Farmer</i>	139
4.59	<i>Area for Agriculture</i>	140
4.60	<i>Total no of family members employed in the farming</i>	141
4.61	<i>I have a tractor for farming</i>	142
4.62	<i>I have my own pumping set for water supply</i>	143

Table No.	Title	Page No.
4.63	<i>Sugarcane Waste Till Harvesting in the Farms</i>	144
4.64	<i>Items Related to Supply Chain Management from Farmers' point of view</i>	146
4.65 (a)	<i>Descriptive Statistics of Flow of Sugarcane from Farms</i>	146
4.65 (b)	<i>During the crushingtime, the flow of sugarcane remains smooth from my farm to the sugar mill</i>	147
4. 66 (a)	<i>Descriptive Statistics of Waiting Time for Loading Vehicles in Farms</i>	148
4.66 (b)	<i>There is no long Waiting time for loading vehicle in my farm</i>	148
4.67 (a)	<i>Descriptive Statistics of Timely Payment for Sugarcane</i>	149
4.67 (b)	<i>I get timely payment for my sugarcane</i>	150
4.68 (a)	<i>Descriptive Statistics of Timely Purchase of Inputs for Sugarcane Cultivation</i>	151
4.68 (b)	<i>I purchase timely inputs for sugarcane cultivation</i>	151
4.69 (a)	<i>Descriptive Statistics of right Information from Sugar Mills</i>	152
4.69 (b)	<i>I get the right information from sugar mill regarding payment for my sugarcane</i>	152
4.70 (a)	<i>Descriptive Statistics of Regular Information to Sugar Mills about Yield</i>	153
4.70 (b)	<i>I provide regular information to sugar mill regarding My yield.</i>	154
4.71	<i>Items Related to Socio-economic Condition</i>	155
4.72 (a)	<i>Descriptive Statistics of Literate Family Members</i>	156
4.72 (b)	<i>I have more literate family members as compare to those who do not cultivate sugarcane</i>	156
4.73 (a)	<i>Descriptive Statistics Of Better Education</i>	157
4.73 (b)	<i>I am able to provide a bettereducation for my children as compare to those who do not cultivate sugarcane</i>	157
4.74 (a)	<i>Descriptive Statistics of Healthy Family Members</i>	158
4.74 (b)	<i>My family has more healthy members compared to others.</i>	159
4.75 (a)	<i>Descriptive Statistics of Celebration of Festivals</i>	160
4.75 (b)	<i>My family celebrates festivals in a good way as compared to those who do not cultivate sugarcane.</i>	160
4.76 (a)	<i>Descriptive Statistics of Social Recognition</i>	161
4.76 (b)	<i>My family has more social recognition as compared to those who do not cultivate sugarcane</i>	162
4.77 (a)	<i>Descriptive Statistics of Female Decision Makers</i>	163
4.77 (b)	<i>My family has more female decision-makers as compared to those who do not cultivate sugarcane</i>	163
4.78 (a)	<i>Descriptive Statistics of Income</i>	164
4.78 (b)	<i>I earn more income as compare to those who do not cultivate sugarcane.</i>	165

Table No.	Title	Page No.
4.79 (a)	<i>Descriptive Statistics of Purchase Durable Goods</i>	166
4.79 (b)	<i>I purchase more durable goods compared to those who do not cultivate sugarcane.</i>	166
4.80 (a)	<i>Descriptive Statistics of Medical Expenses</i>	167
4.80 (b)	<i>Cultivation of sugarcane made me able to meet the medical expenses of my family</i>	168
4.81 (a)	<i>Descriptive Statistics of Opportunity of Employment</i>	169
4.81 (b)	<i>Cultivation of sugarcane has increased the opportunities for employment in my area</i>	169
4.82 (a)	<i>Descriptive Statistics of AM Under OP and SCM</i>	172
4.82 (b)	<i>Correlations Between AM Under OP and SCM</i>	172
4.82 (c)	<i>Model Summary of Regression of DV-AM Under OP on IV-SCM</i>	173
4.82 (d)	<i>ANOVA: Residual List for Regression of DV-AM Under OP on IV-SCM</i>	173
4.82 (e)	<i>Coefficients of Regression Analysis of DV-AM Under OP on IV-SCM</i>	173
4.83 (a)	<i>Descriptive Statistics of OM Under OP and SCM</i>	174
4.83 (b)	<i>Correlations Between OM Under OP and SCM</i>	175
4.83 (c)	<i>Model Summary of Regression of DV- OM Under OP on IV-SCM</i>	175
4.83 (d)	<i>ANOVA: Residual List for Regression of DV-OM Under OP on IV-SCM</i>	175
4.83 (e)	<i>Coefficients of Regression Analysis of DV-OM under OP on IV-SCM</i>	176
4.84 (a)	<i>Descriptive Statistics of MBM Under OP and SCM</i>	177
4.84 (b)	<i>Correlations Between MBM Under OP and SCM</i>	177
4.84 (c)	<i>Model Summary of Regression of DV-MBM Under OP on IV-SCM</i>	177
4.84 (d)	<i>ANOVA: Residual of Regression for DV-MBM under OP on IV-SCM</i>	178
4.84 (d)	<i>Coefficients of Regression Analysis of DV-MBM Under OP on IV-SCM</i>	178
4.85 (a)	<i>Descriptive Statistics of SM Under OP and SCM</i>	179
4.85 (b)	<i>Correlations Between SM Under OP and SCM</i>	179
4.85 (c)	<i>Model Summary of Regression of DV-SM Under OP on IV-SCM</i>	180
4.85 (d)	<i>ANOVA: Residual of Regrsson for DV-SM under OP on IV-SCM</i>	180
4.85 (d)	<i>Coefficients of Regression Analysis of DV-SM Under OP on IV-SCM</i>	180
4.86 (a)	<i>Descriptive Statistics of OP and SCM</i>	181
4.86 (b)	<i>Correlations Between OP and SCM</i>	182
4.86 (c)	<i>Model Summary of Regression of DV-OP on IV-SCM</i>	182
4.86 (d)	<i>ANOVA: Residual List for Regression of DV-OP on IV-SCM</i>	182
4.86 (e)	<i>Coefficients of Regression Analysis of DV-OP on IV-SCM</i>	183
4.87 (a)	<i>Descriptive Statistics of Skills Under OSC and SCM</i>	184

Table No.	Title	Page No.
4.87 (b)	<i>Correlations Between Skills under OSC and SCM</i>	185
4.87 (c)	<i>Model Summary of Regression of DV-Skills Under OSC on IV-SCM</i>	185
4.87 (d)	<i>ANOVA: Residual List for Regression of DV-Skills Under OSC on IV-SCM</i>	186
4.87 (e)	<i>Coefficients: of Regression Analysis of DV-Skills under OSC on IV-SCM</i>	186
4.88 (a)	<i>Descriptive Statistics of Knowledge Under OSC and SCM</i>	187
4.88 (b)	<i>Correlations Between Knowledge under OSC and SCM</i>	187
4.88 (b)	<i>Model Summary of regression of DV-Knowledge Under OSC on IV-SCM</i>	188
4.88 (d)	<i>ANOVA: Residual List for Regression of DV-Knowledge Under OSC IV-SCM</i>	188
4.88 (e)	<i>Coefficients^a of Regression Analysis of DV-Knowledge under OSC on IV-SCM</i>	188
4.89 (a)	<i>Descriptive Statistics of OSC AND SCM</i>	189
4.89 (b)	<i>Correlations Between OSC and SCM</i>	190
4.89 (c)	<i>Model Summary of Regression of DV-OSC on IV-SCM</i>	190
4.89 (d)	<i>ANOVA: Residual List for Regression of DV-OSC on IV-SCM</i>	190
4.89 (e)	<i>Coefficients of Regression Analysis of DV-OSC on IV-SCM</i>	190
4.90 (a)	<i>Descriptive Statistics of Education under SEC and SCM</i>	193
4.90 (b)	<i>Correlation Between Education under SEC and SCM</i>	193
4.90 (c)	<i>Model Summary of Regression of DV-Education under SEC on IV-SCM</i>	194
4.90 (d)	<i>ANOVA: Residual List of Regression of DV-Education Under SEC on IV-SCM</i>	194
4.90 (e)	<i>Coefficients of Regression Analysis DV-Education under SEC on IV-SCM</i>	194
4.91 (a)	<i>Descriptive Statistics of Health Under SEC and SCM</i>	195
4.91 (b)	<i>Correlations Between Health Under SEC and SCM</i>	196
4.91 (c)	<i>Model Summary of Regression of DV-Health Under SEC on IV-SCM</i>	196
4.91 (d)	<i>ANOVA: Residual List for Regression of DV-Health Under SEC on IV-SCM</i>	196
4.91 (e)	<i>Coefficients of Regression Analysis of DV-Health Under SEC on IV-SCM</i>	197
4.92 (a)	<i>Descriptive Statistics of Social Obligation Under SEC and SCM</i>	198
4.92 (b)	<i>Correlations Between Social Obligation Under SEC and SCM</i>	198
4.92 (c)	<i>Model Summary of Regression of DV-Social Obligation Under SEC on IV-SCM</i>	199
4.92 (d)	<i>ANOVA: Residual List for Regression of DV-Social Obligation Under SEC on IV-SCM</i>	199

Table No.	Title	Page No.
4.92 (e)	<i>Coefficients of Regression Analysis of DV-Social Obligation Under SEC on IV-SCM</i>	199
4.93 (a)	<i>Descriptive Statistics of Social Recognition Under SEC and SCM</i>	200
4.93 (b)	<i>Correlations Between Social Recognition Under SEC and SCM</i>	201
4.93 (c)	<i>Model Summary of Regression of DV-Social Recognition Under SEC on IV-SCM</i>	201
4.93 (d)	<i>ANOVA: Residual List for Regression of DV-Social Recognition Under SEC on IV-SCM</i>	202
4.93 (e)	<i>Coefficients of Regression Analysis of DV-Social Recognition Under SEC on IV-SCM</i>	202
4.94 (a)	<i>Descriptive Statistics of Women Empowerment Under SEC and SCM</i>	203
4.94 (b)	<i>Correlations Between Women Empowerment Under SEC and SCM</i>	204
4.94 (c)	<i>Model Summary of Regression of DV-Women Empowerment Under SEC on IV-SCM</i>	204
4.94 (d)	<i>ANOVA: Residual List for Regression of DV-Women Empowerment Under SEC on IV-SCM</i>	205
4.94 (e)	<i>Coefficients of Regression Analysis of DV-Women Empowerment Under SEC on IV-SCM</i>	205
4.95 (a)	<i>Descriptive Statistics of Income Under SEC and SCM</i>	206
4.95 (b)	<i>Correlations Between Income Under SEC and SCM</i>	206
4.95 (c)	<i>Model Summary of Regression of DV-Income Under SEC on IV-SCM</i>	207
4.95 (e)	<i>ANOVA: Residual List for Regression of DV-Income Under SEC on IV-SCM</i>	207
4.95 (e)	<i>Coefficients^a of Regression Analysis of DV-Income Under SEC on IV-SCM</i>	207
4.96 (a)	<i>Descriptive Statistics of Employment Under SEC and SCM</i>	208
4.96 (b)	<i>Correlations between Employment Under SEC and SCM</i>	209
4.96 (c)	<i>Model Summary of Regression of DV-Employment Under SEC on IV-SCM</i>	209
4.96 (d)	<i>ANOVA: Residual List for Regression of DV-Employment Under SEC on IV-SCM</i>	209
4.96 (e)	<i>Coefficients of Regression Analysis of DV- Employment Under SEC on IV-SCM</i>	210
4.97 (a)	<i>Descriptive Statistics of SEC and SCM</i>	211
4.97 (b)	<i>Correlations Between SEC and SCM</i>	211
4.97 (c)	<i>Model Summary of Regression of DV-SEC on IV-SCM</i>	212
4.97 (d)	<i>ANOVA: Residual List for Regression of DV-SEC on IV-SCM</i>	212
4.97 (e)	<i>Coefficients of Regression Analysis of DV-SEC on IV-SCM</i>	212

LIST OF BAR CHARTS

<i>Bar Chat No.</i>	<i>Title</i>	<i>Page No.</i>
4.1	<i>Level of Managers</i>	72
4.2	<i>Age of the Manager</i>	73
4.3	<i>Gender of managers</i>	74
4.4	<i>Marital status of Managers</i>	75
4.5	<i>Family Type of the Managers</i>	76
4.6	<i>Qualification of the Managers</i>	77
5.7	<i>Monthly Salary (in Rs.) of the Managers</i>	78
4.8	<i>Percentage of Sugarcane waste during the processing in the sugar mill</i>	79
4.9	<i>Age of the Farmers</i>	135
4.10	<i>Gender of the Farmers</i>	136
4.11	<i>Marital Status of the Farmers</i>	137
4.12	<i>Family Type of the Farmers</i>	138
4.13	<i>Qualification of the Farmers</i>	139
4.14	<i>Annual Income (in Rs.) of the Farmers</i>	140
4.15	<i>Area for Agriculture</i>	141
4.16	<i>Total No. of Family Members employed in the farming</i>	142
4.17	<i>I have Tractor for Farming</i>	143
4.18	<i>I have my own Pumping Set for water supply</i>	144
4.19	<i>Sugaecane Waste till harvesting in the farm</i>	145

LIST OF PIE CHARTS

Chart No.	Title	Page No.
4.1	<i>This organization has an efficient flow of sugarcane from farmers to the sugar mill</i>	81
4.2	<i>This organization has an efficient flow of work in progress between various production sub-systems</i>	83
4.3	<i>This organization has an efficient flow of finished goods (sugar) from the mill to the ultimate user</i>	84
4.4	<i>This organization maintains an inventory that meets demand and minimizes cost</i>	85
4.5	<i>This organization has the Flexibility to meet unforeseen requirements of demand and supply</i>	86
4.6	<i>This organization has an efficient flow of cash from the end user to the sugar mill</i>	88
4.7	<i>This organization has an efficient flow of cash from sugar mill to farmers</i>	89
4.8	<i>This organization has an efficient forward flow of information</i>	90
4.9	<i>In this organization Supply Chain related information is available as and when required</i>	91
4.10	<i>This organization has an efficient backward flow of information</i>	93
4.11	<i>The Supply Chain activities are well coordinated and integrated into this organization</i>	94
4.12	<i>This organization has a good Return on Assets</i>	97
4.13	<i>This organization has a good Return on Equity</i>	98
4.14	<i>This organization has a profit margin on Sales</i>	99
4.15	<i>This organization has a good Return on Investment</i>	100
4.6	<i>This organization is earning good Net Income in comparison to industry standard</i>	102
4.17	<i>Sales of this organization have increased over years</i>	103
4.18	<i>The number of employees in this organization has increased over years</i>	104

Chart No.	Title	Page No.
4.19	<i>Debt on Equity of organisation has decreased over years</i>	105
4.20	<i>Debt on Total Assets of the organization has decreased over years</i>	107
4.21	<i>This organization has adequate cash at hand for its operating cycle</i>	108
4.22	<i>This organization has a few short-term loans</i>	109
4.23	<i>This organization has adequate cash flow</i>	110
4.24	<i>This organization has minimized the crushing time of sugarcane</i>	112
4.25	<i>This organization has reduced production cycle of sugar</i>	113
4.26	<i>This organization has increased production of sugar</i>	114
4.27	<i>This organization makes timely payment to farmers</i>	115
4.28	<i>This organization has reduced the cost of production of sugar</i>	117
4.29	<i>This organization has a smooth flow of sugarcane during the crushing time</i>	118
4.30	<i>This organization has a good relationship with farmers</i>	119
4.31	<i>This organization gives dividend every year to its shareholders</i>	120
4.32	<i>This organization will survive a long time in the future</i>	121
4.33	<i>Loading and unloading skills of sugarcane of employees of this organization have improved</i>	124
4.34	<i>Sugarcane crushing skills of employees of this organization have improved</i>	125
4.35	<i>Skills of managers in this organization have improved over the last few years</i>	126
4.36	<i>Sugarcane harvesting skills of farmers concerning to this organization have improved</i>	127
4.37	<i>This organization has a sound knowledge of cane harvesting and supply</i>	129
4.38	<i>This organization has a good knowledge of economic situations of cane supplying farmers</i>	130
4.39	<i>This organization has enhanced the sugarcane crushing ability of employees</i>	131
4.40	<i>This organization has enhanced employee's ability for loading and unloading of sugarcane</i>	132

Chart No.	Title	Page No.
4.41	<i>This organization has the ability to compete with others</i>	134
4.42	<i>During the crushingtime, the flow of sugarcane remains smooth from my farm to the sugar mill</i>	147
4.43	<i>There is no long Waiting time for loading vehicle in my farm</i>	149
4.44	<i>I get timely payment for my sugarcane</i>	150
4.45	<i>I purchase timely inputs for sugarcane cultivation</i>	151
4.46	<i>I get the right information from sugar mill regarding payment for my sugarcane</i>	153
4.47	<i>I provide regular information to sugar mill regarding my yield</i>	154
4.48	<i>I have more literate family members as compare to those who do not cultivate sugarcane</i>	156
4.49	<i>I am able to provide a bettereducation for my children as compare to those who do not cultivate sugarcane</i>	158
4.50	<i>My family has more healthy members compared to others</i>	159
4.51	<i>My family celebrates our festivals in a good way as compared to those who do not cultivate sugarcane</i>	161
4.52	<i>My family has more social recognition as compared to those who do not cultivate sugarcane</i>	162
4.53	<i>My family has more female decision-makers as compared to those who do not cultivate sugarcane</i>	164
4.54	<i>I earn more income as compare to those who do not cultivate sugarcane</i>	165
4.55	<i>I purchase more durable goods compared to those who do not cultivate sugarcane</i>	167
4.56	<i>Cultivation of sugarcane made me able to meet the medical expenses of my family</i>	168
4.57	<i>Cultivation of sugarcane has increased the opportunities for employment in my area</i>	170

LIST OF FIGURES

Figure No.	Title	Page No.
<i>1.1</i>	<i>General Supply Chain of a Product</i>	<i>4</i>
<i>1.2</i>	<i>Supply Chain of Sugar Industry</i>	<i>19</i>
<i>2.1</i>	<i>Conceptual model developed for SCM from managers' point of view and Organizational Performance</i>	<i>40</i>
<i>2.2</i>	<i>Conceptual model developed for SCM from managers' point of view and Organizational Strategic Competence</i>	<i>42</i>
<i>2.3</i>	<i>Conceptual model developed for SCM from farmers' point of view and Socio-economic Condition</i>	<i>43</i>

LIST OF ABBREVIATIONS

ABBREVIATION	TERM
<i>SCM</i>	<i>Supply Chain Management</i>
<i>OP</i>	<i>Organizational Performance</i>
<i>OSC</i>	<i>Organizational Strategic Competence</i>
<i>SEC</i>	<i>Socio-economic Condition</i>
<i>AM</i>	<i>Accounting Measures</i>
<i>OP</i>	<i>Operational Measures</i>
<i>SM</i>	<i>Survival Measures</i>
<i>IV</i>	<i>Independent Variable</i>
<i>DV</i>	<i>Dependent Variable</i>
<i>wrt</i>	<i>With respect to</i>
<i>U.P.</i>	<i>Uttar Pradesh</i>

CHAPTER I

INTRODUCTION

1.1.0 INTRODUCTION

This study is concerned with Supply Chain Management (SCM) in the arena of agriculture and agriculture based industry. To study the SCM in agriculture Sugar Industry of Eastern Uttar Pradesh has been chosen. The basic focus of the study is to study the impact of SCM on Performance, Socio-economic Condition of the farmers and Organizational Competence of Sugar Industry of Eastern Uttar Pradesh. There are three objectives of the study first objective is to study the impact of the determinants of Supply Chain Management on the Performance of Sugar Industry of Eastern Uttar Pradesh, second objective is to study the impact of the determinants of Supply Chain Management of Sugar Industry on the Socio-economic Condition of the farmers of Eastern Uttar Pradesh and third objective is to study the relationship between the determinants of Supply Chain Management on Organizational Strategic Competence of Sugar Industry of Eastern Uttar Pradesh.

This study has been divided in six chapters, viz. Introduction, Review of Literature, Research methodology, Data Analysis and Interpretations, Findings and Discussions, Conclusion and Implication. The introduction chapter has been discussed under the captions concepts of SCM, Evolution of SCM, Supply Chain Management in Agriculture, Supply Chain of Sugar Industry, Organizational Performance, Organizational Strategic Competence, Socio-economic Condition, Sugarcane and its uses and Sugar Industry

This study is an earnest attempt to describe the issues related to the SCM in agriculture with respect to the Sugar Industry of Eastern Uttar Pradesh. (Srivastava and Kumar, 2010) claims that till harvesting more than 25% of the agricultural produce specially horticulture produce goes directly to the dustbin. One of the most important reasons behind the occurrence of this event is the inefficient SCM in agriculture sector. 25% loss of agricultural produce till harvesting is huge loss making it so pertinent to be addressed not only for the nation like India whose economy's backbone is agriculture but also for the entire world. The importance of the study

increased many folds due to the description of this abysmal situation of the agriculture and the study, in real sense, can assumed to be successful only if various nations of the world will try to minimize this loss to below 10% of total agricultural produce.

1.2.0 CONCEPT OF SUPPLY CHAIN MANGEMENT (SCM)

In the primitive society the commencement of business could be traced when human civilization entered in exchange era from self-sufficiency. The way of businesses has always been changing from its very inception. Centuries back when business was so simple it involved only producer and customers and area of business operations was so limited. But with the advancement of civilization business had also advanced and area of operation increased leading to the complexities and introducing intermediaries in the business. Movement of the goods has been the fundamental need of the manufacturing business organizations and industries. In real sense the concept of Supply Chain Management vested in the fundamental need of the movement of the products of the manufacturing business organizations. Till 1980s most of the nation of the world along with India followed the policy of closed economy and almost all the businesses were restricted to their domestic boundaries. Very beginning of the 1990s witnessed the paradigm shift in the overall scenario of trade and commerce. The country like India the commercial development was crucial for the tremendous changes in the overall business environment across the world. Commerce includes all the activities and processes which facilitate the overall trade of a nation as well as the entire world.

Other basic leaders of the entire changes in overall business environment were the globalization, adaptation of liberalization policy by different nations across the Globe and innovative and revolutionary development in the arena of science and technology exclusively in information and communication technology. Globalization and liberalization played a vital role to promote immensely the development in commerce and entrance of increasing numbers of new players in various industries throughout the world leading to the intricacy in way of business and different processes involved in the trades. By the time business was no more only in the hands of some specific communities but started shifting to many more communities of the world. With the Globalization of the most of the nation across the Globe during 1990s the competition among the various rival firms had reached to the extreme of cut throat due to the

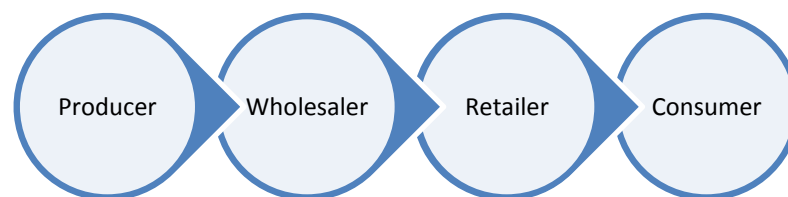
tremendous vicissitudes in business environment whether it was socio-economical or techno-political. Prior to globalization most of business organizations were facing the limitations of right positioning and real time delivery of their products to the customers belonging to different geographic areas in which they were operating their businesses. Customers had to wait for a long time to receive the various brands and products like two-wheelers, cars, detergent powders and cakes, high yielding seeds, fertilizers, pesticides, minerals etc. In Indian scenario the waiting list for Bajaj Scooter was at least six years and premium was to be paid for Dalda Ghee during various festival seasons (Agrawal, 2010). Such a turbulent business environment, increasing demands for various products and lack of effective supply system of different corporate houses and business organizations had aroused the urgent need to fulfill the customers' orders and demands on real time basis. The overall contemporary vicissitude in the business environment (i.e. increasing demands for various products, increase in population, consolidation of various economies across the world, increase in income of prospective customers, tremendous changes in live style, tastes and preferences of the customers, availability of new and improved alternatives and substitutes and entrance of new national and international players as a competitors in the markets, etc.) across the world compelled various business organizations to rearrange their overall setting related to the physical movements, warehouses, and inventory to ensure the right positioning and availability of their products to the customers.

Moreover, during 1990s most of the manufacturing industries throughout the Globe were at their utmost developing pace in such a situation the hike in shareholders' expectations was quite obvious. Business organizations had to satisfy the increasing expectations of shareholders by providing them highest value in the form of dividend. This was the time when business organizations went under tremendous pressure as they had not only to fulfill the expectations of shareholders, productivity and profitability but also meet the contemporary competitions and demands of customers subject to limited resources available to them. The only way out to the business organization was to offer best quality products to the customers at cheap and best price and on real time basis and the above results were subjected to the cost-efficient business processes, optimum utilization of resources and efficient inventory management. To achieve the above objectives, to reap the competitive advantages, to

right positioning and availability of products and for sustainable development and growth of organizations in the contemporary business environment gave the genesis to the concept of Supply Chain Management (SCM).

Actually, it was the quest that strategic management field was searching for enhancing the performance of the organization from long before. It has the all ability to enhance the capability and overall performance of the organization by ensuring the consistency in the quality of products, by creating cost-efficiencies and by ensuring the availability of goods at real time basis. There are many cases in which Supply Chain Management (SCM) wonderfully enhance the performances of various organizations for example, Godrej, a division of Godrej and Boyce Company has successfully curtailed its order-to-delivery cycle to only three days from two weeks and the Bumbai Dabbawal Association has achieved the Six Sigma Standard of service (Agrwal, 2010). Hewet Packard, a computer giant, has reduced its cycle to delivery time to customers in India from United State (US) by almost one-third i.e. to 10 days from 37 days (Agrawal, 2010). These all wonderful performance occurred due to the effective and efficient Supply Chain Management (SCM). Till 1990s SCM became an important weapon for the complete advantages over the competitors in the modern and innovative buzzword of strategic management field. Some scholar like (Handfield and Nichols, 2002; Slone, 2004) rightly observed that in contemporary years, the basic nature of competition has more and more moved from firm versus firm to supply chain versus supply chain. Sensing its huge contribution to performance and competitive advantages, most of the business organizations are leveraging their supply chain. Today Supply Chain Management is an established vital discipline in the field of management.

Figure 1.1 General Supply Chain of a Product



1.2.1 DEFINITION OF SUPPLY CHAIN MANAGEMENT: There are numbers of definitions of Supply Chain management given by various thinkers and researchers and one thing which is common in the definitions is that there no unanimity on the concept. Some of the definitions of Supply Chain Management have been given below.

1. Chopra and Meindl, 2001 “A supply chain consists of all stages involved, directly or indirectly, in fulfilling a customer request”.
2. Mentzer et al., 2001 “The systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole.”
3. Handfield & Nichols, 1999 “A supply chain encompasses all activities associated with the flow and transformation of goods from the raw material stage, through to the end user, as well as the associated information flows”.
4. Christopher 1998, “The supply chain is the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer”.
5. Ross 1998, “Supply chain management is a continuously evolving management philosophy that seeks to unify the collective productive competencies and recourses of the business functions found both within the enterprise and outside the firm’s allied business partners located along intersecting supply channels into a highly competitive, customer-enriching supply system focused on developing innovative solutions and synchronizing the flow of the marketplace products, services, and information to create unique, individualized sources of customer value.”
6. Lee & Corey 1995, “The integration activities taking place among a network of facilities that procure Raw material, transform them into intermediate goods

and then final products, & deliver Products to customers through a distribution system”

7. Ganeshan and Harrison, 1995 “A supply chain is a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials intermediate and finished products, and the distribution of these finished products customers.”
8. Cooper & Ellram, 1993 “SCM is an integrative philosophy to manage the total flow of distribution channel from the supplier to ultimate user”
9. Cavinato , 1992 "The supply chain concept consists of actively managed channels of procurement and distribution. It is the group of firms that add value along product flow from original raw materials to final customer”.
10. Towil, Naim, and Wikner ,1992 "The supply chain is a system, the constituent parts of which include material suppliers, production facilities, distribution services, customers linked together via the feed forward flow of materials and the feedback flow information”
11. Scott & Westbrook, 1991 “supply chain is used to refer to the chain linking each element of the process from, raw materials through to the end customer”
12. Novak & Simco , 1991 "The supply chain management covers the flow of goods from supplier through manufacturer and distributor to the end-user”

From the above definitions the of Supply Chain Management it is very much clear that the basic concept is more or less the same but there is no commonness in the researchers thoughts and understanding and conceptions which depicts from their definition of supply chain management. Here it is also traced that the basic drivers of the Supply Chain Management are the flow of material, flow money and flow of information. In real sense Supply Chain Management (SCM) is the managerial and operational strategy which removes each and every hurdle at each and every link in a supply chain so that overall cost may be optimized while delivering best value to the

customers and ensuring best returns, information, competence and continuous up gradation of overall supply chain.

1.3.0 EVOLUTION OF SUPPLY CHAIN MANAGEMENT

In real sense the concept of Supply Chain Management is considered to evolve along with the entrance of human society in exchange era from self-sufficiency giving birth to the trading and prior to 1950 it was prevailing anonymously in the corporate world. But the genesis of the concept of Supply Chain Management can easily be traced in the logistic a typical military term. Logistics is basically concerned with the physical movements of the material, goods, weapons, ammunitions and gunpowder, etc. related to the military. Aftermath of the Second World War taught a lesson to the various nations of the world that the victory fetches almost 5 year back the economy of the winner nation and defeat fetches almost 10 years back the economy of the defeated nation. So, most of the nations of the world started consolidating their economies just after the war by the way of trade and commerce. Second World War witnessed tremendous strategic contribution of logistics to success still during post-war upwelling in economic activities many of the logistical methods were overlooked and the focus of various business operations were meeting the post-war demand for goods and services (Agrawal, 2010). But it was the culmination of economic recession of 1958 that witnessed the rigorous introspection of the overall physical movement and distribution system by various business organizations. They started rearranging, modifying and incorporating those techniques of logistics which were ignored after the Second World War for capability building, improving the performance and reaping the competitive advantages.

Over the period of 1970s to 1990s, modern logistics has developed as a fundamental strategic constituent of strategic management field from a core operational function. Since Supply Chain management has emerged through development of modern logistics, its fundamental features can be observed in the very beginning of extension of integrated logistics management. Therefore, a complete understanding of Supply Chain Management needs an in-depth understanding of the emergence of logistics management.

3.3.1.0 LOGISTICS

The term logistics has its genesis in the Greek word 'Logisticos', which hold meaning 'the science of computing and calculating. The concept of logistics was prevalent since the ancient era but it was first incorporated in military science. In dictionary term it has meaning as 'the procurement, maintenance and transportation of military materials, facilities and personnel' (Weber's dictionary, 1963). The Society of Logistics Engineering (SOLE) founded in 1947 has given an engineering oriented definition of logistics as 'The art and science of management, engineering and technical activities concerned with the requirement, design, and supplying and maintaining the resource to support activities, plans and operations'. Some researchers defines the logistics in broader perspective in 1961 as 'that area of business management responsible for the movement of raw materials and finished products and the development of material system (Smykay et al., 1961). In 1970 some other scholar exerted their conceptual energy to define the term. To them 'logistics is encompassing the total material flow involves a total approach to management of all activities involved in physical acquiring, moving and storing raw materials, in-process inventory and finished goods inventory from the point of origin to the point of use or consumption (Lalonde, Grabner and Robeson, 1970).

Although, logistics is a pure military term concerned with the physical movement of war materials like weapons, ammunitions and cartridges, etc. but its fundamental concept has been functional from the embryonic stage of trading in various societies across the Globe. Business organizations have been facing the crisis of right positioning and availability of the products for the centuries due to demand for the product did come from far away the location of the production units. The solution for this crisis was vested in efficient logistics. Socio-economic conditions of various societies have tremendously been influenced by the logistics. This fact can be easily understood that the society falling under the geographical settings where businesses possessed limited logistical facilities, people accessed limited products and overall society remained underdeveloped on the contrary the geographical setting where the businesses had smooth and less expensive logistics system had changed the complexion of business and overall location with better positioning, fast movement and availability of products, increased profits of firms and improved living standards

of people. It was the well-knit logistics that enable business organizations to spread the access of their products within and beyond their regional and national boundaries and successfully fulfill the demand of their customers. In short is not only one of the basic driver of business but also the pertinent driver of economies.

Historically, probably, logistics can be driven by two fundamental forces viz. Marketplace and ability of distributive functions to bridge the huge gap between customer needs and product availability. “These two forces have differed over time and place, each, in turn, sculpturing the historical contours of the socio-economic terrains to which they belonged and the structure of the logistics functions necessary to achieve marketplace goal” (Ross,1998).

Centuries back the distribution was considered to be the function by which goods were moved through supply channel and exchange process took place. (Shaw, 1915) alienated different activities involved in distribution into two groups viz. demand creation and physical supply. Demand creation involves the communication of the value vested in the goods and services that will work as stimuli for the consumer’s desire, willingness and ability to pay and effort to buy it. But, without right positioning and availability of goods the consumer’s desire would have no economic worth. This fundamental problem of non-creation of exchange value must be addressed by distribution responsibly, efficiently and quickly.

The initial form of logistics started when societies got surplus production of various commodities. Since various civilization and economies were following the barter system (a commodity is sold for the exchange of another commodity), the contemporary nature of business was so simple and business did occur between producer and consumers directly. Also there was a huge dilemma and problem regarding the exchange and assessment of exchange value of the commodities. These impediments of business not only restricted the area of operation but also limited the influence of logistics to the sale in overall transactions of most of trades. But with advent of money in various economies across the world the area of business increased and the problem of exchange and assessment of exchange value of various commodities had diluted and gradually the impact of logistics started surpassing the sale phenomenon.

It was the industrialization in various economies, colonization and urbanization of societies across the Globe that had changed the complexion of the nature of various products as well as its consumption patterns, requirements of marketplace and the character of logistics. Industrialization witnessed a tremendous improvement in commerce, finance, law and development of national and international markets leading to the mass production, mass consumption, and replacement of hand-made products by machine-made and specialized middlemen services for the distribution of products. Alteration in distribution model i.e. by various middlemen gave genesis to fundamental concept of supply chain system.

3.3.1.1 BEGINNING OF LOGISTICS ORGANIZATION: The term ‘logistics’ has its origin in Greek word ‘Logisticos’, which means ‘the science of computing and calculating’. Logistics has been prevalent in the business from centuries but the term was incorporated first in the military science and latter in industry and business replacing the term physical distribution. But prior to 1980s the term was acknowledged as business logistics, logistics of distribution and material management. Despite of the unfolded fact that logistics was one of the fundamental and pertinent ingredients for the industrial revolution, it was recognized as component of strategic importance in arena of the business during late 1950s giving impetus to the dawn of modern logistics management and taken a long period to develop as complete management discipline.

Till 1950s corporates world focused on curtailing the cost by optimizing the cost of material, labor and overhead. But the total cost of a product comprises of cost of material, labor, overhead and distribution. Implementing scientific management, process reengineering and product design various businesses had been able to optimize their cost of production but could not succeeded to control the cost of distribution. The simple logic behind the failure in controlling the cost of distribution was that the corporates focused only on the specialization in manufacturing, sales and marketing with minimal attention to distribution of their products. Peter, Drucker stated that problem of production had been overcome. He, although, criticized the ineffective management of distribution function stating it as “The Economy’s Dark Continent” and the “Frontier of Modern Management”. Despite of the unfolded and noted fact during the mid of 1960s that logistics contribute 30 to 50 percentage of

total cost of a product, astonishingly, corporate managers and executives let it be as it was exerting minimal efforts to introspect it (Ross, 1998).

There are many excuses for the late development of logistics. First is incapability of the manager and executives of the corporate to sound the actual capability of the logistics in reduction the overall cost of their products. Second is excessive focus on manufacturing, sales and marketing and paying minimal attention to the logistics by business executives. Third is prevailing economic and political environment of the epoch prior to and soon after the end of Second World War. Fourth is unavailability of information and communication technology and various decisions support software to support the analysis of huge data essential to integrate the logistics functions.

The journey of evolution of logistics to emerge in Supply Chain Management could be sketched in five distinct managerial phases. First phase was Shattered Logistics Functions. Second phase was Discrete Logistic Function. Third Phase was Semi Integrated logistics function. Fourth phase was Comprehensive Integrated logistics function. And fifth phase was Supply Chain Management.

1.3.1.2 FIRST MANAGERIAL PHASE- SHATTERED LOGISTICS FUNCTION UP TO 1950S: Before industrialization and World War II, logistics functions have been prevailed in the corporate world anonymously. Actually it was the epoch just after the industrial revolution and post-World War II when the term echoed in the arena of business. The period witnessed the huge demands for goods and services whether it was industrial or non-industrial goods due to the shortage created by the war. Most of the business throughout the world focused on fulfilling those demand by aggressive production, sales and preaching, the development of scientific management helped a lot to solve the problem related to the manufacturing. Strategic management field concentrated his attention towards production, sales and marketing ignoring the latent capacity of the logistics to contribute significantly to the cost control letting the logistics to the boundary of their warehouse and transportation. This was that phase of industrialization when almost all the operations and activities concerned with physical movement of every kind of products, whether it was raw materials, finished goods or semi-finished, were performed and managed separately. The overall organization of logistics, whether inbound or out bound, was shattered resulted in poor performance of the organization. It was only in the late 1950s the

culmination of the economic recession of 1958 when the business enterprises awaked from their myopia of aggressive production, sales and marketing for the business growth and developments giving genesis to the modern logistics.

1.3.1.3 SECOND MANAGERIAL PHASE- DISCRETE LOGISTICS FUNCTIONS (1960S): The second managerial phase started during the epoch end of the 1950s and the very beginning of 1960s. This phase was also acknowledged as Modern Logistics Function Era (Ross, 1998). By this time business organizations started rearranging their overall methods of supply system and various processes involved in it. But still this period witnessed that business managers and executives did not sound logistics as significant contributor to the performance of organization and competitive advantages rather it was considered as operations and various activities concerned with the physical movement of goods and limited to warehousing and transportation. Actually the notion of the strategic management field regarding the logistics was conservative as they had long before and consequently field given secondary important to it over the manufacturing, sales, marketing and staffed less skilled and qualified personnel.

Furthermore, this phase reflected the discrete logistics functions in each and every functional area of the organizations. Departments such as purchase, inventory, sales and distributions, etc. had their own logistics system i.e. it was a phase of decentralized logistics function. Even purchasing and inventory management whose activities are highly correlated with each other were functioning discretely leading to the uncoordinated management of goods and information. Basically strategic management field was orthodox that believe in divide and conquer for that assign the logistics to different department of the organizations.

Departmentalized or discrete logistics posed the great challenge before the business organization to reconciling the personal conflicting interest of the various departments. It not only created the huge trouble for integration of various internal functions but also generated the intricacy in facilitating legal and propriety right beyond the organizational boundary.

It is assessed that in United State discrete logistics function was at best during the epoch having the character of long process and delivery cycle time , and the overall

marketplace was driven by the mass production and mass distribution. Albeit, few business executive detected conflicts between efficiency and performance and discrete logistics functions but they did not taken the pain of disturbing the traditional logistics system. By tradition various department were allocated separate budget to meet the costs of logistics functions. How the combined logistics costs had been influencing by the discrete decision regarding marketing and production was not apparent. It was contemporary accounting conventions that not only hindered the detail measurement of efficiency of comprehensive logistics but also covered the pertinent cost trade-offs among these logistics functions to facilitate the overall logistics in effective and economical way (Alan, 1989). Managerial Phase of discrete logistics functions was started sound as ineffective by the early 1960s due to its inability to meet the marketplace demands, incapability to manage the changing business environment and requirements and failure to hunt the cost trade-off verdicts giving genesis to the integrated logistics function.

1.3.1.4 THIRD MANAGERIAL PHASE- SEMI INTEGRATED LOGISTICS FUNCTIONS (1970S): Third managerial phase set out in the early 1970s, this period witnessed the following critical happening that compelled the strategic management field to opt for integration of various logistics functions, first was entrance of a huge number new companies and firms in corporate world across the world elevating the completions considerably high and the second was the saturation in consumer and industrial goods that badly affected the profit making of the organizations. In surging competitive environment and saturation in demand strategic management field started finding the new and innovative way to cope up with the contemporary situations. There could be two way of enhancing the profits in the prevalent situations first was to increase the demand for the product and second was to control over the overall cost of the product. It was quit definite that the increment in demand of the product could not serve the purpose as it was almost become inelastic at the time. Saturation in demand for the various products compelled the corporate world to search for newer and innovative tools and methods to control the overall costs in efficient manner. Another fact that strategic management field fully aware was that the cost of material management and physical movement and distribution had neither been synchronized nor analyzed in depth. The

concern for overall cost control of strategic management field gave the genesis to the concept of integration of logistics functions.

There were also many other reasons for the movement of discrete logistics function to integrated logistics functions as (Jeffery, 1985) detected the following reasons in a comprehensive study epoch around 1970:

1. Concentration of economic pressures around escalating inflation, high rates of interest, scarcities of energy and materials, paramount unemployment and synchronization economies across the Globe
2. Development of various applications of quantitative analysis tools and techniques to logistics management and computerized information technologies.
3. Incorporation of a comprehensive model of logistics systems.
4. Development of competitive environment in Global distribution system.
5. Augmented competitiveness in the domestic marketplace.

Critical development of all these forces altogether exerted the pressure on discrete logistics function to go in an end.

The major concern of this phase was to control the cost in order to cope up with the contemporary situations of accelerating completions, shortages of raw materials and energy and to ensure the sustainable growth and development of the organizations. This managerial phase witnessed semi integration of logistics functions as during 1970s logistics functions of material management and physical movement management were internally integrated apart from the conventional business functions as production, personnel, finance and sales. Material management connotes the planning, implementing and controlling the various activities (i.e. placing order, procuring raw materials, finding sources of procurement, storage and inbound logistics, etc.) related to the movement of materials into an organization. While physical distribution management concerned with planning, implementing and controlling activities (for example protective packaging, warehousing for finished products, order processing, maintaining a minimum level of inventory of finished

products and customer service, etc.) falling under outbound logistics i.e. taking the finished products from factory to final user.

The basic philosophy behind the incorporation of Semi Integrated logistics functions was to reduce the cost against the unfolded fact that cost of logistics stood second after the cost of material. Integrated logistics functions shown the capability of reducing the inventory carrying cost, packaging cost and warehousing cost to certain extent fetching cost based competitive strength for the organizations. It helped organizations to provide better customer services and also helped in avoiding the stock out situations.

Lambert, Robeson and Stock, (1978) fetch the genesis of modern logistics in the unified efforts to transmute the organizational structure of logistics from decentralized functioning to integrated functioning and acceleration in total cost. It could be apparently sounded by the considerable changing organizational structure across the world. 1970s witnessed several business organization adapting integrated logistics functions i.e. functions of purchasing, production planning, and distribution under an individual logistics manager which was prior in the hand of discrete authorities. Organizations equalize the importance of logistics manager to the level of marketing and manufacturing to ensure the strategic significance of the logistics. In a study of 1000 giant manufacturing firms in 1978 in the USA, it was reported that most common form of logistics organization followed by 60 percent of respondent was the combination of a central staff with line-operating accountability managed on the divisional basis. 22 percent firms reported that all logistics activities were managed on a divisional basis only, they had no central staff. 78 percent of the companies studied had acknowledged and adopted the methodology of integrated logistics functions, however only 50% accepted that they had effectively implemented the concept. Whatever, now logistics managers supposed to have all the ability to take verdicts in terms of comprehensive logistics system surpassing the boundaries of individual departmental optimization. Logistics managers were now getting well aware the role that they could play for the organization's sustainable competitive edge apart from taking care of inbound and outbound flow of materials.

3.3.1.5 FOURTH MANAGERIAL PHASE- COMPREHENSIVE INTEGRATED LOGISTICS FUNCTIONS (1980s): Actually in third managerial phase the overall development and transformation in logistics functions were driven by the total cost control but during 1980s corporate executives became fully aware that mere concentrating the control of total cost was insufficient to getting aimed customer service, profit and finally the competitive edge over the peers in the contemporary volatile business environment. (Agrawal, 2010) assess the turbulence in contemporary business environment was mainly subject to following factors: first was instability in transportation due to increasingly fuel price hike owing to the OPEC oil restrictions followed by deregulation of common carrier, second was higher interest rate due to unprecedented inflation rate, third was production and productivity were at its zenith that efforts to enhance could be futile and fourth was gradual change in economic system of various nations particularly due to multinational operations. Actually the strategic management field got a real notion of the capability to win to marketplace and share of various operational elements such as value added services, product availability and pace of product delivery to the customers while proceeding works in closely organized manner. To cope up with the 1980s global business battle firms started reorganizing (i.e. comprehensive integration) of their logistics functions.

3.3.1.6 FIFTH MANAGERIAL PHASE- SUPPLY CHAIN MANAGEMENT (SCM): Epoch 1990s onward was considered as the era of Supply Chain Management and with beginning of this era overall complexion on business scenario changed due to drastic changes in business environment across the Globe like liberalization of most of the economies in the world, rapid innovation in the field of science and technology, new inventory management technique like MRP, DRP and JIT, emphasis on long term unbeatable competitive advantage to outpace the competitors and emergence of third party logistic service providers. To respond the challenges of this era proactive organizations started external integration which gave birth to the concept of Supply Chain Management. Big fishes of business universe like Wal-Mart, Hewlett-Packard, Baxter, Whirlpool, and Georgia-Pacific each started making their own way to achieve competitive advantage by removing redundancies within the channel, reducing cycle times, and making available the right product at the right time to their customers.

In the literature of logistics it was found that the height of rise of SCM was very impressive from beginning (Cooper et al., 1997) for instance, at the annual conference of the Council of Logistics (CLM) the 13.5% titles contained word Supply Chain in the concurrent session of 1995 which was increased to 22.4% in the session of 1997. Now the Supply Chain Management is a well-established discipline in strategic management field.

1.4.0 SUPPLY CHAIN MANAGEMENT IN AGRICULTURE

Supply chain refers to linkages through which a product is transmitted to customer from the producer. For agriculture supply chain connotes linkages that take a product from farm to fork. Generally in supply chain of a product producer, wholesaler, retailer and consumer are the stake holders. Supply Chain Management in agricultural is basically concerned with the management of agricultural inputs suppliers (credits, seeds, fertilizers, minerals, manures, pesticides and insecticides, etc.), produce (farmers, cultivation, irrigation and harvesting, etc.), agro-products (storage and transportation, etc.) and flow of cash and information. The basic concept (Flow of material, flow of Money and flow of information) of each and every supply chain remains same but SCM is some or other ways unique for each and every product depending upon its nature, cost, value, availability and government policies etc. Agriculture has varieties of products that differ in nature, cost, value and durability like vegetables and fish are perishable in nature and have different supply chain as comparison to grains which more durable in nature. Vegetables need cold storage to be preserved but grains need only warehouses to be preserved.

For Supply Chain Management in Agricultural backward and forward integration are very important as it provide inputs to farmers and help them in selling their produce in the different Mandies and markets. Backward integration implies the relationship building with different input supplier (seed, fertilisers, manures, pesticides, insecticides, credits, labours, government subsidies, information regarding weather and different crop diseases, etc.). Forward integration is concern with relationship management with different channel partners that help the farmers in selling their produce in different markets at optimum price. The participants in forward integration are adhatiya (middleman), information provider of different markets and existing prices of commodities in the markets, wholesalers, retailers and modern retailers like

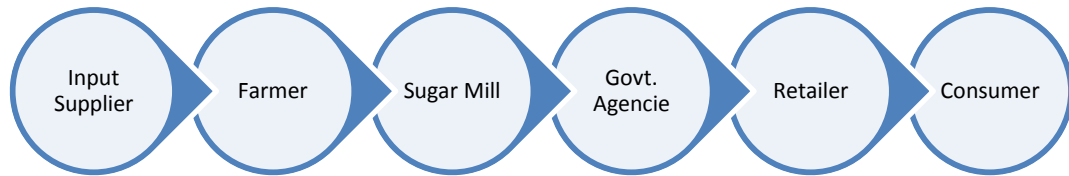
fresh stores, Field Fresh, Choupal Fresh, Choupal Sagar, Adhar and Nature Basket and Global Green, etc. In nut sell it can be said that Supply Chain Management will be as strong as its weakest link. And every link to be strong the backward and forward integration should be strong. So, good relationship management with every stakeholder of supply chain is of strategic importance as it is a key to be successful.

1.4.1 SUPPLY CHAIN OF SUGAR INDUSTRY: Supply Chain Management of Sugar industry is different from other industries as sugar being an essential commodity declared by government of India from independence in the interest of whole population of the country specially to protect the interest of the poor and the destitute. Farmers directly supply sugarcane to sugar mills. The prices of sugar and sugarcane are regulated across the entire supply chain leading to market imbalance due to dependence of the industry on the Government subsidies to meet its overall operating expenditure and making payments to the sugarcane farmers. With the view to avoid these problem and difficulty, the rules and regulations have been liberalized time to time since 1993. De-licensing of the industry in 1998 and removal of control on storage and distribution 2002 were the most pertinent regulatory landmarks.

Each sugar mill is entitled to command a particular area around it. Sugarcane farmers and Sugar mills are abide by law to sell and buy from each other. Law enforces every Sugar mill to procure all the cane supplied to them, even in case it surpasses its necessity. Government of India administers Statutory Minimum Price (SMP) for sugarcane. Sugar mills and farmers have to comply with SMP. States can decide a higher price for cane as SMP. Price of sugarcane decided by states is known as State Advise Price (SAP). It is mandatory for sugar mills to sell 10 percent of sugar as levy to Government of India. The price of levy sugar is predetermined and much lower than the market. Specification for monthly release quotas for free sale of sugar is also made by government. Law enables the farmers to supply their sugarcane at SMP. SMP includes cost of Cultivation and profit for the farmers. Price above SMP offered by States Government and sugar mills is supplementary profit to the farmers.

Supply Chain of sugar industry start from input supplier to the farmers of sugarcane and it end with the ultimate user of the sugar. A pictorial representation of Supply Chain of Sugar Industry has been given below in Figure 1.2.

Figure 1.2 Supply Chain of Sugar Industry



1.5.0 ORGANIZATIONAL PERFORMANCE

The word Performance is very easy to read but its meaning is so intricate to define specially in the business and strategic management field. The reason behind the intricacy to define performance is the huge number of parameters to be considered in performance due to the nature mission and vision of an organization. For instance for some organization only profit making is the performance, some others understand cost minimization and customer satisfaction as performance and some organization consider social welfare (like increasing no. of employees, providing products to customers at lower prices and providing quality products, etc.) as performance and many more.

Performance is a contextual concept as in the context of financial performance of an organization performance is the measure of change in financial state of the organization. Changes may be positive or negative and these changes indicate that performance is good or not good.

1.5.1 MEASURES OF PERFORMANCE: Although no authoritative measures of performance are available in the literatures related to performance but on the basis of general categorization of performance measure often found in the finance and accounting texts written by some researchers (Helfert, 1994; Brealy, et al., 2001; Higgins, 1995; Penman, 2001) performance measure can be said classified in five primary categories viz. Accounting Measures, Operational Measures, Market Based Measures, Survival Measures and Economic value Creation Measures. Generally first four measures are utilized in the researches but fifth performance measure i.e.

Economic Value Creation Measures are not frequently used in strategic management and entrepreneurship researches. In this study four categories of performance measures viz. Accounting Measures, Operational Measures, Market Based Measures and Survival Measures have been included. A brief presentation of these Performance Measures and their sub-categories for the performance of Sugar Industry of Eastern Uttar Pradesh has been given below in the Table 1.1.

Table 1.1 Performance Measures for Sugar Industry

Sl. No.	Category of performance Measures	Sub-categories of Performance Measures for Sugar Industry
1	Accounting Measures,	Profitability
		Growth
		Leverage
		Liquidity
		Cash Flow
2	Operational Measures,	Crushing Time of Sugarcane
		Production
		Payments
		Cost of Production
		Flow of materials
		Relationship
3	Market Based Measures	Return to Shareholders
4	Survival Measures	Long-term Survival

1.6.0 ORGANIZATIONAL STRATEGIC COMPETENCE

Organizational Strategic competence connotes the ability of an organization to put a strategy right for reaping advantages over its rival. Strategy is a pure military term which has its origin in battles. It was assumed that term strategy was coined by Sun Tzu in late 500 for him strategy was responding quickly to the environment in order to appropriately meet changing condition. In the business word strategy connotes the plan of action design to achieve the basic objectives of an organization. So Organizational Strategic Competence is the ability of an organization to apply its plan of action in such a way that produces advantages over its rival organizations.

Organizational Strategic Competence can only be achieved by developing skills and knowledge of the employees of the organization. In this study Employees' Skills and Employees' knowledge have been considered as measures of organizational Strategic Competence. A brief presentation of these measures for Organizational Strategic Competence of Sugar Industry of Eastern Uttar Pradesh has been given below in the Table 1.2.

Table 1.2 Measures for Organizational Strategic Competence of Sugar Industry

Sl. No.	Measure for Organizational Strategic Competence
1	Skills
2	Knowledge

1.7.0 SOCIO-ECONOMIC CONDITION

Socio-economic Condition refers to economic and sociological combined total situation of an individuals or aggregate of economic and sociological combined total situation of individuals of a particular area. In simple words Socio-economic Condition connotes to individuals levels of income, wealth, education and prestige, etc. In this study the seven measures (Education, Health, Social Obligation, Social Recognition, Women Empowerment, Income and Employment) of Socio-economic Condition of farmers of Eastern Uttar Pradesh have included which have briefly been given below in table 1.3.

Table 1.3 Measure of Socio-economic Condition of Farmers

Sl. No.	Measures of Socio-economic Condition of Farmers of Eastern Uttar Pradesh
1	Education
2	Health
3	Social Obligation
4	Social Recognition
5	Women Empowerment
6	Income
7	Employment

1.8.0 SUGARCANE AND ITS USES

Sugarcane is a recurrent grass and belongs to genre *Saccharum*. It contains sweet juice and sugar is extracted from it. *Saccharum* is a traditional species of sugarcane commercially not viable. Commercially a hybrid varieties of *Saccharum Officinarum* developed from a wild cane species has replaced the traditional one. Tropical or subtropical climate with a minimum of 24 inches of annual rainfall is feasible for sugarcane cultivation. Basic exploits of sugarcane comprise juice, sugar extraction, molasses, ethanol, rum and soda, etc. In India, sugarcane is substantially used in production of sugar for consumption in tea, coffee, and sweets succeeded by production of jaggery (Gur), alcoholic beverages and for its juice. The bagasse of sugarcane can be used for generating heat in heat-based mills, factories and electricity generating units. Typically it is sold to the electricity grid by sugar factories. It, having high cellulose content, can be used as basic ingredient in stationery products like paper, cardboard, cliff board, etc.

Sugarcane is traditional cash crop grown in India. The practice of sugarcane cultivation is too old that nothing can be said about its inception. It is as old as agriculture. Traditionally different kind of Gur (Bheli, khand and chota) was produced from sugarcane and it is not known which scientist invented it. Bheli is the dried form, Khand is concentrated liquid form and Chota is diluted liquid form in the variety of Gur. The practice of producing Gur is persistent in the rural areas of the country but it is shrinking due to decrease in demand and inclination of taste and preferences of people towards sugar. The social changes, industrialization, urbanization, fashions, reference groups, durability and storage systems, etc. are also the pertinent reason behind this shift. Initially crushing of sugarcane was done by Bail Kolhu (A mechanic arrangement of stone driven by ox) and it was exhaustive and very much time consuming. The cultivation of sugarcane was limited and dependent on individual farmer's capacity and necessity as it had long lifecycle and required a lot of labour efforts in sowing, crushing and making Gur in the absence of technological assistance. Other causes of limited farming were lake of adequate markets, roads and means of transportation and irrigation facilities, etc.

1.8.1 SUGARCANE PRODUCING STATES IN INDIA: India is the largest producer of sugarcane after Brazil and largest consumer of sugar in the world. Plantation of sugarcane occurs once a year during January to March. Cultivation of sugarcane is feasible into two agro climatic regions – subtropical and tropical. The subtropical zones embrace four States Uttar Pradesh (UP), Bihar, Punjab and Haryana. The tropical zones incorporate five States Maharashtra, Andhra Pradesh, Tamil Nadu, Gujarat and Karnataka.

1.9.0 SUGAR INDUSTRY

Sugar industry has developed along with human civilization. Across the world 122 countries engaged in the production of sugar. There are two different raw materials for the extraction of sugar, sugar beet and sugarcane. Almost 78% of world's sugar is extracted from sugarcane. The extraction of sugar from sugarcane is less costly as in comparison to sugar extraction from sugar beet and out of the 122 sugar producing countries 67 extract sugar from sugarcane and 55 from sugar beet. The decision regarding the choice of sugar beet or sugarcane as raw material depends upon soil quality, environment, crop diseases, international trade agreements and domestic support programmes (Krc Research).

1.9.1 INDIAN SUGAR INDUSTRY: Indian Sugar Industry is the second largest Sugar Industry of the world after the Brazil's Sugar Industry. India produces around 10-12% of world's sugar. Prior to 1930s Indian Sugar Industry was working in unorganized way but after the introduction of sugar industry protection act in 1932 it started working in organized way. Indian Sugar Industry is also second largest agro-processing industry after textile industry. Indian sugar industry is divided into three sectors viz. cooperative, private and public sectors. India has 566 sugar mills which in which 56 % are under cooperative sector, 34 % are in private sector and 10% are under public sector during 2008-09. 4-4.5 million hectares area of India which is almost equal to 2.7% of total cropped area comes under sugarcane cultivation and 45 (Almost 7.5% of rural population) million farmers are engaged in sugarcane cultivation. Further around 0.5 million workers are employed indirectly in various ancillary functions (ICRA, 2006). But gradually the sugar mills of public and cooperative sector are being closed due to loss and one of the major reasons behind the closing is inefficient and ineffective SCM of Sugar industry. Some recent statistics of sugar industry of India have been given below in table 1.4

Table 1.4 Statistics of Sugar Industry of India

Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
No. of Sugar Mills in operation	529	526	509	538	526	493	525
Cane Acreage (000, Hectares)	5100	5279	5341	5307	5284	4945	5042
Sugarcane Production (Lakh Tons)	3538	3544	3456	3668	3369	3036	4110
Molasses Production (000, Tons)	11824	11744	10882	12482	10837	9026	14063

Source: ISMA, <http://www.indiansugar.com/Statics.aspx> accessed on 04.03.2019

1.9.2 SUGAR INDUSTRY OF UTTAR PRADESH: Uttar Pradesh has 119 sugar mills in which 24 are in cooperative sector, 94 are in private sector and 1 in public sector during of 2018-19 (Anekant Prakashan). Key statistics of Sugar Industry of Uttar Pradesh have been given below in Table 1.5 and 1.6.

Table 1.5 Key Statistics of Sugar Industry of Uttar Pradesh

Sl. No.	Particulars	Units	2009-10	2010-11	2011-12	2012-13	2013-14
1	Area under sugarcane	Lakh Hect.	19.77	21.25	22.52	24.75	25.13
2	Average Yield	Ton per Hect.	59.20	56.70	56	57	53
3	Sugarcane Production	Lakh Ton	1171	1205	1261	1411	1332
4	Cane Crushed	Lakh Ton	567.33	643.81	768.55	815.06	701.40
5	Sugar Production	Lakh Ton	51.79	58.87	69.74	74.85	65.00

Source: ISMA, October, 2014

Table 1.6 Sector wise State of Sugarcane Purchase, Crushing and Sugar Production (on Dec.13) of Uttar Pradesh

S. N.	Year	Sector	Purchase Amount of Sugarcane (Lakh 00Kg.)		Crushed Amount (Lakh 00Kg.)		Production of Sugar (Lakh 00Kg.)
1	2018-19	Corporation	0.37	7.46	0.36	7.42	0.70
	2017-18	Corporation	0.00	0.00	0.00	0.00	0.00
2	2018-19	Cooperative	5.60	133.18	5.62	132.68	12.55
	2017-18	Cooperative	5.59	153.92	5.55	152.50	14.01
3	2018-19	Private	57.33	1582.64	57.22	1575.90	168.16
	2017-18	Private	57.23	2042.13	57.29	2035.46	205.47
4	2018-19	Total Of UP	63.30	1723.28	63.20	1716.00	181.41
	2017-18	Total of UP	62.82	2196.05	62.84	2187.96	219.48

Source: Data compiled from Sugar Industry and Cane Development Department

<http://www.upcane.gov.in/MediaGallery/Crushing%20Data%2013%20Dec2018.pdf>

Accessed on 28.03.2019

1.9.3 EASTERN UTTAR PRADESH: Eastern Uttar Pradesh is the eastern zone of Uttar Pradesh. It has 8844 sq. km. geographical area. It is located in middle Ganga valley. It has characteristics subsistence agriculture zone with low agriculture efficiency. It net cultivates area is 8.898 million hectare. The intensity of irrigation facilities is not at par in Eastern Uttar Pradesh. The districts of Uttar Pradesh which are included under Eastern Uttar Pradesh are Bahraich, Balia, Basti, Gonda, Prayagraj, Gorakhpur, Maharajganj, Deoria, Kushinagar, Mau, Azamgrah, Jaunpur, Varanasi, Chandauli, Ambedkar Nagar, Sultanpur, Ayodhya, Ghazipur, Mirzapur, Sonbhadra, Sant Ravidas Nagar, Sant Kabir Nagar, Siddharth Nagar and Pratabgarh (RKMP).

1.9.4 SUGAR MILLS IN EASTERN UTTAR PRADESH: Eastern Uttar Pradesh comprise of 24 eastern districts of Uttar Pradesh in which 17 districts contains at 25 working and 20 closed sugar mills and 7 districts do not have any sugar mills. And no district has any proposed sugar mill except Jaunpur in which a single

new sugar mill is proposed to be established. One of the astonishing facts about the sugar mills of Eastern Uttar Pradesh is that the most of the working sugar mills come under private sector and closed sugar mills fall under either cooperative or public sectors (Anekant Prakashan).

Sugarcane and sugar industry had been one of the most important drivers of rural economy of the whole area. It was the backbone of rural economy of the Eastern Uttar Pradesh. It has not only been the source of major income to the farmer but also the better option of generating rural employment. Gradually the performance, strategic competence of industry has been reached at its minimal level and Socio-economic Condition of the farmers of whole area is also affected badly. Ineffective Supply Chain Management may be one of the most important factors behind overall phenomenon.

1.10.0 RATIONALE OF THE STUDY:

The present study will bring out the problem and prospect of “Supply Chain Management in Agriculture: A case study of Eastern U.P. With Special Reference to Sugar Industry.” The study is related to the application of Supply Chain Management in the field of agriculture and intent of the study is to describe what the impact Supply Chain Management has on Organizational Performance, Organizational Strategic Competence and Socio-economic Condition of farmers of Eastern Uttar Pradesh. The importance of the study can be understood as that the agriculture especially the agriculture of sugarcane has been one of the most pertinent driver of the rural economy of Eastern Uttar Pradesh but since last few decades the contribution of agriculture of sugarcane and sugar industry to rural economy have continuously been decreased and many researchers contend that Supply Chain Management has the tremendous ability to enhance the performance and to create strategic competence to organizations. This study is an earnest attempt to examine and explain how the application of Supply Chain Management in agriculture and agriculture based industries will contribute the Organizational Performance, Organizational Strategic Competence and Socio-economic Condition.

CHAPTER II

REVIEW OF LITERATURE

2.0 INTRODUCTION:

The previous chapter was related to the introduction of the study in which Supply Chain Management, Organizational Performance, Organizational Strategic Competence and Socio-economic Condition have been discussed in detail. This chapter is devoted to review of literature related to Supply Chain Management and its impacts on Organizational Performance, Organizational Strategic Competence and Socio-economic Condition. Further the focus of the study is Supply Chain Management in Agriculture especially on the sugar industry, hence the literature related to SCM of sugar industry and its impacts on Performance of sugar industry, Organizational Strategic Competence and Socio-economic Condition of farmers have also been reviewed.

2.2.0 REVIEW OF LITERATURE

Literature on Supply Chain Management is very much scattered and the concept is not unanimous. Although the basic concepts of supply Chain Management remains more or less same for every product but it is unique in some or other way for each and every organization depending upon the nature of product, geographical setting and area of operation, etc. of the organization. Various researchers and scholars have defined it differently as per their understanding and area of research.

In the business universe organizations have always been keen to understand and unfold the factors and determinants of the performance. The quest to discover the determinants of firm performance has long been central to the strategic management field (G. Tomas M. Hult, David J. Ketchen Jr. and Mathias Arrfelt, 2007). Performance of firm is the key to the growth and development of any organization and in case of a business organization it is quite essential that it perform at a minimum rate. But every organization cannot able to perform at a minimum stipulated or expected rate due to the lake of some prominent business strategies vital to the performance. Basically this under-performance of organisations compelled the

strategic management field to find out the facts that determine the performance of organisations. Actually, many prominent scholars have contended that building understanding about why some firms outpace others is the foundation of the field (e.g., Hitt, Boyd, and Li, 2004; Rumelt, Schendel, and Teece, 1994; Summer et al., 1990). Synergies exist between the culture of competitiveness and knowledge development and their interaction has a positive association with performance (G. Tomas M. Hult, David J. Ketchen Jr. and Mathias Arrfelt, 2007).

1990s onwards the completion among the rival firm reached to cut-throat due to the globalization and adaption of liberalization policies by most of the nation of the Globe. Supply Chain Management was determined to be a very pertinent factor responsible for the out-performance of organizations over others. Corporate organizations started leveraging their respective Supply Chain to reap the benefits and outpace the competitors. Supply Chain Management became the spot boiler in contemporary years and every organization started introspecting their respective supply chain in order to compete and outpace their rival organizations. Some researchers identified that the nature of completion has drastically changed for example in contemporary years, the nature of competition has increasingly shifted from 'firm vs. firm' to 'supply chain vs. supply chain' (Handfield and Nichols, 2002; Slone, 2004). Above statement shows the importance of Supply Chain management that can be understood by the nature of completion among the rival firm across the Globe. Contemporarily it was the Supply Chain Management that dictated the performance and capability of an organization. Supply chains are value-adding affairs of somewhat discrete, yet inter-dependent, units that obligingly transmute raw materials into final products via chronological, parallel, and/or network structures (Bowersox, Closs, and Stank, 1999). Being competitive and for outpacing over the peers Supply Chain Management can be a very important tool. When competitors such as UPS and FedEx rattle, it is not only their individual competencies, but rather the united capabilities of their respective supply chains, that decide the aftermath (G. Tomas M. Hult, David J. Ketchen Jr. and Mathias Arrfelt, 2007).

Although the Supply Chain Management was very important for the performance, growth and development of organization but initially, the strategic management field has not dedicated much pragmatic attention to supply chains, while allied disciplines such as marketing and operations management have long accentuated the performance

insinuations of functioning activities. For example (Anderson, Cleveland, and Schroeder 1989: 134) noted in a review of the operations management literature: appropriate strategic positioning or aligning of operations competencies can considerably impact competitive strength and business performance of an organization. In contemporary years, even a small body of strategic management research has begun to inspect 'strategic supply chain management' - the exploit of a supply chain not only as a contrivance to get products where they required to be, but also as an instrument to enhance strategic outcomes (e.g., Huit, Ketchen, and Nichols, 2002; Huit, Ketchen, and Slater, 2004). The reflection of significance of strategic supply chain management is seen in how organizations such as Wal-Mart, Zara, Toyota, and Dell have exploited their supply chains as competitive missiles to gain pluses over aristocracies. In the meantime, failure of strategic management of supply chains leads to grave negative outcomes for the organization. For instance, Lee (2004) describes how supply chain hitches led Cisco to write off \$2.25 billion in inventory in 2001 and led Motorola to lose many decisive early camera phone sales in 2003. Inferences drawn for profits and sales, it is perchance not astonishing that the proclamation of a major supply chain problem corrodes an organization's market value by an average of 10 percent (Hendricks and Singhal, 2003).

Another aspect of Supply Chain performance measurement is customer order fulfillment cycle time i.e. the time period between accepting an order and delivery of the required product or services to the customer. The focus, as Huit et al. studies, is paid on enlightening order fulfillment cycle time. (Ray, Barney and Muhanna, 2004) acknowledge, gauging the effectiveness of business processes aids examine resource based lucidity and taps into the competitive pluses developed within key activities. Some scholar (Nichols, Retzlaff-Roberts, and Frolick, 1996) advocate that cycle time is a key metric for direct assessment of Supply Chain functioning. Further importantly, cycle time has a central role to an organization's strategic victory. Like (Handfield and Nichols, 2002: 13) find in his study that cycle time not only has 'a direct linkage to profits' at the organization level, but also excellence in cycle time permits organizations to 'grow quicker and make higher profits comparative to other organizations in their business, surge market share via early introduction of innovative products, control overhead and inventory costs, and move toward industry leadership.'

(Tomas M. Hult, David J. Ketchen JR and Mathias Arrfelt, 2007) build on (Hult et al., 2002), who introduced the concept of ‘cultural competitiveness’ as a reflection of innovativeness, entrepreneurial, and learning orientations, and (Hult et al., 2004), who examined the knowledge development process, both within the context of achieving superior performance focusing on the Supply Chain of multiple firm unlike to the single-organization focus of the Huit et al. using sample of 201 firms they examine the influence of a culture of competitiveness and knowledge development on supply chain performance in varied market turbulence conditions find that synergies exist between a culture of competitiveness and knowledge development: their interaction has a positive association with performance. In addition, based on behavioral and contingency theories, we found that market turbulence moderates these relationships, having a positive influence on the knowledge development-performance link and a negative influence on the culture of competitiveness-performance link.

(Zsidisin et al, 2004, p 410) emphasize on proactive supply management tools, especially organizations having concentration on addressing issues regarding supplier quality, improving performance of supplier and thwarting interruptions in supply. ‘Other researchers like (Brindley and Ritchie, 2001) have advanced further, advocating that more effective risk management solutions can be achieve by relationship building and partnering in the supply chain milieu, with respect to the limitations of quantitative techniques in providing effective solutions.

The term ‘supply chain’ has limitation of a huge number of definitions most of which are inconsistent with each other and focused on particular perspectives or characteristics. (Christopher, 1992) provides a reasonably generic definition, unfolding a supply chain as a network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumers. This definition considers of a multiple set of firms working upstream and downstream with often multiple firms functioning at each stage in the chain (for example alternative competing suppliers). Recently (Ritchie and Brindley, 2000; Sinha et al, 2004) have recommended the incorporation of information flows, financial flows and relationship development apart from the more physical flow. These studies reflect the advancement in information and communication technologies (ICTs). Thus, Supply Chain Management is a multi-disciplinary and

multi-functional set of activities which deals with physical and tangible attributes and activities (i.e. logistics) as well as behavioural and intangible dimensions (i.e. relationship building and management).

Supply Chain verdicts are discriminated from the more traditional business decision settings involving risk, in a certain respects: they involve a chain of decision nodes, networked together, some role is being played by each node in adding value to the performance of every member of the chain and has the capability to contribute to the risk shape of the verdict to be taken either positively and negatively and congruently, each node wields some influence on the successful or weak implementation of the management verdicts and risk determination.

Going through literature it is found that several key developments which enhance the event for increased devotion to the management of risk in the supply chain: Supply Chain strategies and structures are growing more swiftly and changing profile in the quest for competitive improvement, (Brindley, 2004) describe a situation, as resulting in shapeless supply chains. Advancement in technology provides the latitude and opportunities to revise the shape and the relationships inside supply chains although concurrently this may pose a threat to established Supply Chain arrangements. Similarly, augmented opportunities to compete worldwide courtesy of ICT improvements also surges the exposure to global competitive pressures accumulating new risk dimensions. Stake holders of supply chain are becoming gradually inter-dependent. (Cavinato, 2004, p 384) admit that with categorization as physical, financial, informational, relational and innovational dimensions of the supply chain risk are ever-widening in supply chains. (Sinha et al, 2004) also is in favour of this view, recognizing four key factors influencing supply chain risk as: lack of trust, suppression of information, dependence on outsourcing and standardized contracts. (Chopra and Sodhi, 2004) acknowledge that other similar kind of developments add to greater intricacy, the more rapid realization and enhanced impact of risks throughout the chain, frequently with prominently enhanced severity of the consequences for its stake holders.

These attributes lead to each individual Supply Chain being unique in some or other respects. Correspondingly this uniqueness may entail unique methodologies to the management of the risks involved in Supply Chan. Though, a contingency approach

may be regarded as appropriate irrespective of uniqueness of each Supply Chain and requiring unique solutions.

Effective management of risks involved in Supply chain form the basis of best performance of any organization. The term performance has wide variances in its definitions. For instance, (Child, 1975) expresses performance in terms of efficiency and profitability whereas (Hage and Dewar 1973) define performance in terms of employee satisfaction. Such variances frequently give a glimpse of differences in what regard performance an organization and the composition of its Supply Chain stakeholder. Business performance is reflected in most definitions in two terms viz. effectiveness and efficiency. Although profitability seems to be the yards stick for both efficiency and effectiveness for any business organization. (B. Ritchie and C. Brindley, 2007) acknowledge that Summative business performance is regarded as a configuration of profit performance, corporate and personal (for example verdict maker) risk disclosure composed with the timeframe over which such verdict are taken and performance measured. The third dimension allied with performance in terms of profitability and risk transmits to timescale. Improved financial performance in the short run may be achieved on the cost of augmented risk exposure in the longer run. For instance, Outsourcing on cost considerations may produce short-run improved profitability, though may surge long-run risk disclosure to supply dislocation, quality corrosion and defeat of technological improvement etc.

(Sameer Kumar, Heidi Jensen and Heather, 2008) contend that Businesses leverage supply chains to meet or exceed many key performance objectives that impact the bottom line. Along with the benefits of a high performance global supply chain, there are risks and challenges of supply chain security as there are chances of theft and terrorist attack during the movement of goods. He suggests that incorporation of technology is the future of supply chain security.

As per the review of SCORE MODEL By (Leroy B. Schwarz, 2008) the SCOR (Supply Chain Order Reference) model of is organized around a core axis with competence in customer-dealing on the one side, and competence in internal-dealing on the other. Both of the Supply Chain competencies are also assigned Performance Attributes namely reliability, responsiveness and flexibility on the customer-oriented side, Cost and Assets on the corporate-internal side. These performance attributes are

assumed to flow in the same direction and complement to each other within a supply Chain performance frame. As per the SCOR model, Supply Chain Management comprises five elementary processes viz. Plan, Source, Make, Deliver, and Return. Each process has one or more sub-process elements having one or more performance attributes. SCOR (8.0) employs five performance attributes namely reliability, responsiveness, flexibility, costs, and asset management. Each attribute is associated with performance. For example, Reliability has delivery performance, fill rate, and perfect order fulfillment and responsiveness has order fulfillment, etc. In the review it was found that the author assigned performance attributes to so called Supply Chain competencies. The attributes like reliability, responsiveness, and flexibility was assigned to the Supply Chain competency labeled capability. This is known as customer centric Supply Chain competency. Likewise, the attributes like cost and assets was assigned to the Supply Chain competency label efficiency, which is known company centric. After this author listed 80 hypotheses organized into three sets. The first set of hypotheses included what the author called intra-performance (I-P) attributes and hypothesize that the individual performance attributes was positively correlated with one another. For instance, “A high on-time delivery percentage leads to a high customer retention rate.” The second set of hypotheses involved supposed intra-competence (I-C) attributes and hypothesize that the corresponding metrics of some different Performance Attributes was negatively correlated. For example, “A high on time delivery percentage accompanies a low backorders value.” And the third set of hypotheses involved professed inter-competence/performance (I-CP) indicators and examine the correlations between capability (i.e., customer centric) attributes and efficiency (i.e., company centric) attributes. For example, “High inventory management costs as a percentage of revenue correlate with a low backorders value.”

These 80 hypotheses were tested using data from a 2001 survey asking 170 companies to participate out of which 73 responded. The 80 hypotheses evaluated, about 60 percent were confirmed as significant, or at least indicative (emphasis provided) of the scenario of correlation direction. Approximately 35 percent proved themselves to be unsystematic and 5 percent were factually model-contrary (Leroy B. Schwarz, 2008). This empirical study indicates that it is the effective and efficient Supply Chain Management that has a greater ability to enhance performance of an organization.

(C. Ranganathan, Jasbir S. Dhaliwal and Thompson S. H. Teo, 2004) observe that assimilation and external diffusion of Web technologies both significantly affect the benefits realized by SCM. Supplier interdependence and information technology (IT) intensity are important environmental factors affecting external diffusion. Organizational factors, such as centralization and formalization of the IT unit structure and high levels of managerial IT knowledge, are significant drivers of Web technology assimilation in the SCM function.

Forbes global magazine said, 'Mumbai's Tiffinwalas have achieved a level of service to which western businesses can aspire. Efficient Organisation is not the first thought that comes to mind in India, but when profit motives is given free rein , anything is possible. To appreciate Indian efficiency at its best, watch the Tiffinwala at work.' The error free operation of Dabbawala, one error or less in 6 million transactions, has made them probably the only six-sigma organization in India. The Mumbai Dabbawala Association is an often quoted name in the corridors of supply Chain Management. The association is also enigma for all B schools not only in India but also institutes like MIT Sloan, for they lack technology, yet there is an extremely efficient technique. The majority of employees are illiterate but still the association has Six Sigma and ISO 2001 certification in its kitty. It is not only known for its flawless supply chain but also for its implacable record of 116 years of service without a single strike. The best citation how the effective Supply Chain management enhances the performance of on organization can be easily understood looking at the performance of Dabbawala. A Dabbawala is a person in the Indian city of Mumbai, whose job is to carry and deliver freshly made food from home in lunch boxes to office workers, students and then the boxes back to source. Dabbawala is a 119 year old organization, started in year 1890 and registered as a charitable trust in 1956. They cover an area of 60 to 70 kms in Mumbai. Every day, more than 200000 lunches get moved by an estimated 4500 to 5000 Dabbawalas, all with extremely nominal fee and with utmost punctuality. They are one of the few organisations in the world to achieve a Six Sigma rating. According to a survey, there is only one mistake in every 6000000 deliveries. All of them, around 5000 individuals, come from the same community 'Khor Maratha' and the same rural area: a few villages near Pune, Maharashtra.

It is the effective Supply Chain Management of that has made able Dabbawala to achieve following awards and recognitions:

1. name in 'GUINNESS BOOK' of the world records.
2. Registered with Ripley's 'Believe it or not'.
3. Invitation from CII for conference held in Bangalore, IIML, IIMA, CII Cochin, CII Delhi, Dr. Reddy's Lab Foundation Hyderabad, etc.
4. ncluded in a subject in Graduate School of Journalism, University of California, Berkeley.
5. Invited to marriage of Hon. Prince Charles of England on April 9, 2005.
6. Documentaries made by BBC, UTV, MTV, ZEE TV, AAJ TAK, TV TODAY, SAHARA SAMAY, STAR TV, CNBC TV 18, CNN, SONY TV, TV TOKYO, NDTV.

Unique Supply Chain management and direct business model made able Dell Computer Corporation to take on IBM. Generally most of the students just want to pass their examinations. Michael Dell dreamed to take on IBM. That's a pretty ambitious goal for a student selling made-to-order personal computer (PCs) over the phone out of his dormitory room at the University of Texas. In 1984, Dell dropped out the school so that he might pursue this urge fulltime ignoring that he had only \$ 1000.as seed money founded Dell Computer Corporation. Only twelve year later, Dell Computer Corporation had market share of the domestic PC maker, more than that of IBM. Dell was the leader, by 2001, with more than 25 per cent market share astonishing Compaq (13 per cent), Hewllet-Packard (10 per cent), Gateway (8 per cent) and leaving targeted IBM for behind with only 6 per cent market share.

Supply Chain Management is the growth engine (Harrison, 2008). It is the Harrison who has been instrumental in having P&G to think regarding supply chain while keeping the customer in soul. Hence everything now initiates at store shelves and works its approach backward to suppliers. The reintroduced focus on supply chain management enables P&G to realize an extra \$ 1 billion sale last year (The Economic Times, 9 April, 2008). Harrison adds that if the Supply Chain is not efficient, products do not reach customers and marketing will not exist. He further says that in ensuing

time, supply chain efficiencies will be of strategic advantage to companies. He also wagers, 'with commodity prices hitting the roof, supply chain capability will be the differentiator between companies who win and those who don't'.

In the ending of 1996, the documentation company Xerox (formerly known as Modi Xerox) has set up its integrated supply chain. The basic strategy behind it was to make entire process, starting from manufacturing unit to the customer, transparent as order-to-delivery cycle was taking as long as almost twenty-one days. Hence Xerox implemented process reengineering, eliminated unnecessary administrative procedure and invested in an extensive info-tech network. Presently the order-to-delivery cycle reduce to just seven days.

2.2.1 REVIEW OF LITERATURE RELATED TO SUGAR INDUSTRY: Sugar industries, across the Globe, have been facing the tremendous problems of appropriate and efficient harvesting, logistics and crashing of sugarcane long before. Some of the researchers of the field contended that the problem of excessive delays between the harvesting and crushing of sugarcane and the associated deterioration of cane has been recognized and investigated in the sugar industry for many years (Brokensha et al., 1975). Many research scholars focused to assess the profitability in monetary terms for the sugar industry by ensuring the supply of the good quality sugarcane. For instance (Barnes et al., 1998) contend that through supply of better quality sugarcane to the sugar mills, particularly with new improved sugarcane payment system has been estimated in the millions of rands per annum. Inversely many researchers had tried to assess the losses incurred by the sugar industries due to the delays in the sugar cane supply to the sugar mills. For example some scholars as (Brokensha et al., 1975) estimated around 31 cents per ton of loss to the sugar industry due to a single day delay in sugarcane supply. Occurrence of this event increased the importance of the Supply Chain Management in the sugar industry.

The performance of sugar industries has been inconsistent across the world. The basic drivers of these inconsistencies are pertaining to social, economic, logistical and physiological associations across the overall supply chain. Most of these issues are intertwined with one another, like the harvesting and transporting of sugarcane, whereas many of the social and physiological factors are very difficult to identify

(Higgins and Lerado, 2006). Such inconsistencies involve huge risk and may reduce the profitability of the overall supply chain stakeholders. It indicates that the inefficient supply chain management to be responsible for the inconsistent performance of the sugar industries. Some researchers contend that decreasing inconsistencies in the sugarcane supply chain has the capability to increase profitability (Le Gal et al., 2008). Managing the inconsistency in the supply chain of sugar industries has been most difficult task. Some of the scholars state that the influences of inconsistent supply chain can be alleviated by adopting flexible strategies (Tachizawa and Thomsen, 2007; Pitty et al., 2008). However, many researchers find that establishing flexible supply chain system is not easy due to various reasons such as the fluctuating participation of stakeholders in the supply chain, their conflicting objectives, the geographical span of the system, problem concerned with the cane logistics and increased costs (Chen and Paulraj, 2004; Tachizawa and Thomsen, 2007)

Supply Chain of sugar industries suffer with a limitation of harvesting. Some researchers acknowledge it as a major supply chain hurdle in the sugar industry because harvesting usually occurs only during daylight hours, whereas the milling operations remains continuously fictional (Higgins et al., 2006). Harvesting limitation normally occurred with the imbalance in the demand and supply of the sugarcane as during day time the supply exceeds the demand and rest of the time demand of the sugarcane suffers with shortages. Some scholar of the field investigated the inconsistency in the time of delivery of sugarcane to the mill over weekends and public holidays (Kadwa et al., 2012; Kadwa and Bezuidenhout, 2013). Another issue regarding the supply chain of sugarcane is the variation in the collection centers as some researchers pointed that the location and number of collection points of harvested sugarcane vary each day (Stutterheim et al., 2008). Apart from these issues some other pertinent hurdles of the supply chain of sugar industries are the time required for loading and unloading of sugarcane, the distance of farm to the sugar mills and the kind of vehicles, equipment and roads utilized may all vary every day. In this regards many scholars find out the some other roots as equipment maintenance, weather conditions, road conditions, accidents and vehicle breakdowns that lead to the inconsistencies in the sugarcane supply chain.(Diaz and Perez, 2000; Higgins et al., 2004; Bezuidenhout, 2010; Boote et al., 2011).

The factors leading to the inconsistent performance in the sugar industries do not end here rather some scholar unfold many other issue pertaining to the logistical and technical delays at the sugar mills that can generate lines, like excess vehicle arrivals, weighing, inspecting and unloading of sugarcane (Rangel et al., 2010; Sanchez-Rodrigues et al., 2010). These queues in vehicles arrival, weighing, inspections and off-loading of sugarcane ultimately create huge hurdles for effective supply chain management of the sugar industries. Some of the researchers contend that waiting lines generate blockages at the sugar mill and generally occurred due to daylight operations, breakdowns of mill, changes in shift of drivers and unscheduled deliveries (Giles et al., 2005; Sanchez-Rodrigues et al., 2008).

Inconsistencies in the various process involved in overall supply chain of the sugarcane leads to the underutilization of the resources increased cost of production. In this regards some researchers pointed out the inconsistencies may result in increased taskforces, lake of full utilization of various tools and equipment, augmented costs, inconsistent output and perhaps occurred with the problem of dual-handling (Hahn and Ribeiro, 1999; Barnes et al., 2000; Kadwa and Bezuidenhout; 2013). Some researcher indicate how the breakdown of the vehicles and long waiting queue affect smooth flow of the supply chain of sugarcane for instant during the operations trucks break down or long queue will compromise the return time to the field from the mill and vice-versa leading to decrease in the pace of the overall supply chain (Rangel et al., 2010).

One of the most important factors impeding the supply chain management of sugar industry is increasing costs of production and logistics as some of the researchers estimated logistics as a largest contributor to the cost for example in 2006 it was found in a estimate that the transportation cost leads to around 20% and 25% of the total cost of production of sugarcane industries in South Africa and Australia, respectively (Milan et al., 2006). It is easier to estimate the cost of harvesting and transportation of the sugarcane as it is tangible in nature and most apparent than any other ingredient of the total cost. That is why many scholars paid much emphasis to improve the integration of the harvesting and transport systems (Salassi and Champagne, 1998). Barnes et al. (2000) provide a detailed model of different harvesting and transporting techniques. Other components of the system, including

agronomic, social and economic linkages across the chain are difficult to quantify (Higgins and Lerado, 2006).

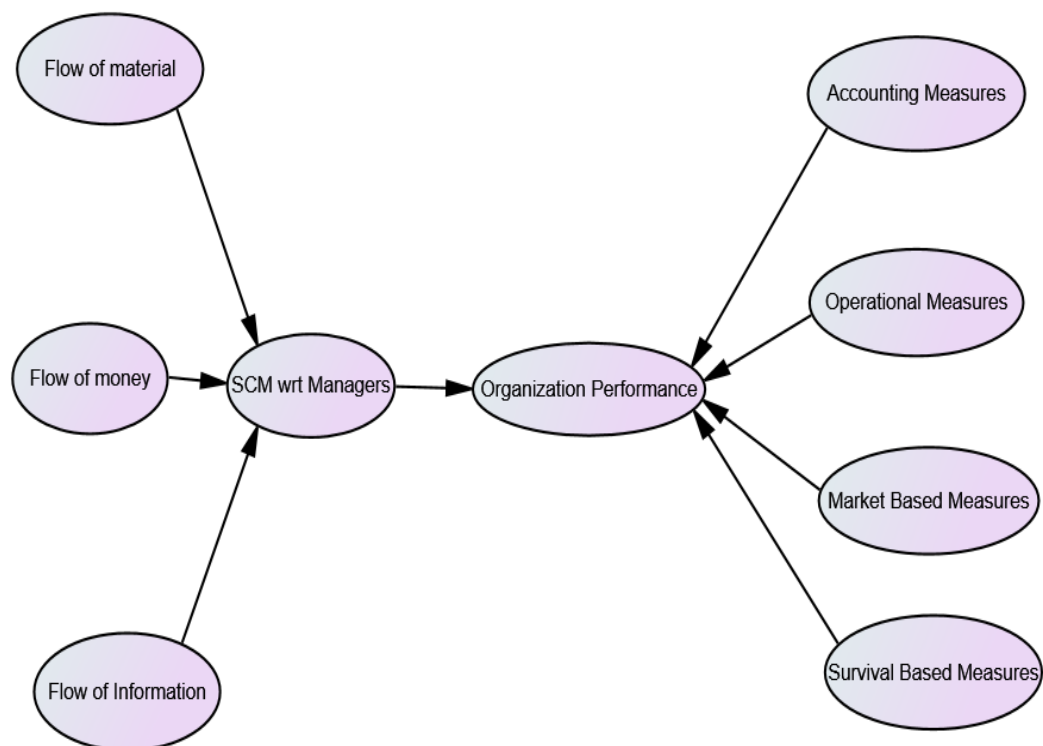
The comprehensive literature prove that the sugar industry is the complex agro-processing industry involving many intricate process and operations to be performed before getting the sugar ready in which the Supply Chain Management is the most pertinent issue to be addressed to enhance the production, productivity, profitability and overall capability of the organization. The pertinence of Supply Chain Management in agriculture specially in Sugar Industry can be understood by the study of (Marco Fava Neves, Vinicius Gustavo Trombinb and Matheus Alberto Consolic, 2010) They devoted their study for mapping and quantifying the sugarcane chain in Brazil. For the very purpose they used the method Strategic Management of Agro-Systems (GESIS). They claim that after the application of the method, it was found that the sugarcane chain then shown the astonishing figures that indicated its economic importance to the nation. The figures of sugar industry found was very inspiring, with sugarcane chain GDP \$28.1 billion out of an annual turnover of over \$80 billion and equivalent to 2% of the GDP of Brazil. This GDP of sugarcane they estimated that almost equal to the total annual income generated by the nation as Uruguay.

2.3.0 RESEARCH GAP AND CONCEPTUAL FRAMEWORK

From the reviewing of the various related literature with the help of the numerous research papers , articles , thesis , previous work , digital library , books, magazine, j-Gate, DelNet for the secondary information on the Supply Chain Management of Sugar Industry and its impact on Organizational Performance, Organizational Strategic Competence of Sugar Industry and Socio-economic Condition of the farmers of sugarcane but the secondary data received or collected will not fully severed our purpose for the study which have been projected in this research and most of the previous researches focused only on developing models of SCM and the methodology or process of the working of the Supply Chain Management of Sugar Industry but in this study the basic concern is to find out the relationship of Supply Chain Management with Organizational Performance, Organizational Strategic Competence and Socio-economic Condition of sugarcane farmers. Therefore three basic conceptual models have been framed in which the first model is related to SCM

from Managers' point of view and Organizational Performance of Sugar Industry of Eastern Uttar Pradesh, the second model is related to SCM from Managers' point of view and Organizational Strategic Competence of Sugar Industry of Eastern Uttar Pradesh and the third model is concerned with SCM from managers' point of view and Socio-economic Condition of farmers of Eastern Uttar Pradesh. The pictorial presentation three conceptual models have been made below in the figures 1.3, 1.4 and 1.5.

FIGURE 2.1 CONCEPTUAL MODEL DEVELOPED FOR SCM FROM MANAGERS' POINT OF VIEW AND ORGANIZATIONAL PERFORMANCE

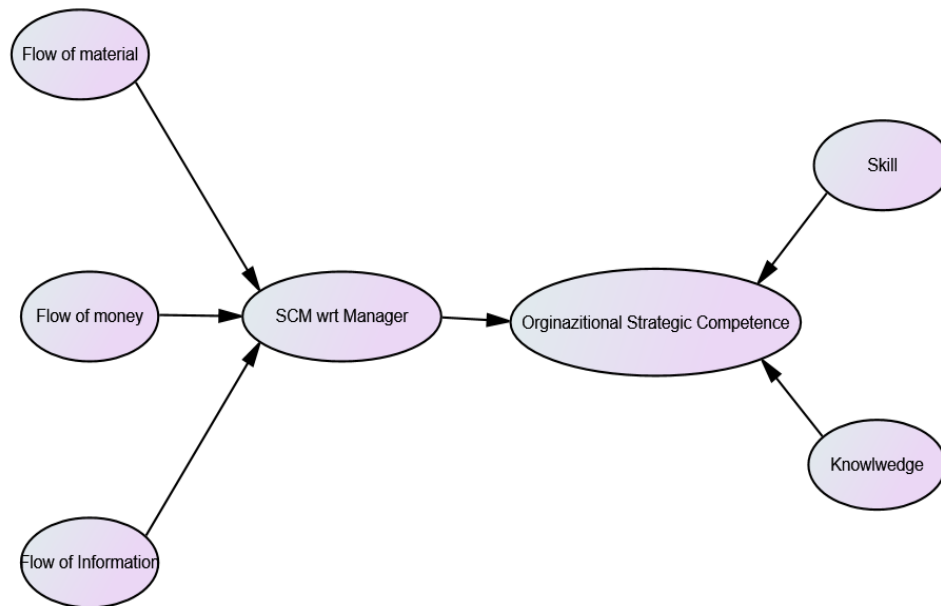


In the first model the Supply Chain Management is studied with the help of three parameters viz. Flow of Material, Flow of Money and Flow of Information with respect to manager's point of view and Organizational Performance is studied with the help of four parameters viz. Accounting Measures, Operational Measures, Market Based Measures and Survival Measures. In this model the interest is to know the impact of Supply Chain Management on the Organizational Performance of Sugar Industry with the help of their respective parameters. The basic measures included in Flow of Materials are Flow of Sugarcane, Flow of Work in Progress and Flow of

Finished Goods. The basic measures included in Flow of Money are Cash Flow from end user and Cash Flow from sugar mills. The basic measures included in Flow of Information are Forward Flow of Information, Availability of Information regarding SCM, Backward Flow of Information and Coordination and Integration of activities.

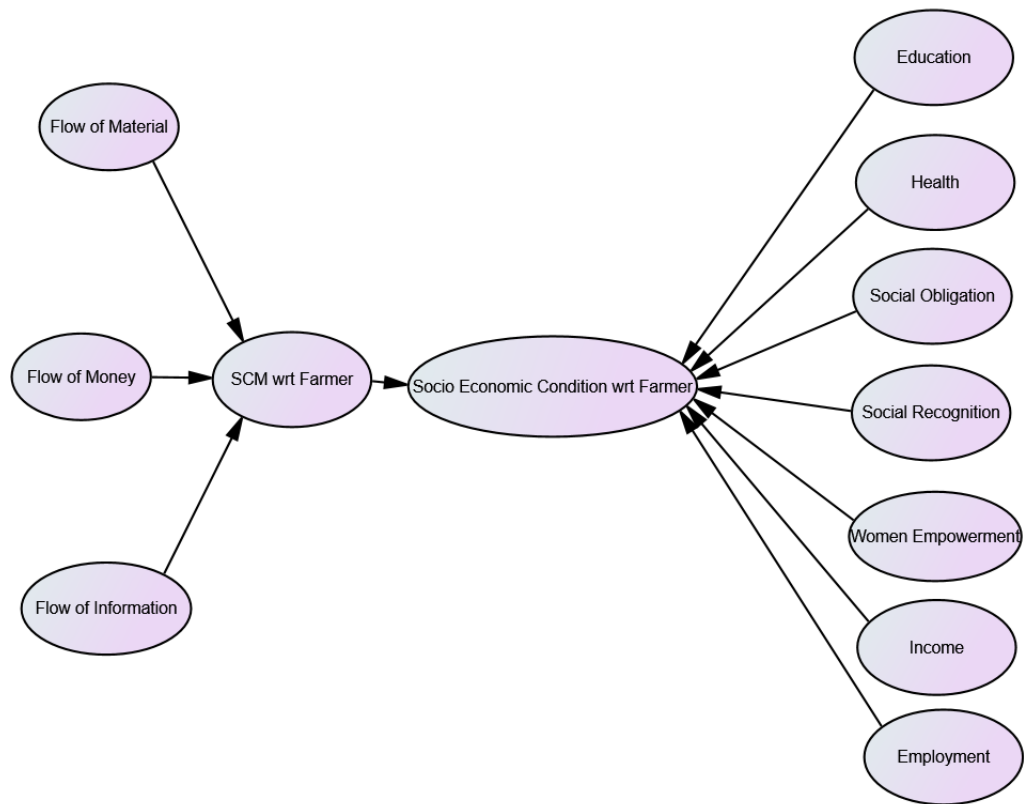
Further the dimensions under Accounting Measures included are Profitability, Growth, Leverage, Liquidity and Cash Flow. Likewise the dimensions under Operational Measures included are Crushing Time of sugarcane, Production, Payments, Cost of Production, Flow of Materials and Relationship. And similarly the dimensions under Market Based Measures and Survival Measures are Return to Shareholders and Long-term Survival respectively. The basic measures under Profitability are Return on Assets, Return on Equity, Profit Margin on Sales, Return on Investment, Net Income. The basic measures under Growth are Sales, Number of Employees. The basic measures under Leverage are Debt on equity, Debt on Total Assets. The basic measures Liquidity are Adequate Cash, Short Term Loans and Adequate and basic measure under Cash Flow is adequate Cash Flow. Similarly the basic measure under Crushing Time of Sugarcane is Crushing Time. The basic measure under Production is Production Cycle and Production of sugar. The basic measure of Payments is timely Payment to farmers. The basic measure of Cost of Production is Cost of Production. The basic measure of Flow of material is smooth flow of Sugarcane and the basic measure under Relationship is good relationship with farmers. Likewise the basic measures under Return to Shareholders and Long-term Survival are dividend to shareholders and Long term survival of sugar industry.

FIGURE 2.2 CONCEPTUAL MODEL DEVELOPED FOR SCM FROM MANAGERS' POINT OF VIEW AND ORGANIZATIONAL STRATEGIC COMPETENCE



In the second model the Supply Chain Management is studied with the help of three parameters viz. Flow of Material, Flow of Money and Flow of Information with respect to manager's point of view and Organizational Strategic Competence is studied with the help of two parameters viz. Skills and Knowledge. In the model the intent is to study the impact of Supply Chain Management on the Organizational Strategic Competence of Sugar Industry with the help of their respective parameters. The basic measures included in Flow of Materials are Flow of Sugarcane, Flow of Work in Progress and Flow of Finished Goods. The basic measures included in Flow of Money are Cash Flow from end user and Cash Flow from sugar mills. The basic measures included in Flow of Information are Forward Flow of Information, Availability of Information regarding SCM, Backward Flow of Information and Coordination and Integration of activities. Further the basic measures under Skills are Employees' Skills of Loading and unloading of sugarcane, Sugarcane crashing skills of Employees, Skills of Managers, Sugarcane harvesting skills of farmers and measure of Knowledge are Knowledge of cane harvesting and supply, good knowledge of economic situations of cane supplying farmers, Sugarcane crushing ability of employees and the ability to compete with others sugar industry.

FIGURE 2.3 CONCEPTUAL MODEL DEVELOPED FOR SCM FROM FARMERS' POINT OF VIEW AND SOCIO-ECONOMIC CONDITION



In the third model Supply Chain Management is studied with the help of three parameters viz. Flow of Material, Flow of Money and Flow of Information with respect to farmers' point of view and Socio-economic Condition of farmers of Eastern Uttar Pradesh with the help of seven parameters viz. Education, Health, Social Obligation, Social Recognition, Women Empowerment, Income and Employment. In this model the intent is to know the impact of Supply Chain Management of Sugar Industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh. The basic measures included under Flow of Materials are smooth Flow of sugarcane and Waiting Time for loading sugarcane in the farms. The basic measures included under Flow of Money are Timely Payment for sugarcane and timely Purchase of Inputs for sugarcane cultivation. And basic measures included under Flow of Information are Right Information of Payment to farmers and Right Information of sugarcane yield to mills.

Further the basic measures included under parameter Education are literacy of the family members and better education for the children. The basic measure included

under parameter Health is healthy family members. The basic measure included under parameter Social Obligation is celebration of the festivals. The basic measure included under parameter Social Recognition is Recognition in the society. The basic measure included under parameter Women Empowerment is female decision maker in the family. The basic measures included under parameter Income are more income generation, purchasing more consumers durable goods and ability to bear the medical expenses of the family and the basic measure included under parameter Employment is opportunities to employment.

2.4.0 OBJECTIVES:

1. To study the impact of the determinants of Supply Chain Management on the Performance of Sugar Industry of Eastern Uttar Pradesh.
2. To study the impact of determinants of Supply Chain Management on Organizational Strategic Competence of Sugar Industry of Eastern Uttar Pradesh.
3. To study the impact of determinants of Supply Chain Management of Sugar Industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.

2.5.0 HYPOTHESIS:

Objective wise hypotheses have been given below.

2.5.1 HYPOTHESIS RELATED TO FIRST OBJECTIVE

H₀: There is no significant impact of SCM (flow of material/ Flow of money/ Flow of Information) on the Organizational Performance (Accounting measure- Profitability, Growth, Leverage, Liquidity, Cash Flow/ Operational Measures- Crushing Time of sugarcane, Production, Payments ,Cost of Production, Flow of Material, Relationship/ Market based Measure-Return to Shareholders/ Survival Measure- Long-Term Survival) of sugar industry.

H₀1: There is no significant impact of Supply Chain Management on the Accounting Measures under Organizational Performance of sugar industry.

H₀2: There is no significant impact of the Supply Chain Management on Operational Measures under Organizational Performance of sugar industry.

H₀3: There is no significant impact of Supply Chain Management on Survival Measure under Organizational Performance of sugar industry.

H₀: There is no significant impact of Supply Chain Management on Organizational Performance of sugar industry.

2.5.2 HYPOTHESIS RELATED TO SECOND OBJECTIVE

H₀: There is no significant impact of Supply Chain Management (Flow of Material/ Flow of money/ Flow of Information) on the Organizational Strategic Competence (Skills, Knowledge)

H₀1: There is no significant impact of Supply Chain Management on Employees' Skills under Organizational Strategic Competence of sugar industry.

H₀2: There is no significant impact of Supply Chain Management on Employees' Knowledge under Organizational Strategic Competence of sugar industry.

H₀: There is no significant impact of Supply Chain Management on Organizational Strategic Competence of sugar industry.

2.5.3 HYPOTHESIS RELATED TO THIRD OBJECTIVE:

H₀: H₀: There is no significant impact of Supply Chain Management (Flow of Material /Flow of Money/Flow of Information) of sugar industry on Socio-economic Condition (Education/ Health/ Social Obligation/ Social Recognition/ Women Empowerment/ Income/ Employment) of farmers of Eastern Uttar Pradesh.

H₀1: There is no significant impact of Supply Chain Management of sugar industry on Education under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀2: There is no significant impact of Supply Chain Management of sugar industry on Health under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₃: There is no significant impact of Supply Chain Management of sugar industry on Social Obligation under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₄: There is no significant impact of Supply Chain Management of sugar industry on the Social Recognition under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₅: There is no significant impact of Supply Chain Management of sugar industry on Women Empowerment under Socio-economic Condition of Eastern Uttar Pradesh.

H₀₆: There is no significant impact of Supply Chain Management of sugar industry on Income under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₇: There is no significant impact of Supply Chain Management of sugar industry on Employment under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀: There is no significant impact of Supply Chain Management of sugar industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.

2.6.0 ALTERNATIVE HYPOTHESIS

Objective wise alternative hypotheses have been given below.

2.6.1 ALTERNATE HYPOTHESIS RELATED TO FIRST OBJECTIVE:

H₀: There is a significant impact of SCM (flow of material/ Flow of money/ Flow of Information) on the Organizational Performance (Accounting measure- Profitability, Growth, Leverage, Liquidity, Cash Flow/ Operational Measures- Crushing Time of sugarcane, Production, Payments ,Cost of Production, Flow of Material, Relationship/ Market based Measure-Return to Shareholders/ Survival Measure- Long-Term Survival) of sugar industry.

H₀₁: There is a significant impact of Supply Chain Management on the Accounting Measures under Organizational Performance of sugar industry.

H₀₂: There is a significant impact of the Supply Chain Management on Operational Measures under Organizational Performance of sugar industry.

H₀₃: There is a significant impact of Supply Chain Management on Survival Measure under Organizational Performance of sugar industry.

H₀: There is a significant impact of Supply Chain Management on Organizational Performance of sugar industry.

2.6.2 ALTERNATIVE HYPOTHESIS RELATED TO SECOND OBJECTIVE

H₀: There is a significant impact of Supply Chain Management (Flow of Material/ Flow of money/ Flow of Information) on the Organizational Strategic Competence (Skills, Knowledge)

H₀₁: There is a significant impact of Supply Chain Management on Employees' Skills under Organizational Strategic Competence of sugar industry.

H₀₂: There is a significant impact of Supply Chain Management on Employees' Knowledge under Organizational Strategic Competence of sugar industry.

H₀: There is a significant impact of Supply Chain Management on Organizational Strategic Competence of sugar industry.

2.6.3 HYPOTHESIS RELATED TO THIRD OBJECTIVE:

H₀: H₀: There is a significant impact of Supply Chain Management (Flow of Material /Flow of Money/Flow of Information) of sugar industry on Socio-economic Condition (Education/ Health/ Social Obligation/ Social Recognition/ Women Empowerment/ Income/ Employment) of farmers of Eastern Uttar Pradesh.

H₀₁: There is a significant impact of Supply Chain Management of sugar industry on Education under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₂: There is a significant impact of Supply Chain Management of sugar industry on Health under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₃: There is a significant impact of Supply Chain Management of sugar industry on Social Obligation under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀4: There is a significant impact of Supply Chain Management of sugar industry on the Social Recognition under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀5: There is a significant impact of Supply Chain Management of sugar industry on Women Empowerment under Socio-economic Condition of Eastern Uttar Pradesh.

H₀6: There is a significant impact of Supply Chain Management of sugar industry on Income under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀7: There is a significant impact of Supply Chain Management of sugar industry on Employment under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀: There is a significant impact of Supply Chain Management of sugar industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.

CHAPTER III

RESEARCH METHODOLOGY

3.1.0 INTRODUCTION

The previous chapter was related to the Review of Literature in which previous researches related to Supply Chain Management, Organizational Performance, Organizational Strategic Competence and Socio-economic Condition were reviewed in details. This chapter is dedicated to the research methodology adapted for the study. The Research Methodology has been discussed below under captions Sample, Variables, Tool, Procedure of Data Collection, Reliability Analysis, Validity Analysis and Data Analysis.

3.2.0 SAMPLE

Sample of the study has been discussed under the following captions population, sampling technique, sample size and characteristics of sample.

3.2.1 POPULATION: Population of the study was divided in two parts in which under first part managers of sugar mills of Eastern Uttar Pradesh were included and under second part sugarcane farmers of the area in which the sugar mills were being operated were included.

3.2.2 SAMPLING TECHNIQUE: Sampling technique used in this study was non-probabilistic due to non-availability of accurate list of the population i.e. lists of sugarcane cultivating farmers and managers of sugar mills of Eastern Uttar Pradesh. Other justifications for adopting non-probabilistic sampling technique were geographical scattered-ness of the population and time limitations of the research, etc. Namely the sampling technique of the study was Purposive Sampling.

3.2.3 SAMPLE SIZE: Sample size of the study was segregated into two parts as per the objectives of the study. In the first part 90 samples of managers of sugar mills of Eastern Uttar Pradesh were picked up for the first and second objectives and in the second part 300 samples of sugarcane cultivating farmers belonging to the area of sugar mills of Eastern Uttar Pradesh were picked for the third objective.

3.2.4 CHARACTERISTICS OF THE SAMPLE: Samples were collected from managers of sugar mills and sugarcane cultivating farmers of the area of concerned sugar mills. The basic characteristics of the samples were their homogeneity in regard with their professions and education i.e. the managers were well educated and most of the sugarcane cultivating farmers were either illiterate or less educated.

3.3.0 VARIABLES

There were 3 objectives of the study each having two variables in which one was independent variable and other was dependent variable. The objective wise discussions of variables of the study have been given below.

3.3.1.0 VARIABLES IN FIRST OBJECTIVE

The first objective of the study was “to study the impact of determinants of Supply Chain Management on Performance of Sugar Industry of Eastern Uttar Pradesh” and related hypothesis framed was “there is no significant impact of Supply Chain Management on Organizational Performance of Sugar Industry.” In this objective Supply Chain Management was the Independent Variable (IV) and Organizational Performance was the Dependent Variable (DV).

3.3.1.1 INDEPENDENT VARIABLE- SUPPLY CHAIN MANAGEMENT: Basic Sub-variables of Supply Chain Management are Flow of Material, Flow of Money and Flow of Information. To elicit the required information from the respondents there were three constructs of each Flow of Material, Flow of Money and Flow of Information utilised in this study. The details of Sub-variables of Supply Chain Management and constructs of each Sub-variable have been given below in the table 3.1.

Table 3.1 Independent Variable- SCM from Managers' point of view

Sl. No.	Sub-variable	Construct
1	Flow of Material	This organization has efficient flow of sugarcane from farmers to the sugar mill.
		This organization has efficient flow of work in progress between various production sub-systems.
		This organization has efficient flow of finished goods (sugar) from Mill to ultimate user.
		This organization maintains inventory that meets demand and minimizes cost.
		This organization has Flexibility to meet unforeseen requirements of demand and supply.
2	Flow of Money	This organization has efficient flow of cash from end user to sugar mill.
		This organization has efficient flow of cash from sugar mill to farmers.
3	Flow of Information	This organization has efficient forward flow of information.
		In this organization Supply Chain related information is available as and when required.
		This organization has efficient backward flow of information.
		The Supply Chain activities are well coordinated and integrated in this organization.

3.3.1.2 DEPENDENT VARIABLE- ORGANIZATIONAL PERFORMANCE: There were four Sub-variables (Second Order Construct) of Organizational Performance viz. accounting measures, Operational Measures, Market-based Measures, Survival measures included in this study. The details of Sub-variables of Organizational Performance and first order Constructs and second order Constructs have been given below in the table 3.2.

Table 3.2 Dependent Variable- Organizational Performance

Sl. No.	Sub-variables (Second Order Construct)	First order Construct	Basic Measure
1	Accounting Measures	Profitability	This organization has good Return on Assets.
			This organization has good Return on Equity.
			This organization has profit margin on Sales.
			This organization has good Return on Investment.
			This organization is earning good Net Income in comparison to industry standard.
		Growth	Sales of this organization have increased over years.
			Number of employees of this organization has increased over years.
		Leverage	Debt on Equity of this organization has decreased over years.
			Debt on Total Assets of this organization has decreased over years.
		Liquidity	This organization has adequate cash at hand for its operating cycle.
			This organization has few short term loans.
		Cash Flow	This organization has adequate cash flow.
		2	Operational Measures
Production	This organization has reduced production cycle of sugar.		
	This organization has increased production of sugar.		
Payments	This organization makes timely payment to		

			farmers.
		Cost of Production	This organization has reduced cost of production of sugar.
		Flow of Material	This organization has smooth flow of sugarcane during crushing time.
		Relationship	This organization has good relationship with farmers.
3	Market Based Measure	Return to Shareholders	This organisation gives dividend every year to its shareholders.
4	Survival Measure	Long Term Survival	This organization will survive long time in future.

3.3.3.0 VARIABLES IN SECOND OBJECTIVE

The second objective of the study was “to study the impact of determinants of Supply Chain Management on Organizational Strategic Competence of Sugarcane Industry of Eastern Uttar Pradesh.” Hypothesis related to this objective was “there is no significant impact of Supply Chain Management on Organisational Strategic Competence.” In this objective Independent Variable (IV) was Supply Chain Management and Dependent Variable (DV) was Organizational strategic competence.

3.3.2.1 INDEPENDENT VARIABLE- SUPPLY CHAIN MANAGEMENT FROM MANAGERS’ POINT OF VIEW: The Independent Variable Supply Chain Management for the second objective of this study was same as in the first objective considering that the respondents were the same and have been given in the table 3.1.

3.3.2.2 DEPENDENT VARIABLE- ORGANIZATIONAL STRATEGIC COMPETENCE: There were two Sub-variables in the Dependent Variable- Organizational Strategic competence viz. Skills and Knowledge. The details of Sub-variables of Organizational Strategic Competence and their Constructs have been given below in the table 3.3.

Table 3.3 Dependent Variable- Organizational Strategic Competence

Sl. No.	Sub-variable	Construct
1	Skills	Loading and unloading skills of sugarcane of employees of this organization has improved.
		Sugarcane crashing skills of employees of this organization has improved.
		Skills of managers of this organization have improved over last few years.
		Sugarcane harvesting skills of farmers concerning to this organization has improved.
2	Knowledge	This organization has sound knowledge of cane harvesting and supply.
		This organization has good knowledge of economic situations of cane supplying farmers.
		This organization has enhanced sugarcane crushing ability of employees.
		This organization has enhanced employee's ability for loading and unloading of sugarcane.
		This organization has ability to compete others.

3.3.3.0 VARIABLES IN THIRD OBJECTIVE

The third objective of the research was “to study the impact Supply Chain Management of Sugar Industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.” In relation to this objective the hypothesis was “there is no significant impact of Supply Chain Management of Sugar Industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.” In this objective the Independent variable (IV) was Supply Chain Management from farmers’ point of view and Dependent Variable (DV) was Socio-economic Condition of farmers of Eastern Uttar Pradesh.

3.3.3.1 INDEPENDENT VARIABLE- SUPPLY CHAIN MANAGEMENT FROM FARMERS' POINT OF VIEW: There were three Sub-variables of Supply Chain Management from Farmers' point of view viz. Flow of Material, Flow of Money and Flow of Information. Every Sub-variable had two construct. The details of Sub-variables and their Constructs have been given below in the table 3.4.

Table 4.4 Independent Variable- SCM from Farmers' point of view

Sl. No.	Sub-variable	Construct
1	Flow of Material	During the crushing time the flow of sugarcane remains smooth from my farm to sugar mill.
		There is no long waiting time for loading vehicle in my farm.
2	Flow of Money	I get timely payment for my sugarcane.
		I purchase inputs timely for sugarcane cultivation.
3	Flow of Information	I get right information from sugar mill regarding payment for my sugarcane.
		I provide regular information to sugar mill regarding my yield.

3.3.3.2. DEPENDENT VARIABLE- SOCIO-ECONOMIC CONDITION

There were seven Sub-variables in the Socio-economic Condition viz. Education, Health, Social Obligation, Social Recognition, Women Empowerment, Income and Employment. The details of Sub-variables of socio-economic Condition and their constructs have been given below in the table 3.5.

Table 3.5 Dependent Variable- Socio-Economic Condition

Sl. No.	Sub-variable	Construct
1	Education	I have more literate family members as compare to those who do not cultivate sugarcane.
		I am able to provide better education to my children as compare to those who do not cultivate sugarcane.
2	Health	My family has more healthy members as compare to others.
3	Social Obligation	My family celebrates festivals in good way as compare to those who do not cultivate sugarcane.
4	Social Recognition	My family has more social recognition as compare to those who do not cultivate sugarcane.
5	Women Empowerment	My family has more female decision makers as compare to those who do not cultivate sugarcane.
6	Income	I earn more income as compare to those who do not cultivate sugarcane.
		I purchase more durable goods as compare to those who do not cultivate sugarcane.
		Cultivation of sugarcane made me able to meet medical expenses of my family.
7	Employment	Cultivation of sugarcane has increased the opportunities of employment in my area.

3.4.0 TOOLS:

The type of research was survey and data were collected from primary sources. In this research study the data were collected in respect of Supply Chain Management (Independent Variable), Organization Performance (Dependent Variable), Organizational Strategic competence (Dependent Variable) and Socio-economic Condition (Dependent Variable) with the help of Questionnaires. There were two Questionnaires in which the first was for the managers of sugar mills regarding the

Supply Chain Management, Organizational Performance and Organizational Strategic Competence and the second was for the sugarcane cultivating farmers of the area of concerned sugar mills regarding the Supply Chain Management from farmers' point of view and Socio-economic Condition of farmers of Eastern Uttar Pradesh. The questionnaires were developed with the help and consultation of supervisor and 10 other experts of the concerned area of Supply Chain Management. Tools opted for the data collection was Questionnaire discussion related to Tool have been given under different captions.

3.4.1 SCALE OF MEASUREMENT: In this study the data were measured on the interval scale. The scale used in this study was Likert's 5 point scale. At the scale 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree. Further 3 = Neutral was defined as $2.5 < x < 3 =$ Moderately Disagree and $3 < x \leq 3.5 =$ Moderately Agree where x is the average value of responses of respondents at Liker's 5 point scale.

3.4.2.0 ITEMS IN QUESTIONNAIRE

There were three objectives in this study and items in the questionnaire have been discussed below objectives wise.

3.4.2.1 ITEMS FOR THE FIRST OBJECTIVES: the first objective of the study was "to study the impact of determinants of Supply Chain Management on Performance of Sugar Industry of Eastern Uttar Pradesh." In relation to this objective the hypothesis was "there is no significant impact of Supply Chain Management on Organizational Performance of sugar industry." In this objective there were two variables in which the first was Supply Chain Management form Managers' point of view and the second was Organizational Performance. Supply Chain Management was Independent Variable and Organizational Performance was Dependent Variable. The items related to these two variables have been presented below in tables 4.6 and 4.7 respectively

**Table 4.6 Items Related to Independent Variable- Supply Chain Management
from Managers' Point of View**

Sl. No.	ITEMS
1	This organization has efficient flow of sugarcane from farmers to the sugar mill.
2	This organization has efficient flow of work in progress between various production sub-systems.
3	This organization has efficient flow of finished goods (sugar) from Mill to ultimate user.
4	This organization maintains inventory that meets demand and minimizes cost.
5	This organization has Flexibility to meet unforeseen requirements of demand and supply.
6	This organization has efficient flow of cash from end user to sugar mill.
7	This organization has efficient flow of cash from sugar mill to farmers.
8	This organization has efficient forward flow of information.
9	In this organization Supply Chain related information is available as and when required.
10	This organization has efficient backward flow of information.
11	The Supply Chain activities are well coordinated and integrated in this organization.

Table 4.7 Items Related to Dependent Variable- Organizational Performance

Sl. No.	ITEMS
1	This organization has good Return on Assets.
2	This organization has good Return on Equity.
3	This organization has profit margin on Sales.
4	This organization has good Return on Investment.
5	This organization is earning good Net Income in comparison to industry standard.
6	Sales of organization have increased over years.
7	The number of employees in this organization has increased over years.
8	Debt on Equity of this organization has decreased over years.
9	Debt on Total Assets of this organization has decreased over years.
10	This organization has adequate cash at hand for its operating cycle.
11	This organization has few short term loans.
12	This organization has adequate cash flow.
13	This organization has minimized the crushing time of sugarcane.
14	This organization has reduced production cycle of sugar.
15	This organization has increased production of sugar.
16	This organization makes timely payment to farmers.
17	This organization has reduced cost of production of sugar.
18	This organization has a smooth flow of sugarcane during crushing time.
19	This organization has a good relationship with farmers.
20	This organization gives dividend every year to its shareholders.
21	This organization will survive a long time in future.

3.4.2.2 ITEMS RELATED TO SECOND OBJECTIVE: The second objective of this study was “to study the impact of determinants of Supply Chain Management on Organizational Strategic Competence of sugarcane industry of Eastern Uttar Pradesh.” Hypothesis in this relation was “there is no significant impact of Chain Management on Organisational Strategic Competence.” Items related to Independent Variable- Supply Chain Management from Managers’ point of view have

already been given in table 3.6 and the items related to Dependent Variable- Organizational Strategic Competence have been presented below in the table 3.8.

Table 4.8 Items Related to Dependent Variable- Organizational Strategic Competence

Sl. No.	ITEMS
1	Loading and unloading skills of sugarcane of employees of this organization has improved.
2	Sugarcane crashing skills of employees of this organization has improved.
3	Skills of managers of this organization have improved over last few years.
4	Sugarcane harvesting skills of farmers concerning to this organization has improved.
5	This organization has sound knowledge of cane harvesting and supply.
6	This organization has good knowledge economic situations of cane supplying farmers.
7	This organization has enhanced sugarcane crushing ability of employees.
8	This organization has enhanced employee's knowledge for loading and unloading of sugarcane.
9	This organization has the ability to compete with others.

3.4.2.3 ITEMS RELATED TO THIRD OBJECTIVE: The third objective of the research was “to study the impact of determinants of Supply Chain Management of Sugar Industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.” In relation to this objective the hypothesis was “there is no significant impact of Supply Chain Management on Socio-economic Condition of farmers of Eastern Uttar Pradesh.” The Items related to the Independent Variable Supply Chain management from Farmers’ point of view and Dependent Variable Socio-economic Condition has been presented below in the tables 3.9 and 3.10 respectively.

Table 3.9 Item Related to Independent Variable- Supply Chain Management from Farmers' Point of View

Sl. No.	ITEMS
1	During the crushing time the flow of sugarcane remains smooth from my farm to sugar mill.
2	There is no long waiting time for loading vehicle in my farm.
3	I get timely payment for my sugarcane.
4	I purchase inputs timely for sugarcane cultivation.
5	I get right information from sugar mill regarding payment for my sugarcane.
6	I provide regular information to sugar mill regarding my yield.

Table 4.10 Item Related to Dependent Variable- Socio-economic Condition

Sl. No.	Items
1	I have more literate family members as compare to those who do not cultivate sugarcane.
2	I am able to provide a better education for my children as compare to those who do not cultivate sugarcane.
3	My family has more healthy members compared to others.
4	My family celebrate festivals in a good way as compared to those who do not cultivate sugarcane.
5	My family has more social recognition as compared to those who do not cultivate sugarcane.
6	My family has more female decision-makers as compared to those who do not cultivate sugarcane.
7	I earn more income as compare to those who do not cultivate sugarcane.
8	I purchase more durable goods compared to those who do not cultivate sugarcane.
9	Cultivation of sugarcane made me able to meet the medical expenses of my family.
10	Cultivation of sugarcane has increased the opportunities for employment in my area.

3.5.0 PROCEDURE OF DATA COLLECTION

In this research study there were three types of respondents in which first was educated (Managers of sugar mills and some sugarcane cultivating farmers), second was literate (sugarcane cultivating farmers) and third was illiterate (sugarcane cultivating farmers). Data were collected from the managers of sugar mills sending them questionnaire by E-mail, by post to fill it in and approaching them personally to get filled in the questionnaire. In case of sugarcane cultivating farmers, data were collected approaching them personally to get questionnaire filled in.

3.6.0 RELIABILITY AND VALIDITY ANALYSIS

After the collection of data from primary sources with the help of structured questionnaire, the next step was to check the reliability and validity of the collected data. As before checking the reliability and validity of the data, the researcher could not apply any statistical tools and test the Null hypothesis (H_0) and Alternative Hypothesis (H_1). Designing the structured questionnaire the next step was the generation of scale items which was decided by the use of Reliability Analysis and Validity Analysis. For the above purpose, the researcher has selected the Likert's 5 point scale.

3.6.1 RELIABILITY ANALYSIS FOR SCM, ORGANIZATIONAL PERFORMANCE AND ORGANIZATIONAL STRATEGIC COMPETENCE: After conducting the reliability analysis, the results relating to a minimum Cronbach's alpha of 0.70, were checked for final selection of items in the constructs. The researcher has applied the reliability analysis on the structured questionnaire having 42 interval scale items related data from the 90 Managers for the study of Supply Chain Management from managers' points of view, Organizational Performance and Organizational Strategic Competence of the sugar industry of Eastern Uttar Pradesh. The results have been given below in the tables 3.11, 3.12 and 3.14 respectively.

Table 3.11 Reliability Analysis for Independent Variable- Supply Chain Management from Managers' Point of View

Sl. No.	Sub-variable	Construct	Cronbach's Alpha
1	Flow of Material	This organization has an efficient flow of sugarcane from farmers to the sugar mill. (SCM2.1)	0.735
		This organization has an efficient flow of work in progress between various production sub-systems. (SCM2.2)	
		This organization has an efficient flow of finished goods (sugar) from Mill to the ultimate user. (SCM2.3)	
		This organization maintains an inventory that meets demand and minimizes cost. (SCM2.4)	
		This organization has the Flexibility to meet unforeseen requirements of demand and supply. (SCM2.5)	
2	Flow of Money	This organization has an efficient flow of cash from the end user to the sugar mill. (SCM2.6)	1.000
		This organization has an efficient flow of cash from sugar mill to farmers. (SCM2.7)	
3	Flow of Information	This organization has an efficient forward flow of information. (SCM2.8)	0.867
		In this organization Supply Chain related information is available as and when required. (SCM2.9)	
		This organization has an efficient backward flow of information. (SCM2.10)	
		The Supply Chain activities are well coordinated and integrated into this organization. (SCM2.11)	

From Table 3.11 it is quite evident that in the SPSS output of reliability analysis the value Cronbach's Alpha for Flow of Material is 0.735, for Flow of Money is 1.000 and for Flow of Information is 0.867 under Supply Chain Management from the Manager's point of view which are above the minimum acceptable range of Cronbach's Alpha (0.7), therefore the researcher has accepted the selected 5 point Likert scale and the scale is reliable for the further statistical analysis.

Table 4.12 Reliability Analysis for Dependent Variable- Organizational Performance

Sl. No.	Sub-variables (Second Order Construct)	First order Construct	Basic Measure	Cronbach's Alpha
1	Accounting Measures	Profitability	This organization has a good Return on Assets. (OP3.1)	0.966
			This organization has a good Return on Equity. (OP3.2)	
			This organization has a profit margin for Sales. (OP3.3)	
			This organization has a good Return on Investment. (OP3.4)	
			This organization is earning good Net Income in comparison to industry standard. (OP3.5)	
		Growth	Sales of this organization have increased over years. (OP3.6)	1.000
			The number of employees in this organization has increased over years. (OP3.7)	
		Leverage	Debt on equity of this organization has decreased over years. (OP3.8)	0.780
			Debt on Total Assets of this organization has decreased over years. (OP3.9)	
		Liquidity	This organization has adequate cash at hand for its operating	0.701

			cycle. (OP3.10)	
			This organization has a few short-term loans. (OP3.11)	
		Cash Flow	This organization has adequate cash flow. (OP3.12)	
2	Operational Measures	Crushing Time of sugarcane	This organization has minimized the crushing time of sugarcane. (OP3.13)	
		Production	This organization has reduced production cycle of sugar. (OP3.14)	0.835
			This organization has increased production of sugar. (OP3.15)	
		Payments	This organization makes timely payment to farmers. (OP3.16)	
		Cost of Production	This organization has reduced the cost of production of sugar. (OP3.17)	
		Flow of Material	This organization has a smooth flow of sugarcane during the crushing time. (OP3.18)	
		Relationship	This organization has a good relationship with farmers. (OP3.19)	
3	Market-Based Measure	Return to Shareholders	This organization gives dividend every year to its shareholders. (OP3.20)	
4	Survival Measure	Long-Term Survival	This organization will survive a long time in the future. (OP3.21)	

From Table 3.12 it is clear the in the SPSS output of reliability analysis the value of Cronbach's Alpha for Profitability is 0.966, for Growth is 1.000, for Leverage is 0.780 and for Liquidity is 0.701 under Accounting Measure and for Production is 0.835 under operational measures from the Manager's point of view which are above the minimum acceptable range of Cronbach's Alpha (0.7), therefore the researcher has accepted the selected 5 point Likert scale and the scale is reliable for the further statistical analysis.

Table 4.13 Reliability Analysis for Dependent Variable- Organizational Strategic Competence

SN.	Sub-variable	Construct	Cronbach's Alpha
1	Skills	Loading and unloading skills of sugarcane of employees of this organization have improved. (OSC3.22)	0.891
		Sugarcane crashing skills of employees of this organization have improved. (OSC3.23)	
		Skills of managers in this organization have improved over the last few years. (OSC3.24)	
		Sugarcane harvesting skills of farmers concerning to this organization has improved. (OSC3.25)	
2	Knowledge	This organization has a sound knowledge of cane harvesting and supply. (OSC3.26)	0.789
		This organization has a good knowledge of economic situations of cane supplying farmers. (OSC3.27)	
		This organization has enhanced the sugarcane crushing ability of employees. (OSC3.28)	
		This organization has enhanced employee's ability for loading and unloading of sugarcane. (OSC3.29)	
		This organization has the ability to compete with others. (OSC3.30)	

From Table 3.13 it is evident that in the SPSS output of reliability analysis the value of Cronbach's Alpha for Skill is 0.891 and for Knowledge is 0.789 under Organizational Strategic competence from the Manager's point of view which are above the minimum acceptable range of Cronbach's Alpha (0.7), therefore the researcher has accepted the selected 5 points Likert scale and the scale is reliable for the further statistical analysis.

3.6.2 RELIABILITY ANALYSIS FOR SUPPLY CHAIN MANAGEMENT FROM FARMERS' POINT OF VIEW AND SOCIO-ECONOMIC CONDITION

The researcher has applied the reliability analysis on the questionnaire having 16 interval scale items related data from the 300 farmers for the study of Supply Chain Management of sugar industry from Farmer's points of view and Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Table 3.14 Independent Variable SCM from Farmers' point of view

Sl. No.	Sub-variable	Construct	Cronbach's Alpha
1	Flow of Material	During the crushing time the flow of sugarcane remains smooth from my farm to the sugar mill. (SCMF2.1).	0.887
		There is no long Waiting time for loading vehicle in my farm. (SCMF2.2)	
2	Flow of Money	I get timely payment for your sugarcane. (SCMF2.3)	0.744
		I purchase timely inputs for sugarcane cultivation. (SCMF2.4)	
3	Flow of Information	I get the right information from sugar mill regarding payment for your sugarcane. (SCMF2.5)	0.846
		I provide regular information to sugar mill regarding your yield. (SCMF2.6)	

From Table 3.14 it is clear that in the SPSS output of reliability analysis the value of Cronbach's Alpha for Flow of Material is 0.887, for Flow of Money is 0.744 and for Flow of Information is 0.846 under Supply Chain Management from the Farmer's point of view which are above the minimum acceptable range of Cronbach's Alpha

(0.7), therefore the researcher has accepted the selected 5 point Likert scale and the scale is reliable for the further statistical analysis.

Table 3.15 Dependent Variable Socio-economic Condition

SN.	Sub-variable	Construct	Cronbach's Alpha
1	Education	I have more literate family members as compare to those who do not cultivate sugarcane. (SEC3.1)	0.743
		I am able to provide a better education for my children as compare to those who do not cultivate sugarcane. (SEC3.2)	
2	Health	My family has more healthy members compared to others. (SEC3.3)	
3	Social Obligation	My family celebrates our festivals in a good way as compared to those who do not cultivate sugarcane. (SEC3.4)	
4	Social Recognition	My family has more social recognition as compared to those who do not cultivate sugarcane. (SEC3.5)	
5	Women Empowerment	My family has more female decision-makers as compared to those who do not cultivate sugarcane. (ESEC3.6)	
6	Income	I earn more income as compare to those who do not cultivate sugarcane. (SEC3.7)	0.811
		I purchase more durable goods compared to those who do not cultivate sugarcane. (SEC3.8)	
		Cultivation of sugarcane made me able to meet the medical expenses of my family. (SEC3.9)	
7	Employment	Cultivation of sugarcane has increased the opportunities for employment in my area. (SEC3.10)	

From Table 3.15 it is quite evident that in the SPSS output of reliability analysis the value of Cronbach's Alpha for Education is 0.743 and for Income is 0.811 under Socio-economic Condition from the Farmer's point of view which are above the

minimum acceptable range of Cronbach's Alpha (0.7), therefore the researcher has accepted the selected 5 points Likert scale and the scale is reliable for the further statistical analysis.

3.7.0 VALIDITY ANALYSIS:

Validity is the property of a tool by which assurance is met that the tool is measuring what it is supposed to measure. There are various forms of validity analysis such as Discriminant validity, Content Validity, Predictive Validity but the researcher has applied the Content Validity which is defined as the representativeness of what is measured, in drawing conclusions about the property. The validity analysis was done by expert opinions of the professionals having the rich experience in the field of sugar industry and based on the basis of review on literature (ROL).

3.8.0 DATA ANALYSIS

The analyses of data have been done in two stages. Under first stage analysis the data related to demography of managers SCM from managers' point of view, Organizational Performance, Organizational Strategic Competence, demography of farmers, Supply Chain Management from farmers' point of view and Socio-economic Condition were analysed with the help of simple Frequency Test, Bar Chart and Pie Chart. Under second stage analysis data related to Supply Chain Management from managers' point of view, Organizational Performance and Organizational Strategic Competence were analysed objective wise. For the analysis of data SPSS software has been utilised in the study. The details of statistical technics used in the data analysis have been discussed below objective wise

3.8.1 STATISTICAL TECHNIQUE USED FOR THE FIRST

OBJECTIVE: The first objective of this study was "to study the impact of determinants of Supply Chain Management on Organizational Performance of Sugar Industry of Eastern Uttar Pradesh." The associated hypothesis to this objective was "there is no significant impact of Supply Chain Management on Organisational Performance of sugar industry." Thus the statistical techniques used for data analysis and hypothesis testing were correlation and regression.

3.8.2 STATISTICAL TECHNIQUE USED FOR THE SECOND OBJECTIVE: The second objective of the study was “to study the impact of determinants of Supply Chain Management on Organizational Strategic Competence of Sugarcane Industry of Eastern Uttar Pradesh.” Hypothesis related to this objective was “there is no significant impact of Supply Chain Management on Organisational Strategic Competence.” Thus the statistical techniques used to analyse the data and hypothesis testing were correlation and regression.

3.8.3 STATISTICAL TECHNIQUE USED FOR THE THIRD OBJECTIVE: The third objective of this study was “to study the impact of determinants of Supply Chain Management of Sugar Industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.” The associated hypothesis to this objective was “there is no significant impact of Supply Chain Management of Sugar Industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.” Thus the Statistical Techniques used for data analysis and hypothesis testing were correlation and regression.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

4.1.0 INTRODUCTION

The previous chapter was concerned with research methodology followed in the study and a detailed discussion over research methodology adapted in the study has been discussed in the chapter. Present chapter is dedicated to the analysis of data which were collected with the help of questionnaire from 90 managers of sugar mills of various districts of Eastern Uttar Pradesh and from 300 sugarcane farmers of various districts of Eastern Uttar Pradesh. The analyses of data have been divided into two stages viz. first stage analysis and second stage analysis in which under the first stage analysis the data related to demography of managers, SCM from managers' point of view, Organizational Performance, Organizational Strategic Competence, demography of farmers, SCM from farmers' point of view and Socio-economic Condition of farmers were analysed with the help of simple Frequency Test, Bar Chart and Pie Chart and under the second stage analysis data related to Supply Chain Management, Organizational Performance and Organizational Strategic Competence were analysed with the help of Frequency Test, Correlation and Regression analysis. For the analysis of data SPSS and Microsoft Excel software have been utilised in this study. The detailed analyses of data and their interpretations have been given below under various captions.

4.2.0 FIRST STAGE ANALYSIS

Under the first stage analysis the data related to demography of managers, Supply Chain Management from managers' point of view, Organizational Performance, Organizational Strategic Competence, demography of farmers, Supply Chain Management from farmers' point of view and Socio-economic Condition of farmers were analysed with the help of simple Frequency Test, Bar Chart and Pie Chart. The detailed analysis of data and its interpretations have been below given under various captions.

4.2.1.0 ANALYSIS OF DATA RELETED TO MANAGERS' DEMOGRAPHY

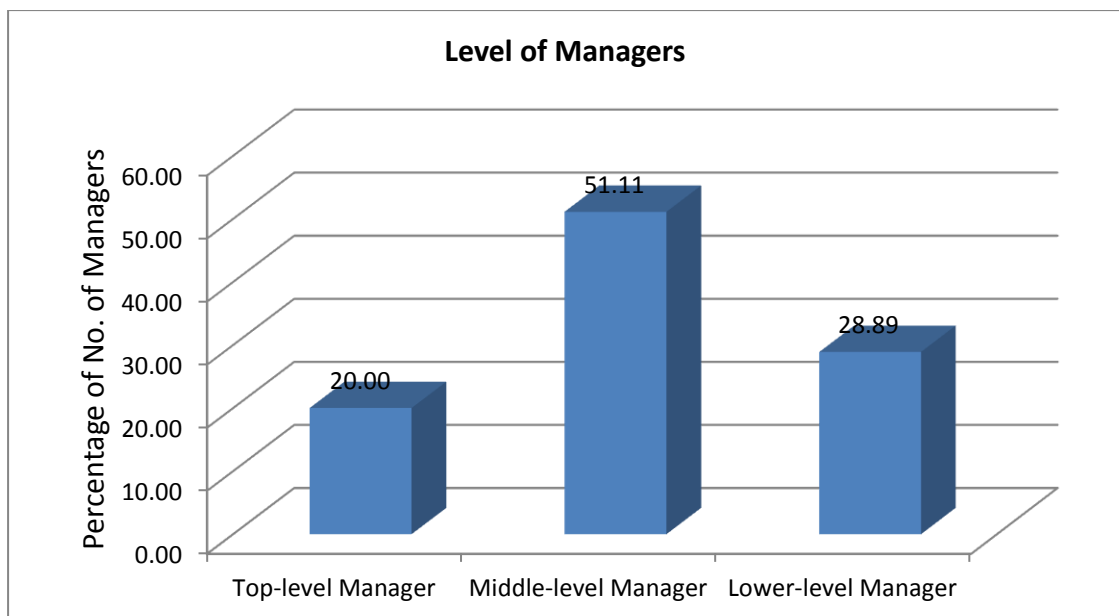
The data related to demography of managers of sugar mills of Eastern Uttar Pradesh were analysed with the help of simple Frequency Test and Bar Chart. The detailed analyses of data and their interpretations have been presented below under different captions.

4.2.1.1 ANALYSIS AND INTERPRETATION OF LEVEL OF MANAGERS:

Table 4.59 Level of Managers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Supervisor	18	20.0	20.0	20.0
Manager	46	51.1	51.1	71.1
Senior Manager	26	28.9	28.9	100.0
Total	90	100.0	100.0	

Bar Chart 4.1



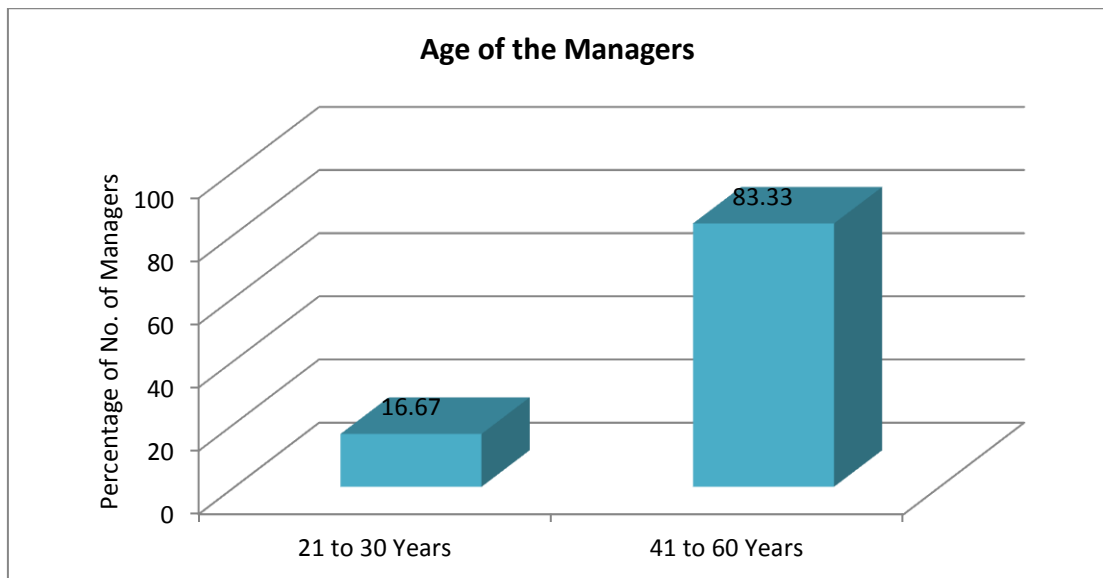
From the Table 4.1 and Bar Chart 4.1 it is clear that 20% respondents are Top-level Managers, 52.11% respondents are Middle-level Managers and 28.89% respondents are Lower-level Managers. Therefore it could be concluded that more than half of the managers were Middle-level Managers.

4.2.1.2 ANALYSIS AND INTERPRETATION OF AGE OF MANAGERS:

Table 4.2 Age of the Managers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 21 to 30 Years	15	16.7	16.7	16.7
41 to 60 Years	75	83.3	83.3	100.0
Total	90	100.0	100.0	

Bar Chart 4.2



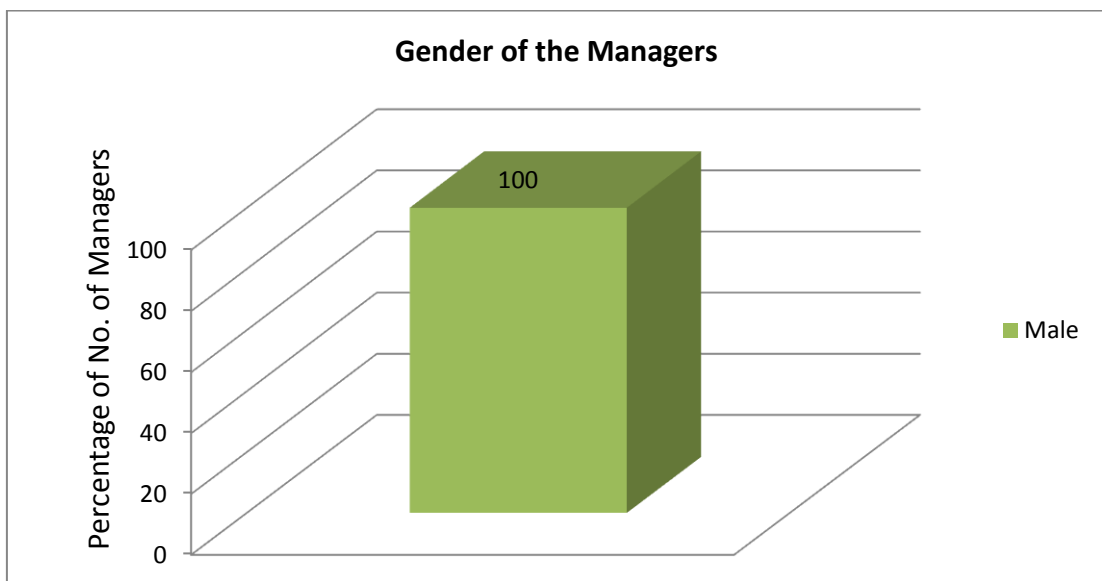
From Table 4.2 and Bar Chart 4.2 it is clear that 16.67 % respondents are in the age group of 21-30 year whereas 83.33% respondents are in the age group of 41-60 year. It may, therefore, be concluded that the respondents were mature enough to express their opinions about the Supply Chain Management, Organizational Performance and Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh.

4.2.1.3 ANALYSIS AND INTERPRETATION OF GENDER OF MANAGERS:

Table 4.3 Gender of the Managers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	90	100.0	100.0	100.0

Bar Chart 4.3



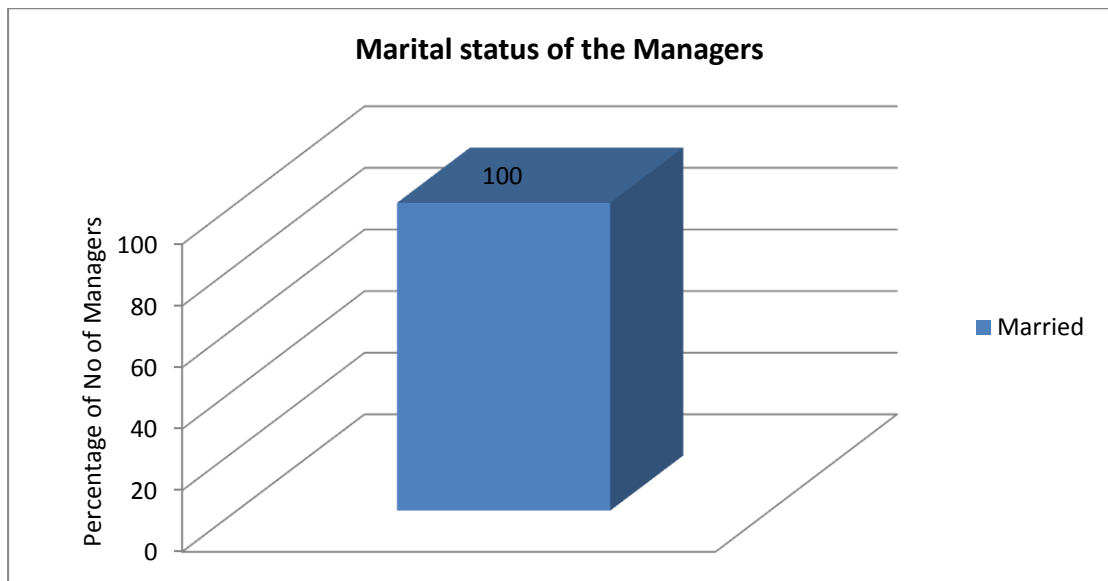
From the Table 4.3 and Bar Chart 4.3 it is evident that all the respondents are the males. It may, therefore, be said that, all managers were found to be male in the sugar industry of Eastern Uttar Pradesh.

4.2.1.4 ANALYSIS AND INTERPRETATION OF MARITAL STATUS OF MANAGERS:

Table 4.4 Marital status of Managers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	90	100.0	100.0	100.0

Bar Chart 4.4



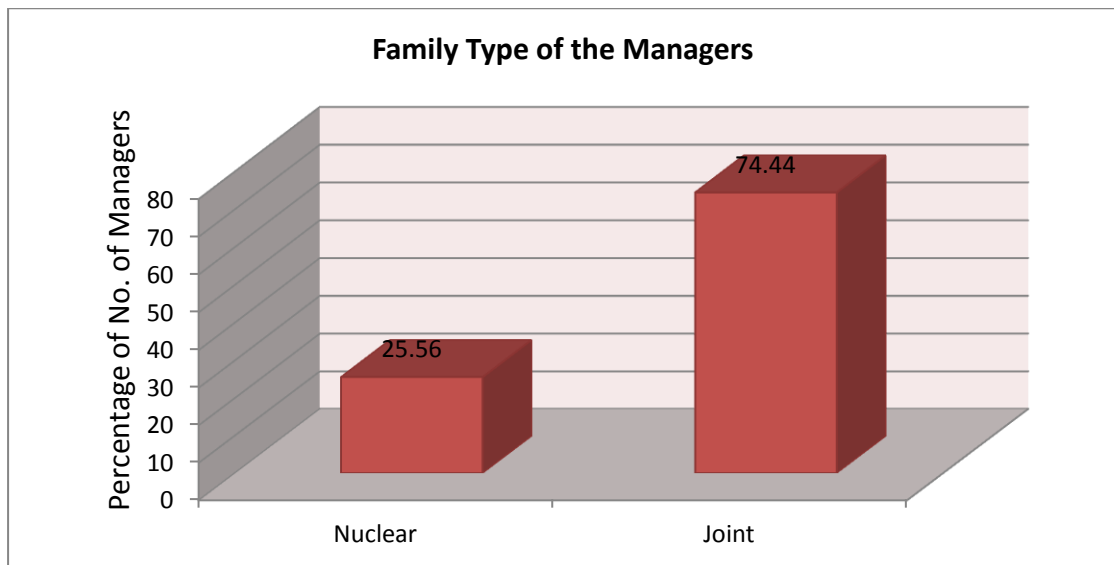
From Table 4.4 and Bar Chart 4.4 it is evident that all the managers are married. It may, therefore, be concluded that managers were found to have both the responsibilities of family and professional life that led to more experienced and mature responses with respect to Supply Chain Management, Organizational Performance and Organizational Strategic competence of sugar industry of Eastern Uttar Pradesh.

4.2.1.5 ANALYSIS AND INTERPRETATION OF FAMILY TYPE OF MANAGERS:

Table 4.2 Family Type of the Managers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Nuclear	23	25.6	25.6	16.7
Joint	67	74.4	74.4	100.0
Total	90	100.0	100.0	

Bar Chart 4.5



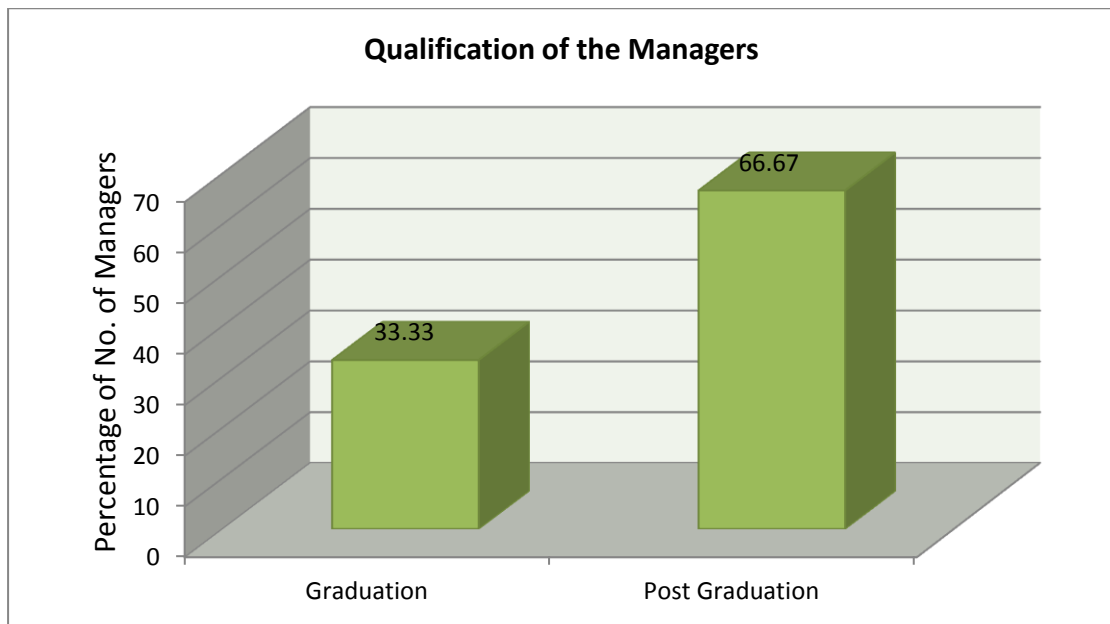
From Table 4.5 and Bar Chart 4.5 it is clear that 25.56% managers are living in the nuclear family concept and 74.44% managers are living in joint family concept. It may, therefore, be said that most of the managers were found to live in joint family concept which indicated that the most of the sugar industries are situated in the remote area or villages and the concept of joint family is a reality in the Indian villages whereas in Indian cities the nuclear family is the reality.

4.2.1.6 ANALYSIS AND INTERPRETATION OF QUALIFICATION OF MANAGERS:

Table 4.6 Qualification of Managers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Graduate	30	33.3	33.3	33.3
Post Graduate	60	66.7	66.7	100.0
Total	90	100.0	100.0	

Bar Chart 4.6



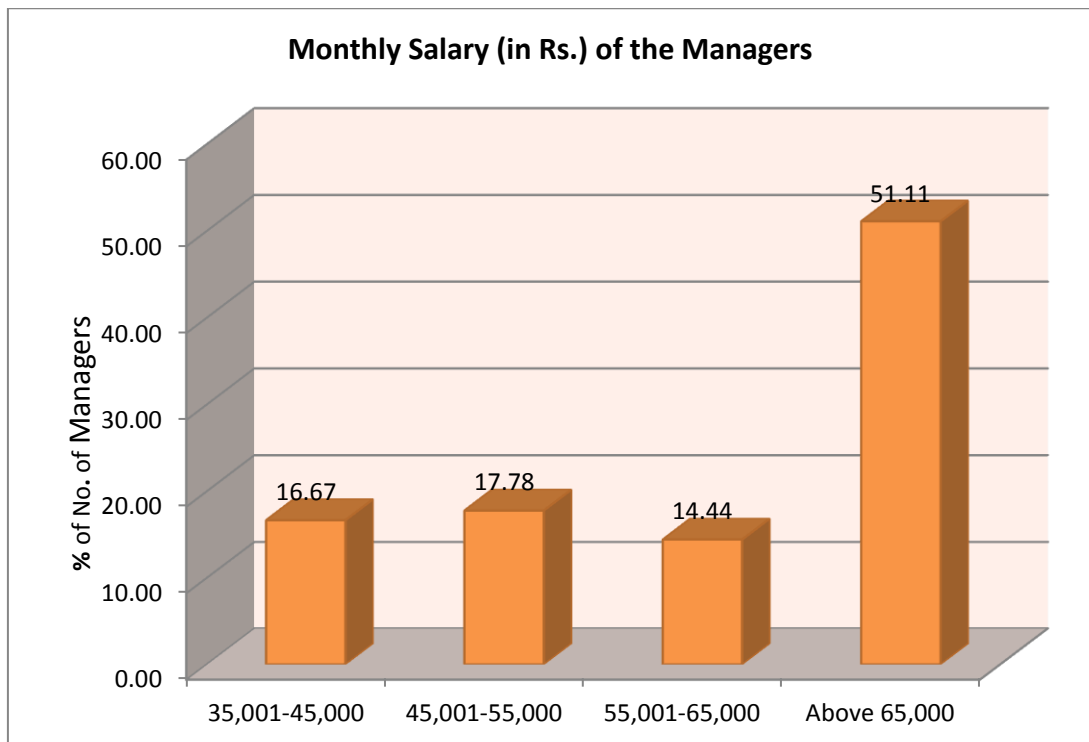
From Table 4.6 and Bar Chart 4.6 it is clear that 33.33% respondents are Graduate whereas 66.67% respondents are postgraduate. It may, therefore, be said that most of the managers were found to be well educated and their responses were reliable and valid.

4.2.1.7 ANALYSIS AND INTERPRETATION OF MONTHLY SALARY (in Rs.) OF MANAGERS:

Table 4.7 Monthly salary (in Rs.) of the Managers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 35,001-45,000	15	16.67	16.67	16.67
45,001-55,000	16	17.78	17.78	34.45
55,001-65,000	13	14.44	14.44	48.89
Above 65,000	46	51.11	51.11	100.0
Total	90	100.0	100.0	

Bar Chart 5.7



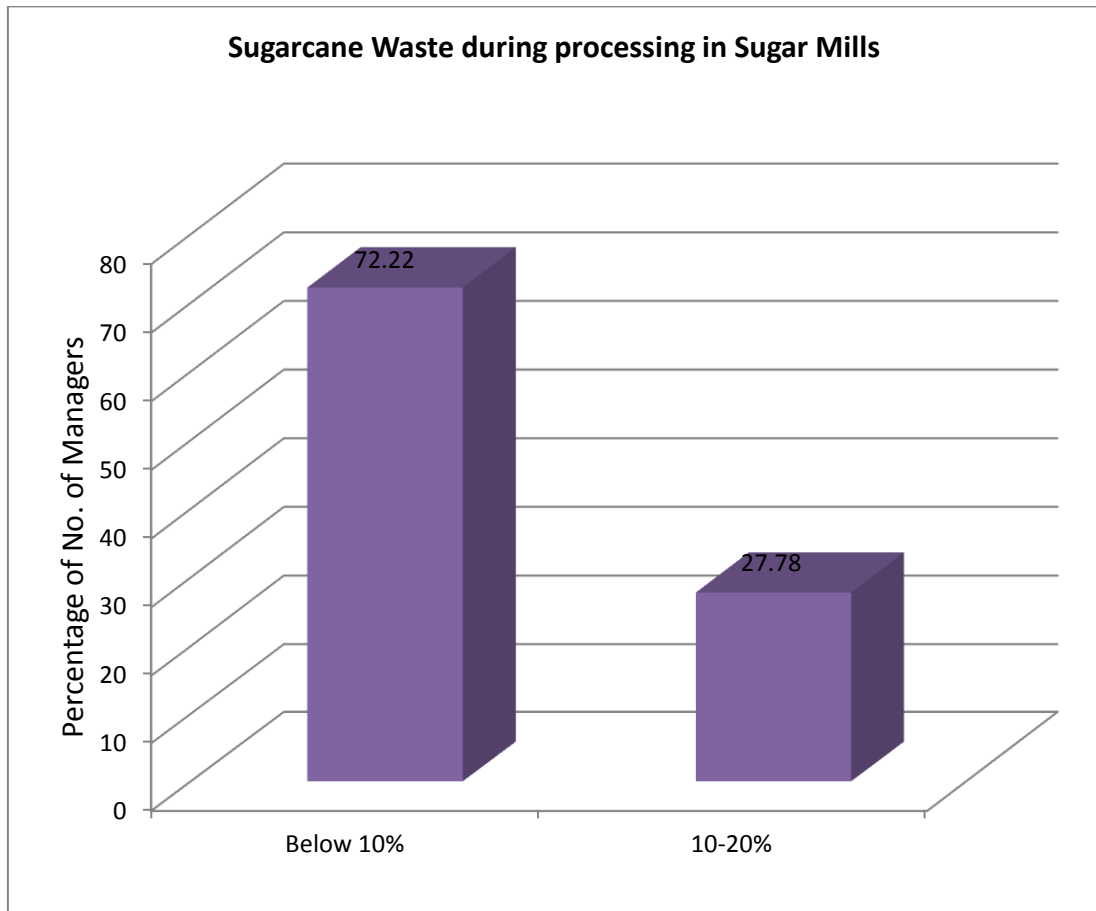
From Table 4.7 and Bar Chart 4.7 it is evident that 16.67% respondents are getting monthly salary between Rs. 35001 - 45000, 17.78% respondents are getting monthly salary between Rs. 45001 - 55000, 14.44% respondents are getting monthly salary between Rs. 55001 – 65000 and 51.11 % respondents are getting monthly salary above Rs. 65000. It may, therefore, be concluded that more than half of the manager were found to have monthly salary above Rs. 65000.

4.2.1.8 SUGARCANE WASTE DURING PROCESSING IN SUGAR MILES:

Table 4.8 Sugarcane Waste During Processing in Sugar Mills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 10%	65	72.2	72.2	72.2
	10-20 %	25	27.8	27.8	100.0
	Total	90	100.0	100.0	

Bar Chart 4.8



From Table 4.8 and Bar Chart 4.8 it is evident that 72.22% managers maintains that below 10% sugarcane wastage during the processing and 27.78% managers claims that 10-20% sugarcane wastage during the processing in the sugar mills. It may, therefore, be concluded that sugarcane waste during processing in the sugar industry of Eastern Uttar Pradesh was found to be below 10%.

4.2.2.0 ANALYSIS OF DATA RELETED TO ITEMS UNDER SUPPLY CHAIN MANAGEMENT FROM MANAGERS' POINT OF VIEW

The items related to Supply Chain Management from managers' point of view have been given below in the table 4.9.

Table 4.9 Items Related to Supply Chain Management

Sl. No.	Sub-variable	Items
1	Flow of Material	This organization has an efficient flow of sugarcane from farmers to the sugar mill.
		This organization has an efficient flow of work in progress between various production sub-systems.
		This organization has an efficient flow of finished goods (sugar) from Mill to the ultimate user.
		This organization maintains an inventory that meets demand and minimizes cost.
		This organization has the Flexibility to meet unforeseen requirements of demand and supply.
2	Flow of Money	This organization has an efficient flow of cash from the end user to the sugar mill.
		This organization has an efficient flow of cash from sugar mill to farmers.
3	Flow of Information	This organization has an efficient forward flow of information.
		In this organization Supply Chain related information is available as and when required.
		This organization has an efficient backward flow of information.
		The Supply Chain activities are well coordinated and integrated into this organization.

The data related to items under Supply Chain Management from managers' point of view were analysed with the help of simple Descriptive Statistics, Frequency Test and Pie Chart. The detailed analyses of data and their interpretations have been given below under different captions.

4.2.2.1 ANALYSIS AND INTERPRETATION OF FLOW SUGARCANE DURING CRUSHING TIME:

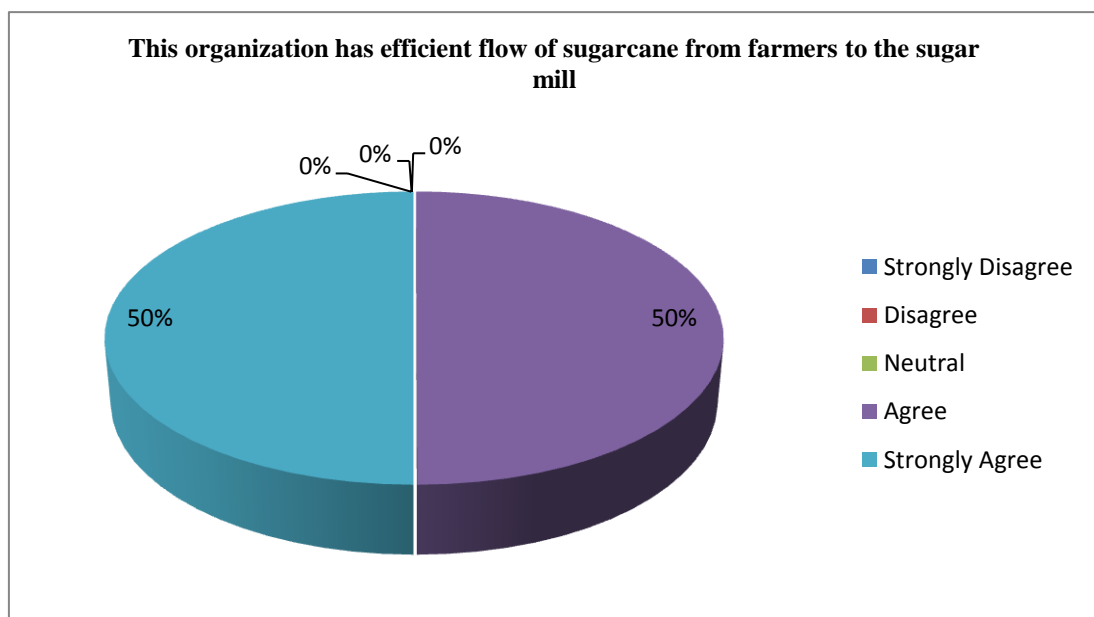
Table 4.10 (a) Descriptive Statistics of Flow of Sugarcane During Crushing Time

	N	Minimum	Maximum	Mean	Std. Deviation
This organization has an efficient flow of sugarcane from farmers to the sugar mill.	90	4	5	4.50	.503
Valid N (listwise)	90				

From Table 4.10 (a) it is clear that the mean score of managers' responses about the statement "This organization has efficient flow of sugarcane from farmers to the sugar mill" is 4.50 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of managers about the statement "This organization has efficient flow of sugarcane from farmers to the sugar mill" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.10 (b) This organization has an efficient flow of sugarcane from farmers to the sugar mill

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	45	50.0	50.0	50.0
Strongly Agree	45	50.0	50.0	100.0
Total	90	100.0	100.0	

Pie Chart 4.1

From Table 4.10 (b) and Pie Chart 4.1 it is evident that 50% respondents are agree and 50% respondents are strongly agree with the statement “This organization has an efficient flow of sugarcane from farmers to the sugar mill.” It may, therefore be said that half of the managers were found to be agreed and half of the managers were found to be strongly agreed with the statement.

4.2.2.2 ANALYSIS AND INTERPRETATION OF WORK IN PROGRESS:

Table 4.11 (a) Descriptive Statistics of Work in Progress

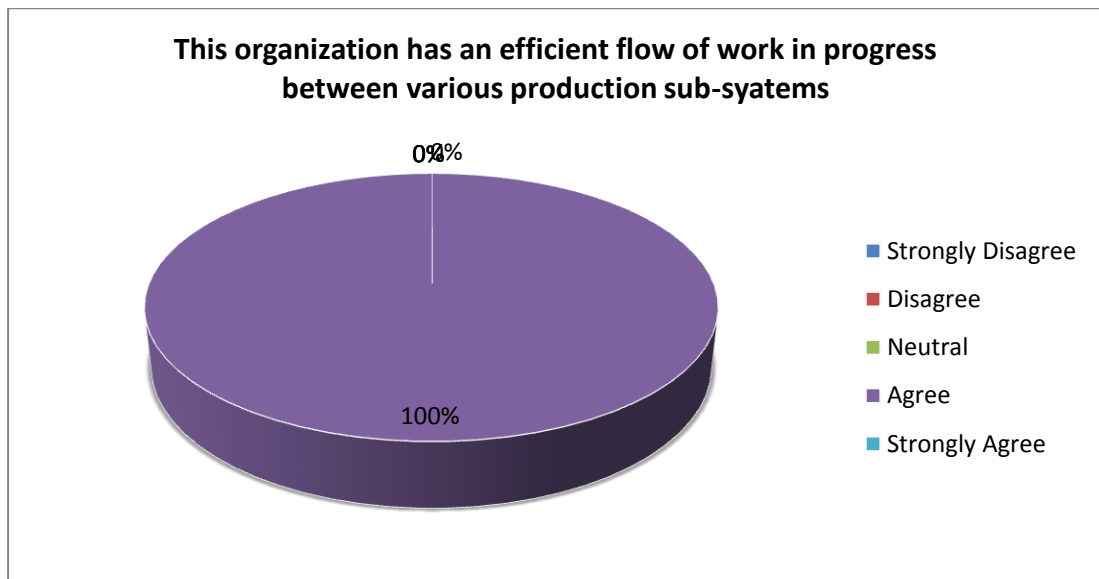
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has an efficient flow of work in progress between various production sub-systems.	90	4	4	4.00	.000
Valid N (listwise)	90				

From Table 4.11 (a) it is evident that the mean score of the managers’ responses about the statement “This organization has efficient flow of work in progress between various production sub-systems” is 4.00 which are exactly equal to 4th point on Likert scale. It may, therefore, be said that the opinions of managers about the statement “This organization has efficient flow of work in progress between various production sub-systems” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.11 (b) This organization has an efficient flow of work in progress between various production sub-systems

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	90	100.0	100.0	100.0

Pie Chart 4.2



From Table 4.11 (b) and Pie Chart 4.2 it is clear that 100% respondents are agree about the statement “This organization has an efficient flow of work in progress between various production sub-systems.” It may, therefore, be concluded that all the managers were found to be agreed with the statement.

4.2.2.3 ANALYSIS AND INTERPRETATION OF FLOW OF FINISHED GOODS:

Table 4.12 (a) Descriptive Statistics of Flow of Finished Goods

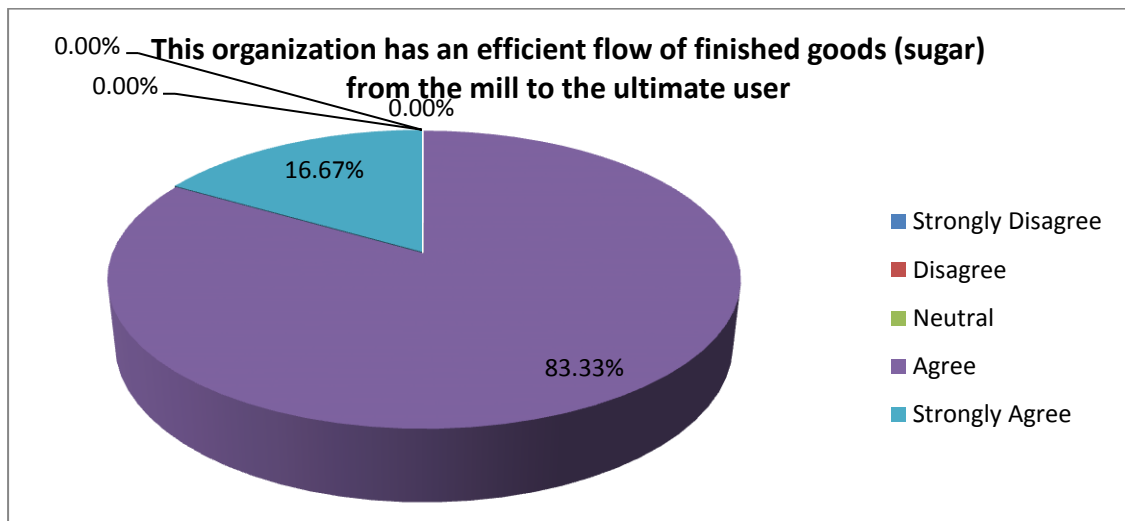
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has an efficient flow of finished goods (sugar) from the mill to the ultimate user.	90	4	5	4.17	.375
Valid N (listwise)	90				

From Table 4.12 (a) it is clear that the mean score of the managers’ responses about the statement “This organization has efficient flow of finished goods (sugar) from mill to ultimate user” is 4.17 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of managers about the statement “This organization has efficient flow of finished goods (sugar) from mill to ultimate user” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.12 (b) This organization has an efficient flow of finished goods (sugar) from the mill to the ultimate user

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	75	83.3	83.3	83.3
	Strongly Agree	15	16.7	16.7	100.0
	Total	90	100.0	100.0	

Pie Chart 4.3



From Table 4.12 and Pie Chart 4.3 it is evident that 83.33% respondents are agree and 16.67% respondents are strongly agree with the statement “This organization has an efficient flow of finished goods (sugar) from the mill to the ultimate user.” It may, therefore, be said that most of the managers were found to be agreed with the statement.

4.2.2.4 ANALYSIS AND INTERPRETATION OF INVENTORY:

Table 4.13 (a) Descriptive Statistics of Inventory

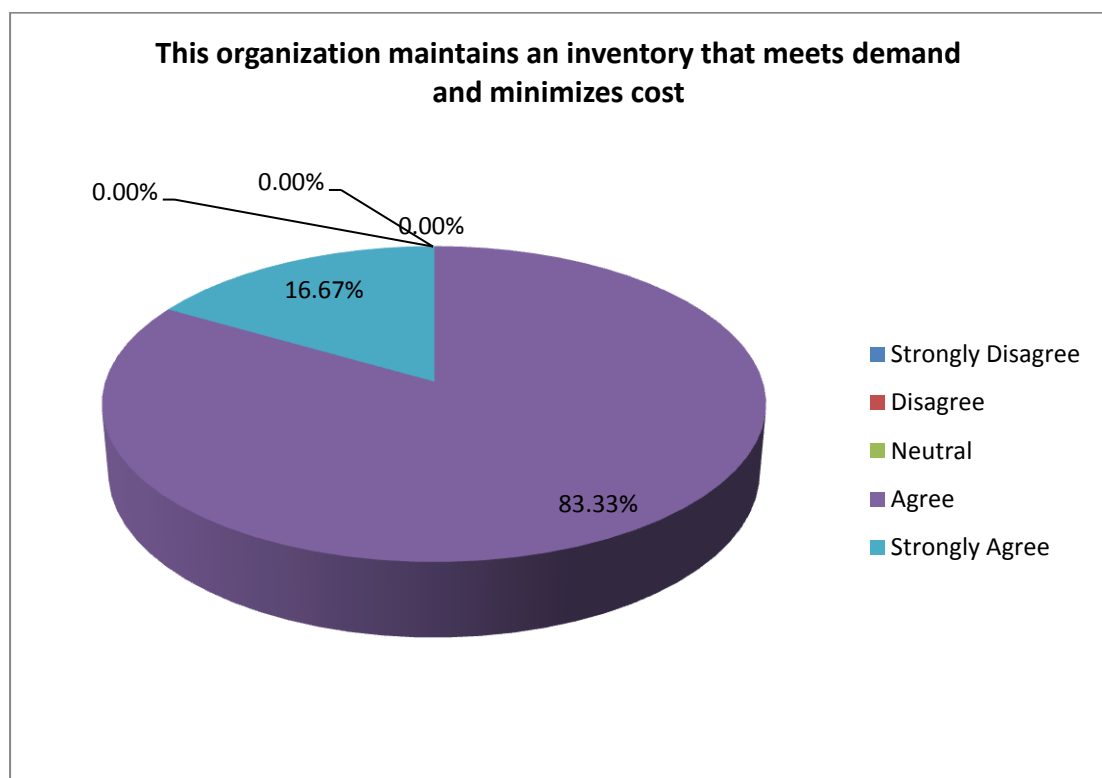
	N	Minimum	Maximum	Mean	Std. Deviation
This organization maintains an inventory that meets demand and minimizes cost.	90	4	5	4.17	.375
Valid N (listwise)	90				

From Table 4.13 (a) it is evident that the mean score of the managers' responses about the statement "This organization maintains inventory that meets demand and minimizes cost" is 4.17 which is tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of managers about the statement "This organization maintains inventory that meets demand and minimizes cost" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.13 (b) This organization maintains an inventory that meets demand and minimizes cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	75	83.3	83.3	83.3
	Strongly Agree	15	16.7	16.7	100.0
	Total	90	100.0	100.0	

Pie Chart 4.4



From Table 4.13 (b) and Pie Chart 4.4 it is evident that 83.33% respondents are agree and 16.67% respondents are strongly agree with the statement "This organization maintains an inventory that meets demand and minimizes cost." It may, therefore, be concluded that most of the managers were found to be agreed with the statement.

4.2.2.5 ANALYSIS AND INTERPRETATION OF FLEXIBILITY:

Table 4.14 (a) Descriptive Statistics of Flexibility

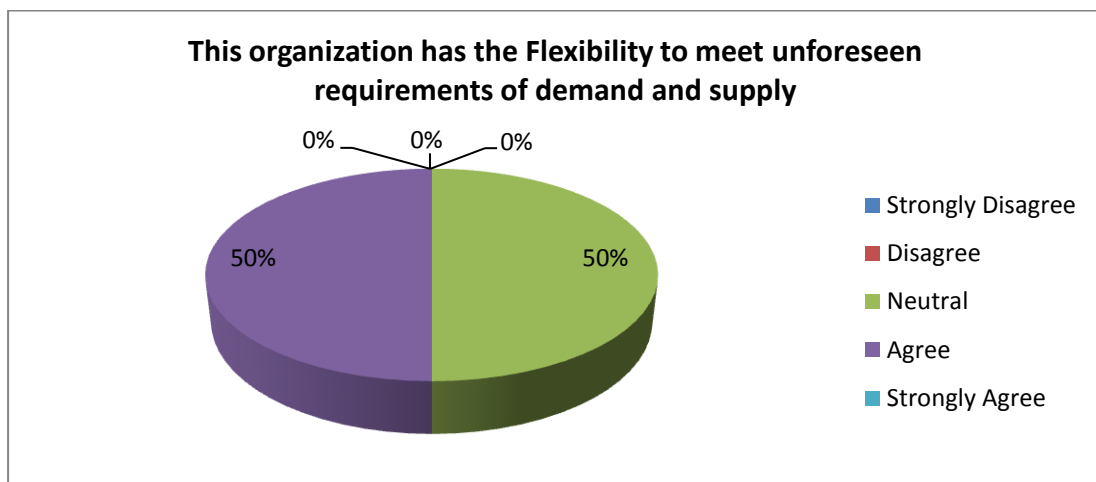
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has the Flexibility to meet unforeseen requirements of demand and supply.	90	3	4	3.50	.503
Valid N (listwise)	90				

From Table 4.14 (a) it is clear that the mean score of the managers' responses about the statement "This organization has the flexibility to meet unforeseen requirements of demand and supply" is 3.50 which is slightly more than 3rd point on Likert scale. It may, therefore, be said that the opinions of managers about the statement "This organization has the flexibility to meet unforeseen requirements of demand and supply" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.14 (b) This organization has the Flexibility to meet unforeseen requirements of demand and supply

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	45	50.0	50.0	50.0
Agree	45	50.0	50.0	100.0
Total	90	100.0	100.0	

Pie Chart 4.5



From Table 4.14 (b) and Pie Chart 4.5 it is evident that 50% respondents are neutral and 50% respondents are agree with the statement “This organization has the flexibility to meet unforeseen requirements of demand and supply.” It may, therefore, be said that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement.

4.2.2.6 ANALYSIS AND INTERPRETATION OF FLOW OF CASH FROM END USER:

Table 4.15 (a) Descriptive Statistics Flow of Cash From End User

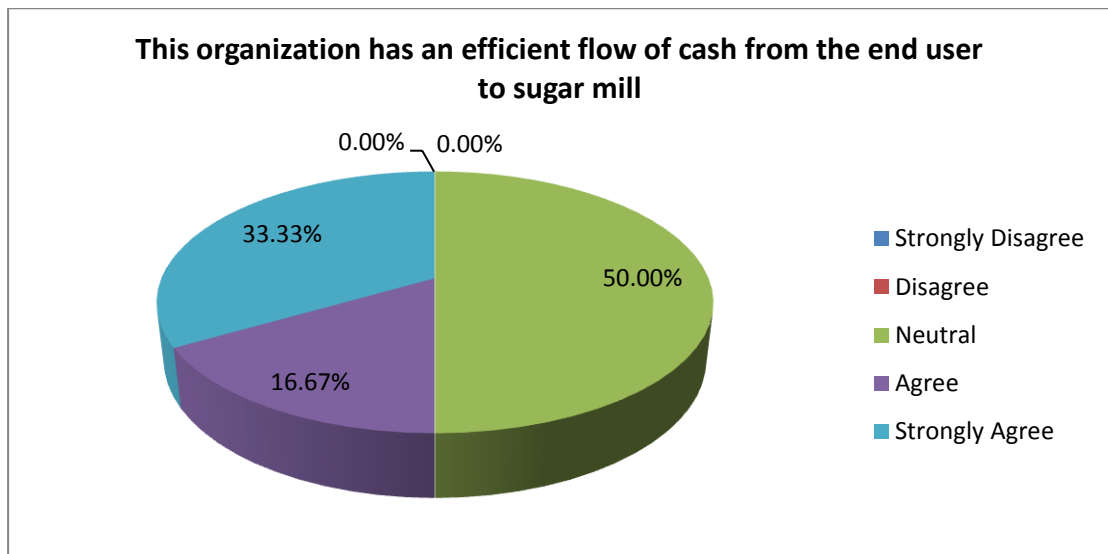
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has an efficient flow of cash from the end user to the sugar mill.	90	3	5	3.83	.903
Valid N (listwise)	90				

From Table 4.15 (a) it is clear that the mean score of the managers’ responses about the statement “This organization has efficient flow of cash from end user to sugar mill” is 3.83 which is tending to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has an efficient flow of cash from end user to sugar mill” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.15 (b) This organization has an efficient flow of cash from the end user to the sugar mill

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	45	50.0	50.0	50.0
Agree	15	16.7	16.7	66.7
Strongly Agree	30	33.3	33.3	100.0
Total	90	100.0	100.0	

Pie Chart 4.6



From Table 4.15 (b) and Pie Chart 4.6 it is evident that 50.00% respondents are neutral, 16.67% respondents are agree and 33.33% respondents are strongly agreed with the statement “This organization has efficient flow of cash from end user to sugar mill.” It may, therefore, be concluded that most of the managers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.2.7 ANALYSIS AND INTERPRETATION OF FLOW OF CASH FROM SUGAR MILLS:

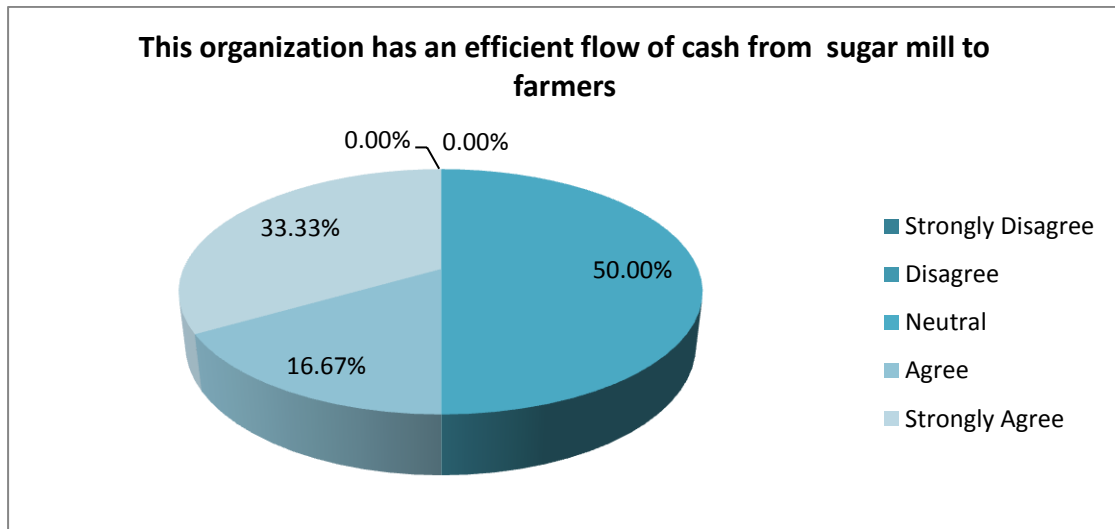
Table 4.16 (a) Descriptive Statistics of Flow of Cash From Sugar Mills

	N	Minimum	Maximum	Mean	Std. Deviation
This organization has an efficient flow of cash from sugar mill to farmers.	90	3	5	3.83	.903
Valid N (listwise)	90				

From Table 4.16 (a) it is evident that the mean score of the managers’ responses about the statement “This organization has efficient flow of cash from sugar mill to farmers” is 3.83 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinion of the managers about the statement “This organization has an efficient flow of cash from sugar mill to farmers” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.16 (b) This organization has an efficient flow of cash from sugar mill to farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	45	50.0	50.0	50.0
	Agree	15	16.7	16.7	66.7
	Strongly Agree	30	33.3	33.3	100.0
	Total	90	100.0	100.0	

Pie Chart 4.7

From Table 4.16 (b) and Pie Chart 4.7 it is evident that 50.00% respondents are neutral, 16.67% respondents are agree and 33.33% respondents are strongly agree with the statement “This organization has an efficient flow of cash from sugar mill to farmers.” It may, therefore, be said that half of the managers were found be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.2.8 ANALYSIS AND INTERPRETATION OF FORWARD FLOW OF INFORMATION:

Table 4.17 (a) Descriptive Statistics of Forward Flow of Information

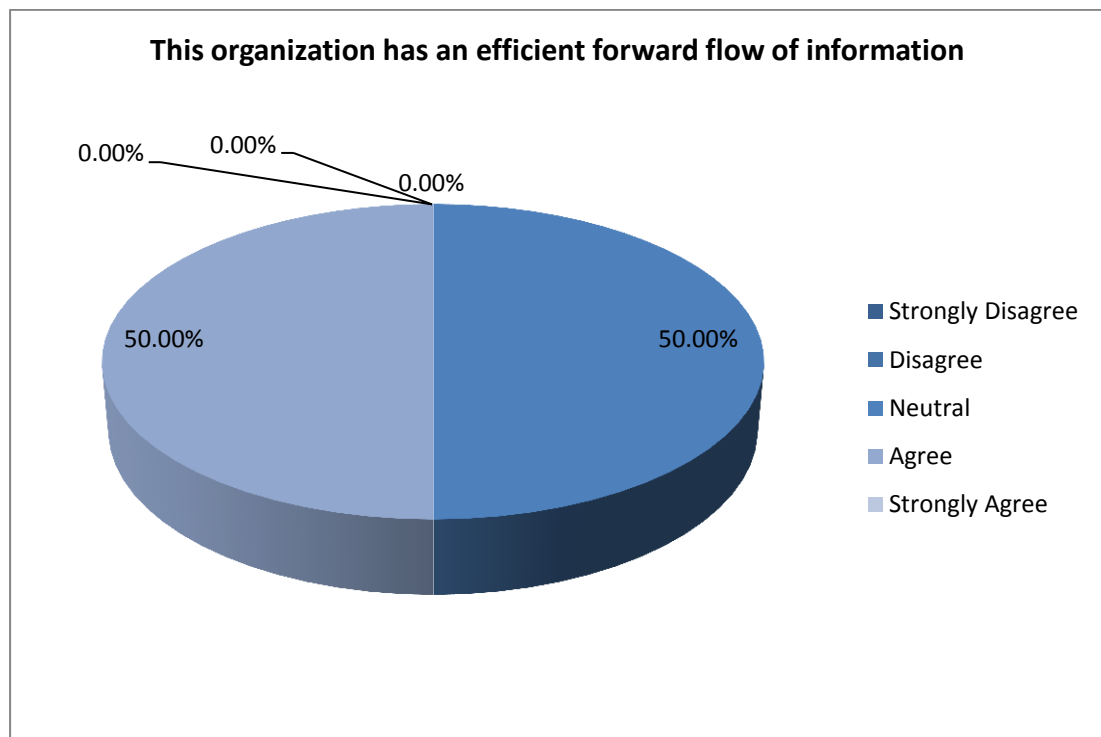
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has an efficient forward flow of information.	90	3	4	3.50	.503
Valid N (listwise)	90				

From Table 4.17 (a) it is evident that the mean score of the managers' responses about the statement "This organization has efficient forward flow of information" is 3.50 which is slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "This organization has efficient forward flow of information" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.17 (b) This organization has an efficient forward flow of information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	45	50.0	50.0	50.0
	Agree	45	50.0	50.0	100.0
	Total	90	100.0	100.0	

Pie Chart 4.8



From Table 4.17 (b) and Pie Chart 4.8 it is evident that 50% respondents are neutral and 50% respondents are agree with the statement "This organization has an efficient forward flow of information." It may, therefore, be said that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.2.9 ANALYSIS AND INTERPRETATION OF AVAILABILITY OF INFORMATION:

Table 4.18 (a) Descriptive Statistics of Availability of Information

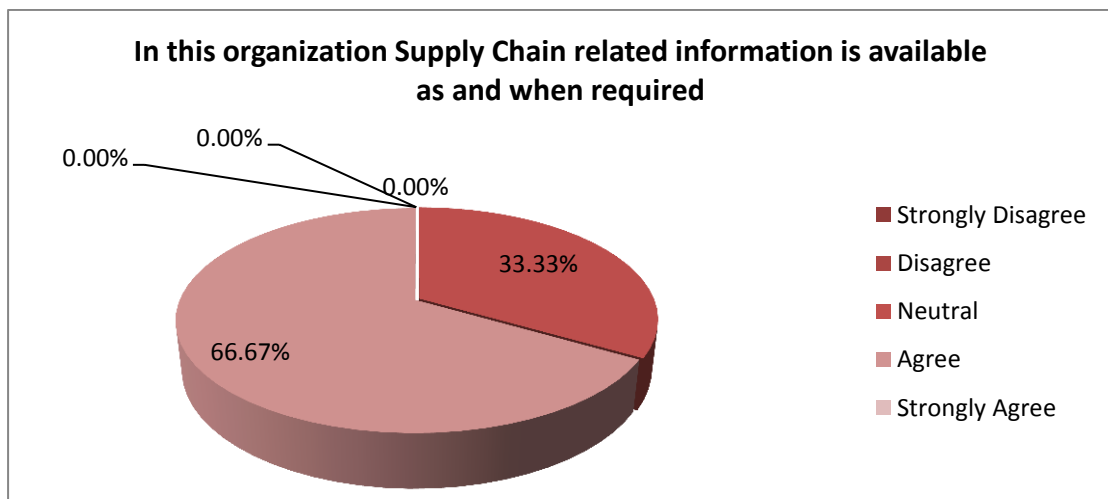
	N	Minimum	Maximum	Mean	Std. Deviation
In this organization Supply Chain related information is available as and when required.	90	3	4	3.67	.474
Valid N (listwise)	90				

From Table 4.18 (a) it is clear that the mean score of the managers' responses about the statement "In this organization Supply Chain related information is available as and when required" is 3.67 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "In this organization Supply Chain related information is available as and when required" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.18 (b) In this organization Supply Chain related information is available as and when required

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	30	33.3	33.3	33.3
Agree	60	66.7	66.7	100.0
Total	90	100.0	100.0	

Pie Chart 4.9



From Table 4.18 (b) and Pie Chart 4.9 it is evident that 33.33% respondents are neutral and 66.7% respondents are agree with the statement “In this organization Supply Chain related information is available as and when required” It may, therefore be said that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.2.10 ANALYSIS AND INTERPRETATION OF BACKWARD FLOW OF INFORMATION:

Table 4.19 (a) Descriptive Statistics of Backward Flow of Information

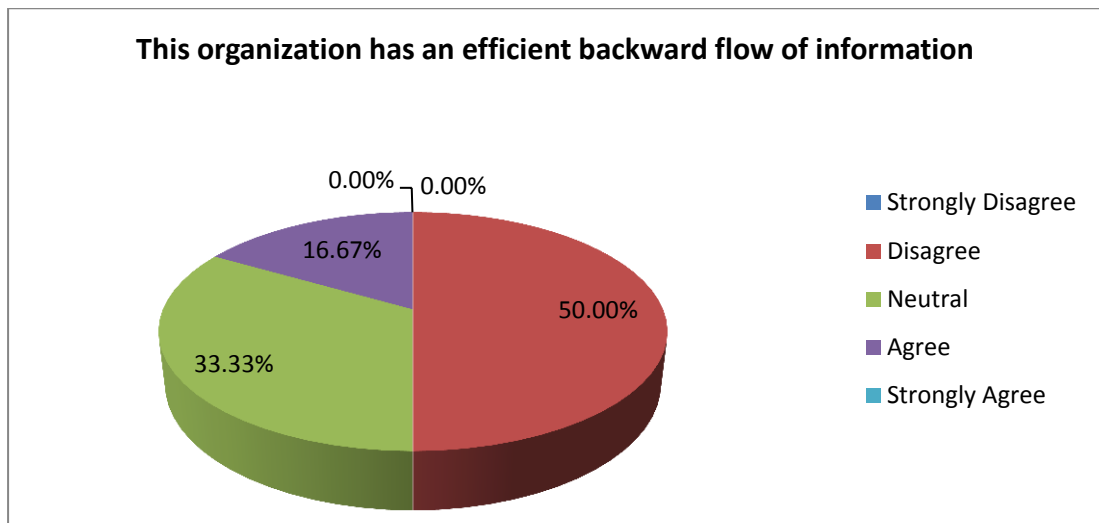
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has an efficient backward flow of information.	90	2	4	2.67	.750
Valid N (listwise)	90				

From Table 4.19 (a) it is clear that the mean score of the managers’ responses about the statement “This organization has an efficient backward flow of information” is 2.67 which is slightly less than 3rd point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has an efficient backward flow of information” were found to be tended to moderately disagree for the sugar industry of Eastern Uttar Pradesh.

Table 4.19 (b) This organization has an efficient backward flow of information

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	45	50.0	50.0	50.0
Neutral	30	33.3	33.3	83.3
Agree	15	16.7	16.7	100.0
Total	90	100.0	100.0	

Pie Chart 4.10



From Table 4.19 (b) and Pie Chart 4.10 it is clear that 50% respondents are disagree, 33.33% respondents are neutral and 16.67% of respondents are agree with the statement “This organization has an efficient backward flow of information.” It may, therefore, be concluded that most of the managers were found to be disagreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.2.11 ANALYSIS AND INTERPRETATION OF COORDINATION AND INTREGRATION OF ACTIVITIES:

Table 4.20 (a) Descriptive Statistics of Coordination and Integration of Activities

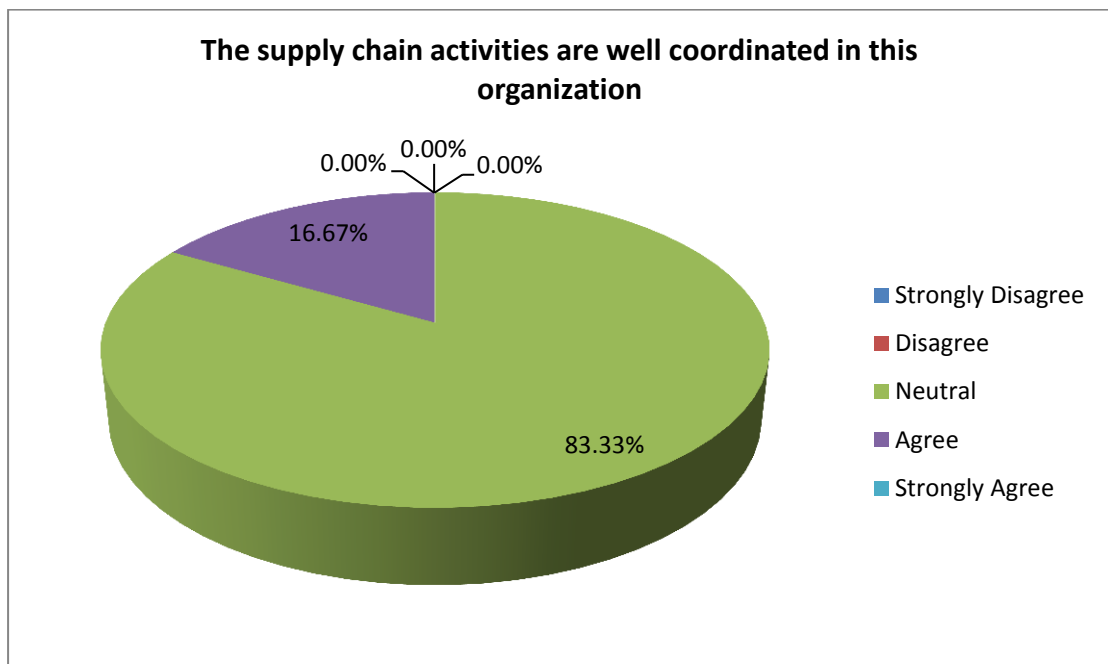
	N	Minimum	Maximum	Mean	Std. Deviation
The Supply Chain activities are well coordinated and integrated into this organization.	90	3	4	3.17	.375
Valid N (listwise)	90				

From Table 4.20 (a) it is evident that the mean score of the managers’ responses about the statement “The Supply Chain activities are well coordinated and integrated in this organization” is 3.17 which is slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of managers about the statement “The Supply Chain activities are well coordinated and integrated into this organization” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.20 (b) The Supply Chain activities are well coordinated and integrated into this organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	75	83.3	83.3	83.3
	Agree	15	16.7	16.7	100.0
	Total	90	100.0	100.0	

Pie Chart 4.11



From Table 4.20 (b) and Pie Chart 4.11 it is evident that 83.33% respondents are neutral and 16.7% respondents are agree with the statement “Supply Chain activities are well coordinated and integrated into to this organization.” It may, therefore, be concluded that most of the managers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.0 ANALYSIS OF DATA RELETED TO ITEMS UNDER ORGANIZATIONAL PERFORMANCE

The items related to Organizational Performance from managers’ point of view have been given below in the table 4.21

Table 4.21 Items Related to Organizational Performance

Sl. No.	Sub-variables (Second Order Construct)	First order Construct	Items
1	Accounting Measures	Profitability	This organization has a good Return on Assets.
			This organization has a good Return on Equity.
			This organization has a profit margin for Sales.
			This organization has a good Return on Investment.
			This organization is earning good Net Income in comparison to industry standard.
		Growth	Sales of this organization have increased over years.
			The number of employees in this organization has increased over years.
		Leverage	Debt on equity of organization has decreased over years.
			Debt on Total Assets of the organization has decreased over years.
		Liquidity	This organization has adequate cash at hand for its operating cycle.
			This organization has a few short-term loans.
		Cash Flow	This organization has adequate cash flow.
		2	Operational Measures
Production	This organization has reduced production cycle of sugar.		
	This organization has increased production of sugar.		
Payments	This organization makes timely payment to farmers.		
Cost of Production	This organization has reduced the cost of production of sugar.		
Flow of Material	This organization has a smooth flow of sugarcane during the crushing time.		
Relationship	This organization has a good relationship with farmers.		
3	Market-Based Measure	Return to Shareholders	This organization gives dividend every year to its shareholders.
4	Survival Measure	Long-Term Survival	This organization will survive a long time in the future.

The data related to items under Organizational Performance from managers' point of view were analysed with the help of simple Descriptive Statistics, Frequency Test and Pie Chart. The detailed analyses of data and their interpretations have been given below under different captions.

4.2.3.1 ANALYSIS AND INTERPRETATION OF RETURN TO ASSETS:

Table 4.22 (a) Descriptive Statistics Return to Assets

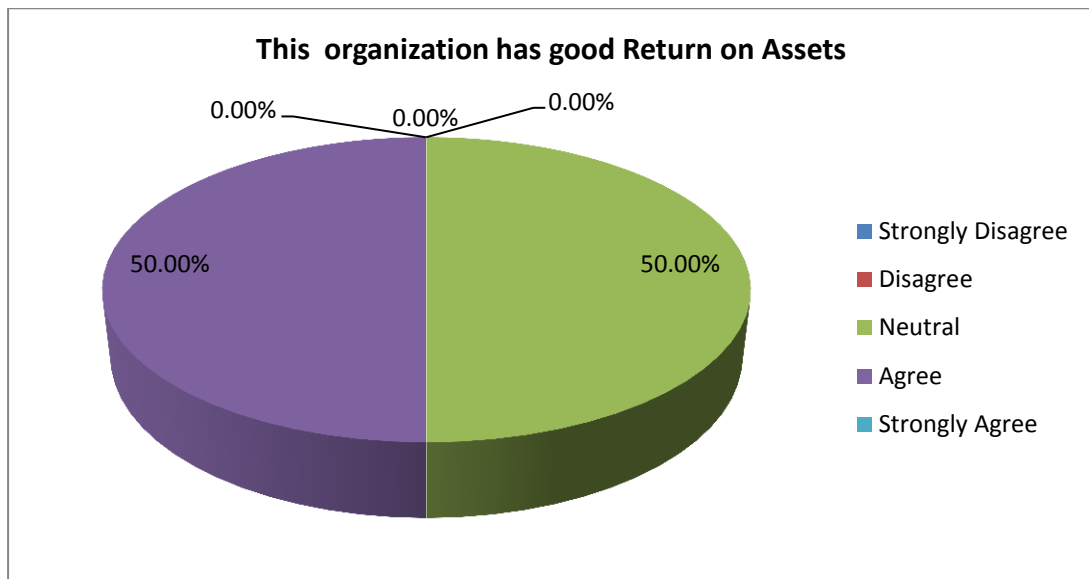
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has good Return on Assets.	90	3	4	3.50	.503
Valid N (listwise)	90				

From Table 4.22 (a) it is clear that the mean score of the managers' responses about the statement "This organization has good Return on Assets" is 3.50 which is slightly more than 3rd point on Likert scale. It may, therefore, be said that the opinions of managers about the statement "This organization has good Return on Assets" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.22 (b) This organization has a good Return on Assets

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	45	50.0	50.0	50.0
Agree	45	50.0	50.0	100.0
Total	90	100.0	100.0	

Pie Chart 4.12



From Table 4.22 (b) and Pie Chart 4.12 it is evident that 50% respondents are neutral and 50% respondents are agree with the statement “This organization has good Return on Assets.” It may, therefore, be concluded that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement.

4.2.3.2 ANALYSIS AND INTERPRETATION OF RETURN TO EQUITY:

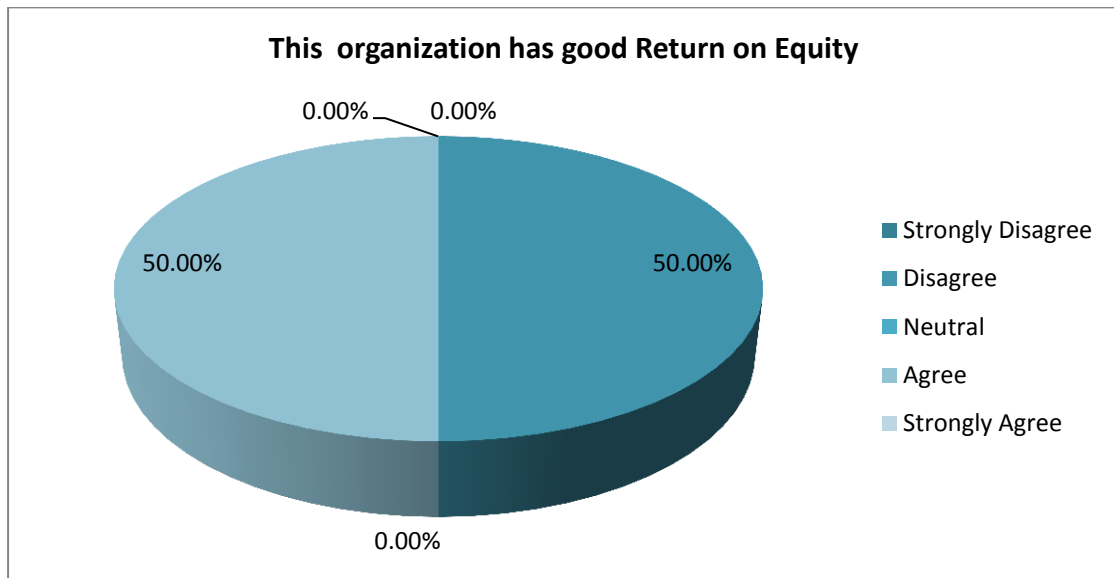
Table 4.23 (a) Descriptive Statistics of Return to Equity

	N	Minimum	Maximum	Mean	Std. Deviation
This organization has good Return on Equity.	90	2	4	3.00	1.006
Valid N (listwise)	90				

From Table 4.23 (a) it is clear that the mean score of the managers’ responses about the statement “This organization has good Return on Equity” is 3.00 which are exactly equal to 3rd point on Likert scale. It may, therefore, be said that the opinion of the managers about the statement “This organization has good Return on Equity” were found to be neutral for the sugar industry of Eastern Uttar Pradesh.

Table 4.23 (b) This organization has a good Return on Equity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	45	50.0	50.0	50.0
	Agree	45	50.0	50.0	100.0
Total		90	100.0	100.0	

Pie Chart 4.13

From Table 4.23 (b) and Pie Chart 4.13 it is evident that 50% respondents are disagree and 50% respondents are agree with the statement “This organization has an efficient flow of sugarcane from farmers to the sugar mill.” It may, therefore, be concluded that half of the managers were found to be disagreed and half of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.3 ANALYSIS AND INTERPRETATION OF PROFIT MARGIN ON SALES:

Table 4.24 (a) Descriptive Statistics of Profit Margin on Sales

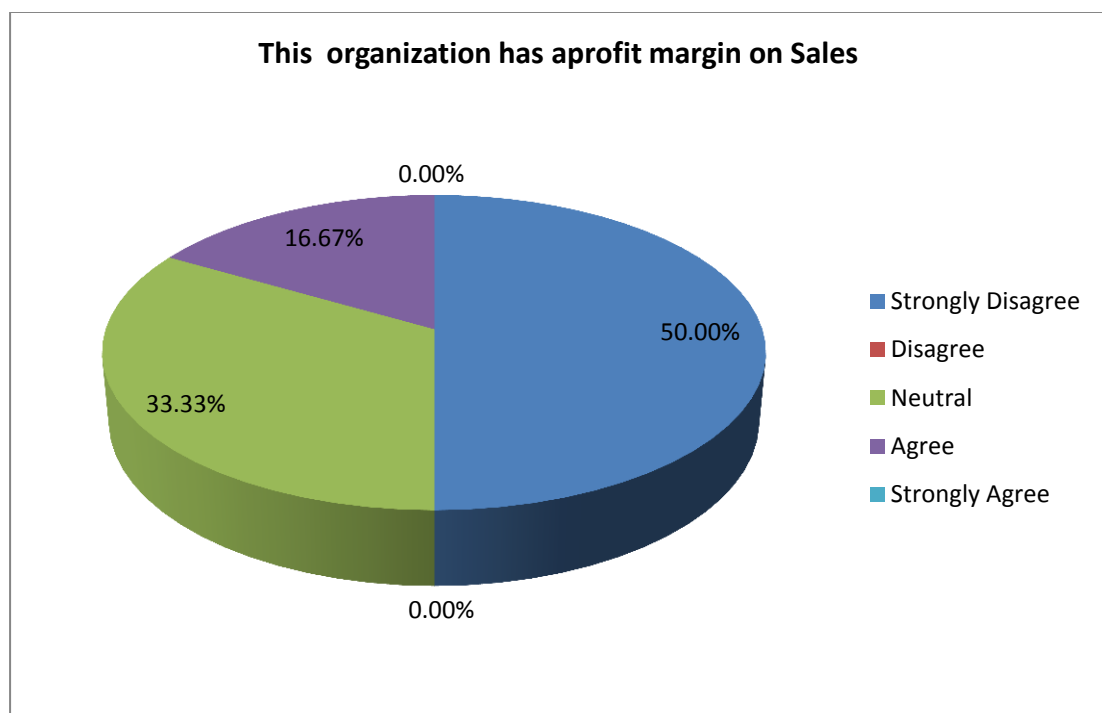
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has a profit margin on Sales.	90	1	4	2.17	1.220
Valid N (listwise)	90				

From Table 4.24 (a) it is clear that the mean score of the managers' responses about the statement "This organization has profit margin on Sales" is 2.17 which are tending to 2nd point on Likert scale. It may, therefore, be said that the opinion of the managers about the statement "This organization has a profit margin on Sales" were found to be disagreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.24 (b) This organization has a profit margin on Sales

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	45	50.0	50.0	50.0
	Neutral	30	33.3	33.3	83.3
	Agree	15	16.7	16.7	100.0
	Total	90	100.0	100.0	

Pie Chart 4.14



From Table 4.24 (b) and Pie Chart 4.14 it is evident that 50% respondents are strongly disagreed, 33.33% respondents are neutral and 16.7% respondents are agree with the statement "This organization has a profit margin on Sales." It may, therefore, be said that half of the managers were found to be strongly disagreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.4 ANALYSIS AND INTERPRETATION OF RETURN ON INVESTMENT:

Table 4.25 (a) Descriptive Statistics of Return on Investment

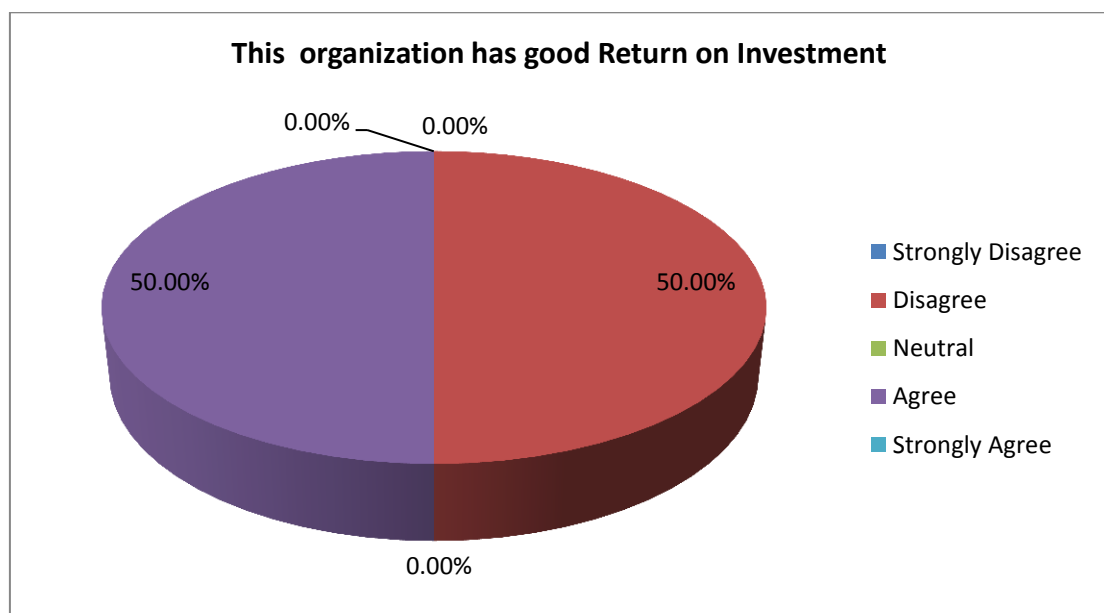
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has a good Return on Investment.	90	2	4	3.00	1.006
Valid N (listwise)	90				

From Table 4.25 (a) it is evident that the mean score of the managers' responses about the statement "This organization has good Return on Investment" is 3 which are exactly equal to 3rd point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement "This organization has good Return on Investment" were found to be neutral for the sugar industry of Eastern Uttar Pradesh

Table 4.25 (b) This organization has a good Return on Investment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	45	50.0	50.0	50.0
	Agree	45	50.0	50.0	100.0
	Total	90	100.0	100.0	

Pie Chart 4.15



From Table 4.25 (b) and Pie Chart 4.15 it is evident that 50% respondents are disagree and 50% respondents are agree with the statement “This organization has good Return on Investment” It may, therefore, be concluded that half of the managers were found to be disagreed and half of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.5 ANALYSIS AND INTERPRETATION OF NET INCOME:

Table 4.26 (a) Descriptive Statistics of Net Income

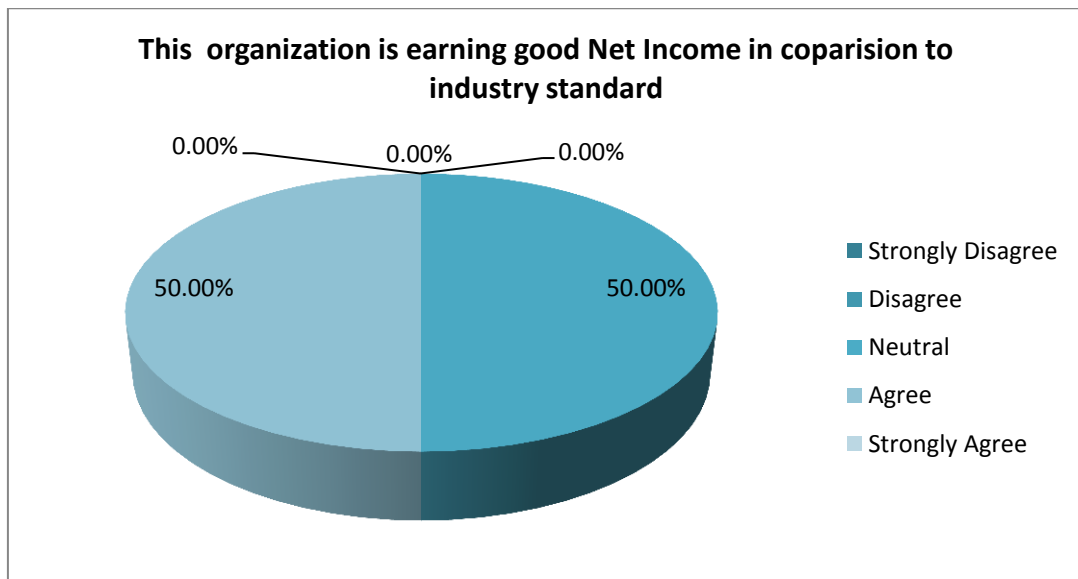
	N	Minimum	Maximum	Mean	Std. Deviation
This organization is earning good Net Income in comparison to industry standard.	90	3	4	3.50	.503
Valid N (listwise)	90				

From Table 4.26 (a) it is clear that the mean score of the managers’ responses about the statement “This organization is earning good Net Income in comparison to industry standard” is 3.50 which is slightly more than 3rd point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization is earning good Net Income in comparison to industry standard” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.26 (b) This organization is earning good Net Income in comparison to industry standard

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	45	50.0	50.0	50.0
Agree	45	50.0	50.0	100.0
Total	90	100.0	100.0	

Pie Chart 4.16



From Table 4.26 (b) and Pie Chart 4.16 it is evident that 50% respondents are neutral and 50% respondents are agree with the statement “This organization is earning good Net Income in comparison to industry standard.” It may, therefore, be said that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement.

4.2.3.6 ANALYSIS AND INTERPRETATION OF SALES OF ORGANIZATION:

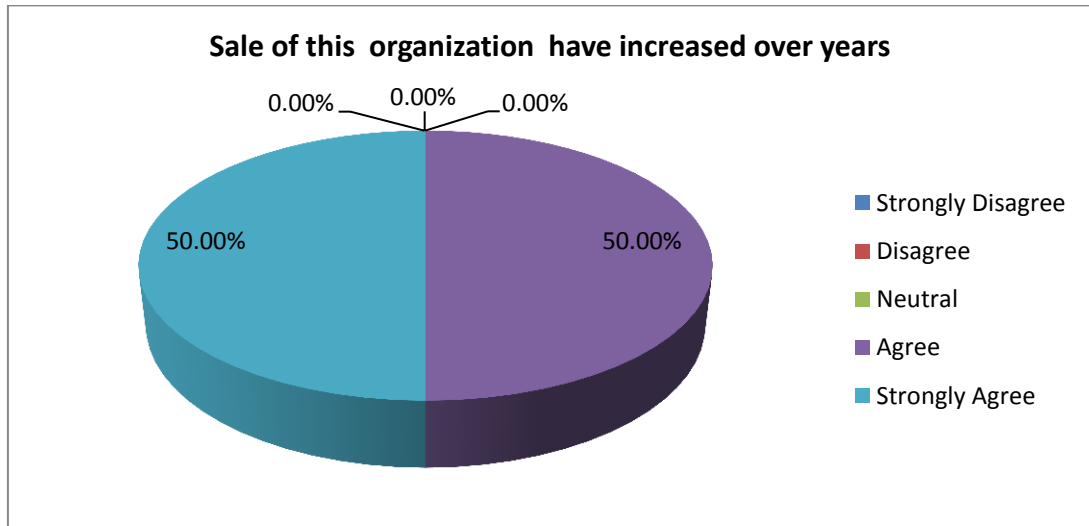
Table 4.27 (a) Descriptive Statistics of Sales of Organization

	N	Minimum	Maximum	Mean	Std. Deviation
Sales of this organization have increased over years.	90	4	5	4.50	.503
Valid N (listwise)	90				

From Table 4.27 (a) it is clear that the mean score of the managers’ responses about the statement “Sales of this organization have increased over years” is 4.50 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “Sales of this organization have increased over the years” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.27 (b) Sales of this organization have increased over years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	45	50.0	50.0	50.0
	Strongly Agree	45	50.0	50.0	100.0
Total		90	100.0	100.0	

Pie Chart 4.17

From Table 4.27 (b) and Pie Chart 4.17 it is evident that 50% respondents are agree and 50% respondents are strongly agree with the statement “Sales of this organization have increased over years.” It may, therefore, be said that half of the managers were found to be agreed and half of the managers were found to be strongly agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.7 ANALYSIS AND INTERPRETATION INCREASE OF NUMBER OF EMPLOYEES:

Table 4.28 (a) Descriptive Statistics of Increase of Number of Employees

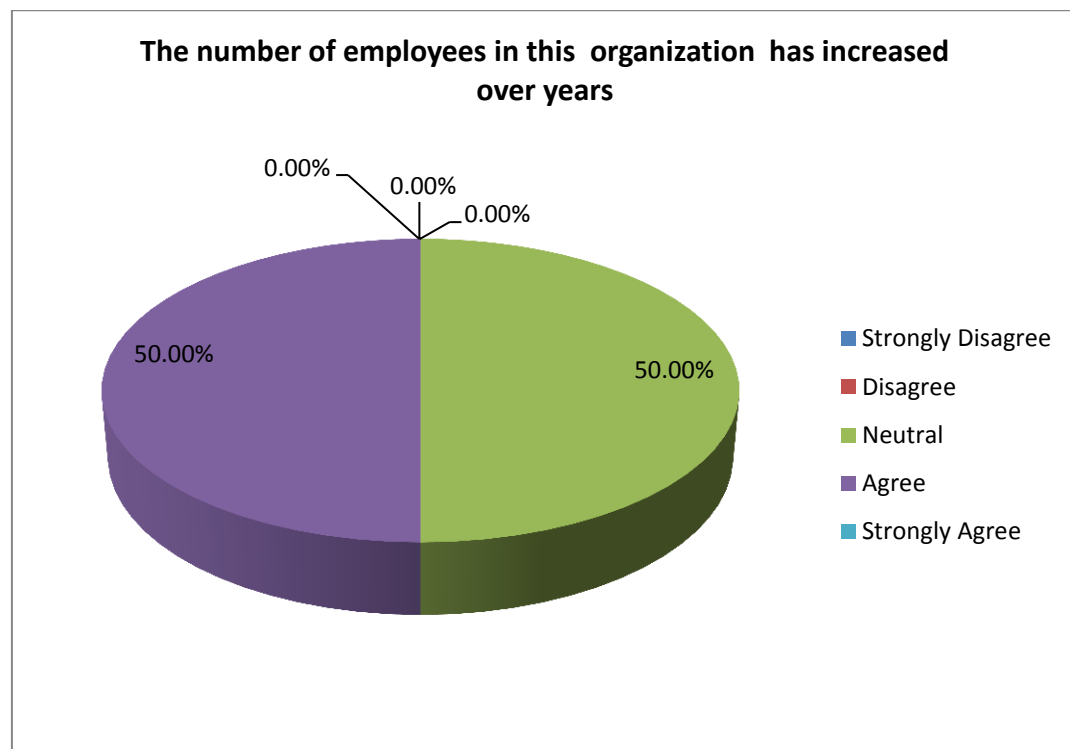
	N	Minimum	Maximum	Mean	Std. Deviation
The number of employees in this organization has increased over years.	90	3	4	3.50	.503
Valid N (listwise)	90				

From Table 4.28 (a) it is evident that the mean score of the managers' responses about the statement "Number of employees of this organization has increased over years" is 3.50 which is slightly more than 3rd point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement "Number of employees of this organization has increased over the years" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.28 (b) The number of employees in this organization has increased over years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	45	50.0	50.0	50.0
	Agree	45	50.0	50.0	100.0
	Total	90	100.0	100.0	

Pie Chart 4.18



From Table 4.28 (b) and Pie Chart 4.18 it is clear that 50% respondents are neutral and 50% respondents are agree with the statement "Number of employees of this organization has increased over years." It may, therefore, be said that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.8 ANALYSIS AND INTERPRETATION OF DEBT ON EQUITY:

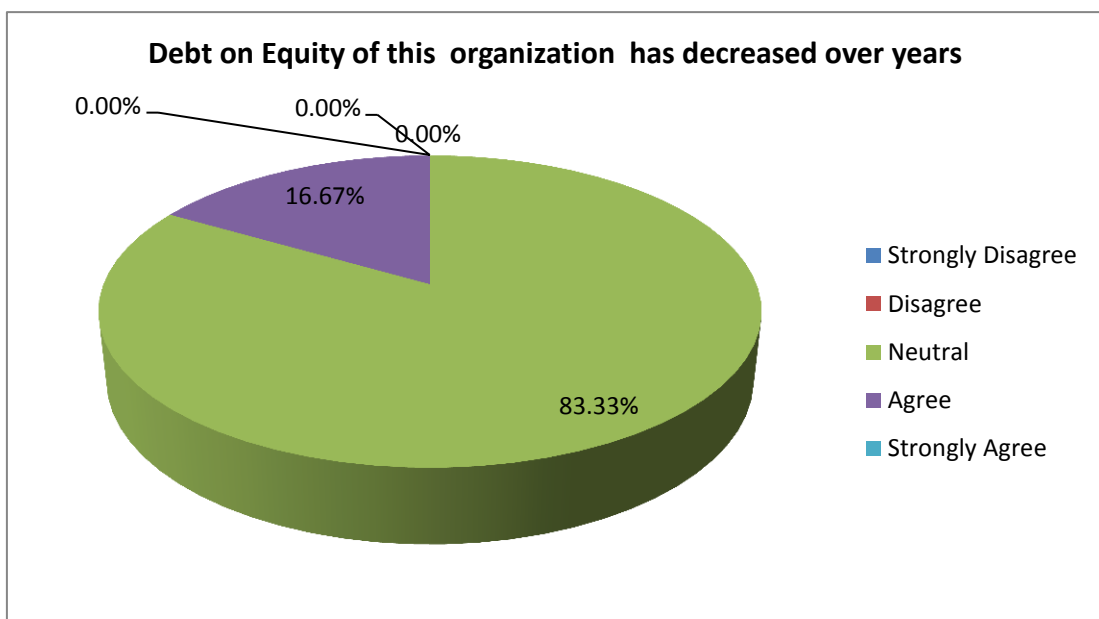
Table 4.29 (a) Descriptive Statistics of Debt on Equity

	N	Minimum	Maximum	Mean	Std. Deviation
Debt on equity of organization has decreased over years.	90	3	4	3.17	.375
Valid N (listwise)	90				

From Table 4.29 (a) it is clear that the mean score of the managers' responses about the statement "Debt on equity of organization has decreased over years" is 3.17 which is slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "Debt on equity of organization has decreased over years" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.29 (b) Debt on Equity of organisation has decreased over years

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	75	83.3	83.3	83.3
Agree	15	16.7	16.7	100.0
Total	90	100.0	100.0	

Pie Chart 4.19

From Table 4.29 (b) and pie chart 4.19 it is evident that 83.33% respondents are neutral and 16.67% respondents are agree with the statement “Debt on equity of organization has decreased over years.” It may, therefore, be said that most of the managers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.9 ANALYSIS AND INTERPRETATION OF DEBT ON TOTAL ASSETS:

Table 4.30 (a) Descriptive Statistics of Debt on Total Assets

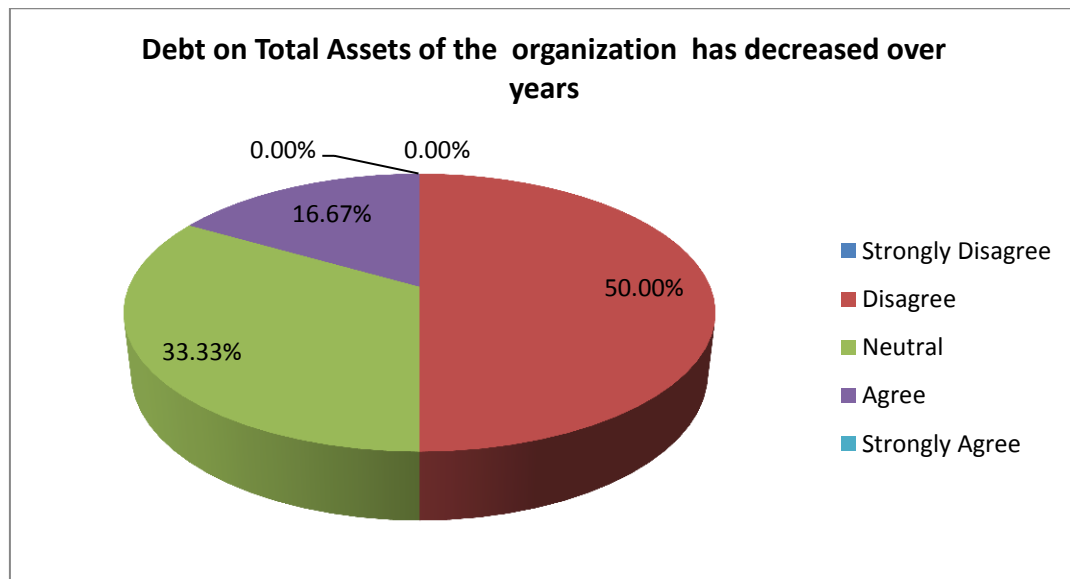
	N	Minimum	Maximum	Mean	Std. Deviation
Debt on Total Assets of the organization has decreased over years.	90	2	4	2.67	.750
Valid N (listwise)	90				

From Table 4.30 (a) it is evident that the mean score of the managers’ responses about the statement “Debt on Total Assets of the organization has decreased over the years” is 2.67 which is slightly less than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “Debt on Total Assets of the organization has decreased over the years” were found to be tended to moderately disagree for the sugar industry of Eastern Uttar Pradesh.

Table 4.30 (b) Debt on Total Assets of the organization has decreased over years

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	45	50.0	50.0	50.0
Neutral	30	33.3	33.3	83.3
Agree	15	16.7	16.7	100.0
Total	90	100.0	100.0	

Pie Chart 4.20



From Table 4.30 (b) and Pie Chart 4.20 it is clear that 50% respondents are disagree, 33.3% respondents are neutral and 16.7% respondents are agree with the statement “Debt on Total Assets of the organization has decreased over years.” It may, therefore, be concluded that half of the managers were found to be disagreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.10 ANALYSIS AND INTERPRETATION OF CASH AT HAND:

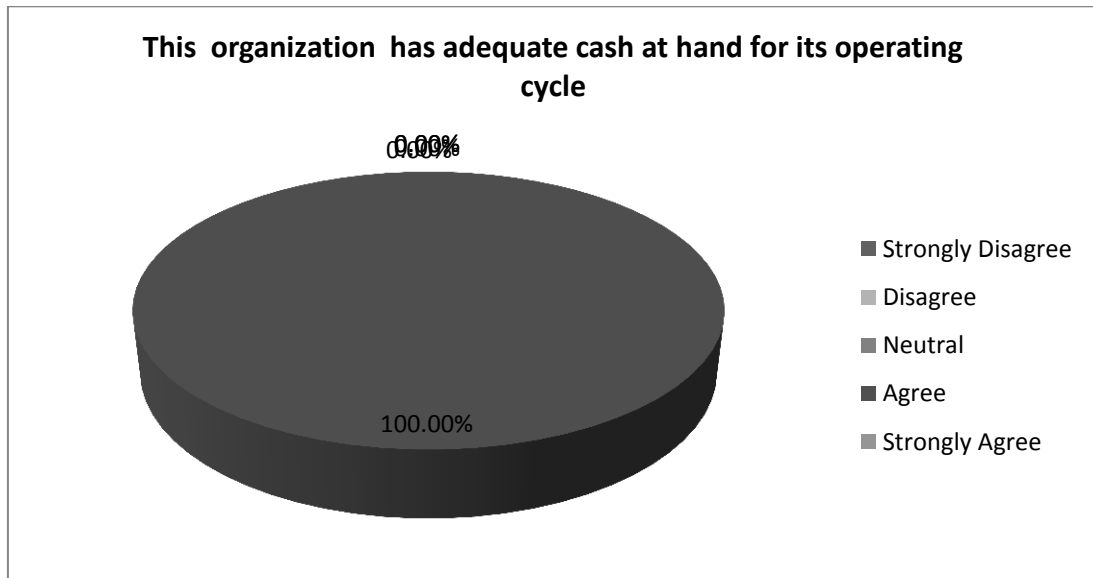
Table 4.31 (a) Descriptive Statistics Cash at Hand

	N	Minimum	Maximum	Mean	Std. Deviation
This organization has adequate cash at hand for its operating cycle.	90	4	4	4.00	.000
Valid N (listwise)	90				

From table 4.31 (a) it is evident that the mean score of the managers’ responses about the statement “This organization has adequate cash at hand for its operating cycle” is 4.00 which are exactly equal to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has adequate cash at hand for its operating cycle” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.31 (b) This organization has adequate cash at hand for its operating cycle

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	90	100.0	100.0	100.0

Pie Chart 4.21

From Table 4.31 (b) and Pie Chart 4.21 it is evident that all the respondents are agree with the statement “This organization has adequate cash at hand for its operating cycle.” It may, therefore, be concluded that all the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.11 ANALYSIS AND INTERPRETATION OF SHORT-TERM LOANS:

Table 4.32 (a) Descriptive Statistics of Short-term Loans

	N	Minimum	Maximum	Mean	Std. Deviation
This organization has few short term loans.	90	3	4	3.17	.375
Valid N (listwise)	90				

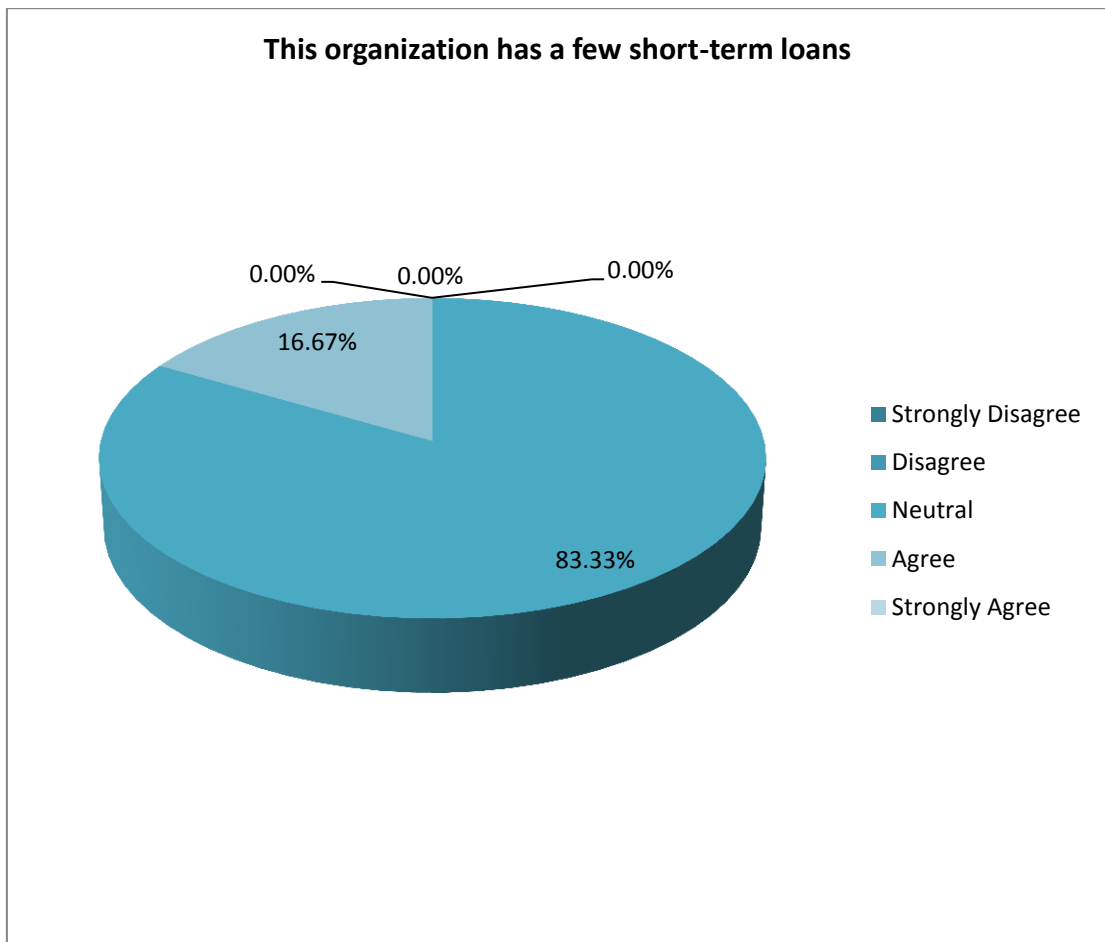
From Table 4.32 (a) it is clear that the mean score of the managers’ responses about the statement “This organization has few short-term loans” is 3.17 which is slightly more than 3rd point on Likert scale. It may, therefore, be said that the opinions of the

managers about the statement “This organization has few short-term loans” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.32 (b) This organization has a few short-term loans

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	75	83.3	83.3	83.3
	Agree	15	16.7	16.7	100.0
	Total	90	100.0	100.0	

Pie Chart 4.22



From Table 4.32 (b) and Pie Chart 4.22 it is evident that 83.33% respondents are neutral and 16.67% respondents are agree with the statement “This organization has few short-term loans.” It may, therefore, be said that most of the managers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.12 ANALYSIS AND INTERPRETATION OF CASH FLOW:

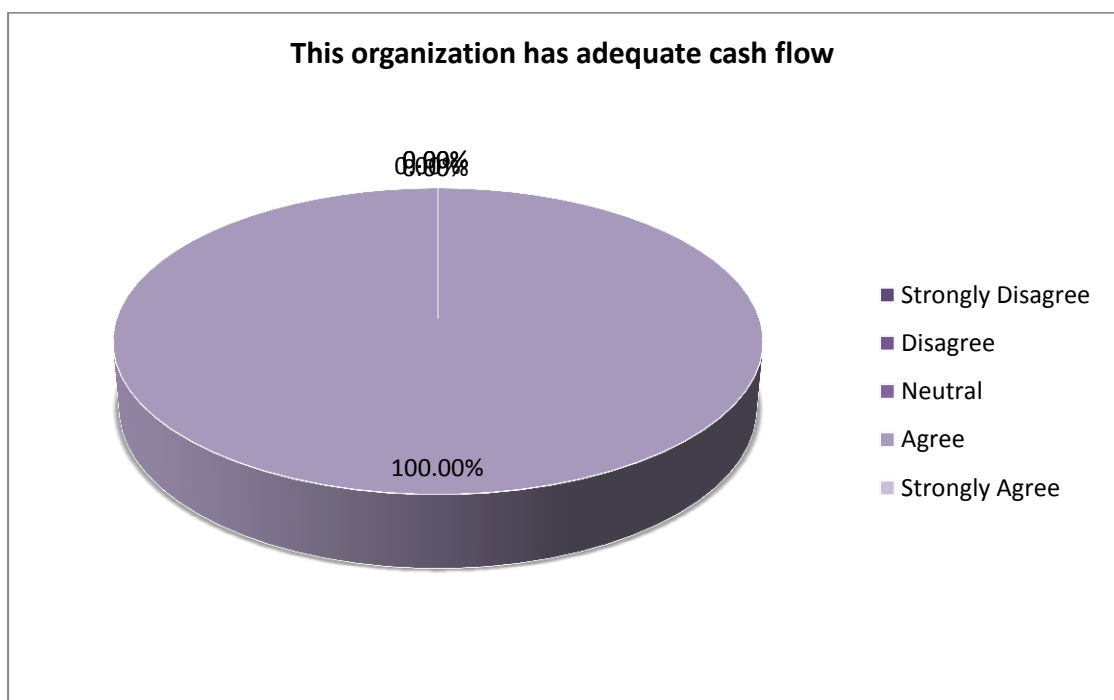
Table 4.33 (a) Descriptive Statistics of Cash Flow

	N	Minimum	Maximum	Mean	Std. Deviation
This organization has adequate cash flow.	90	4	4	4.00	.000
Valid N (listwise)	90				

From Table 4.33 (b) it is clear that the mean score of the managers' responses about the statement "This organization has adequate cash flow" is 4.00 which are exactly equal to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "This organization has adequate cash flow" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.33 (b) This organization has adequate cash flow

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	90	100.0	100.0	100.0

Pie Chart 14.23

From Table 4.33 (b) and pie chart 4.23 it is evident that all the respondents are agree with the statement “This organization has adequate cash flow.” It may, therefore, be said that all the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.13 ANALYSIS AND INTERPRETATION OF MINIMIZATION OF CRASHING TIME:

Table 4.34 (a) Descriptive Statistics of Minimization of Crushing Time

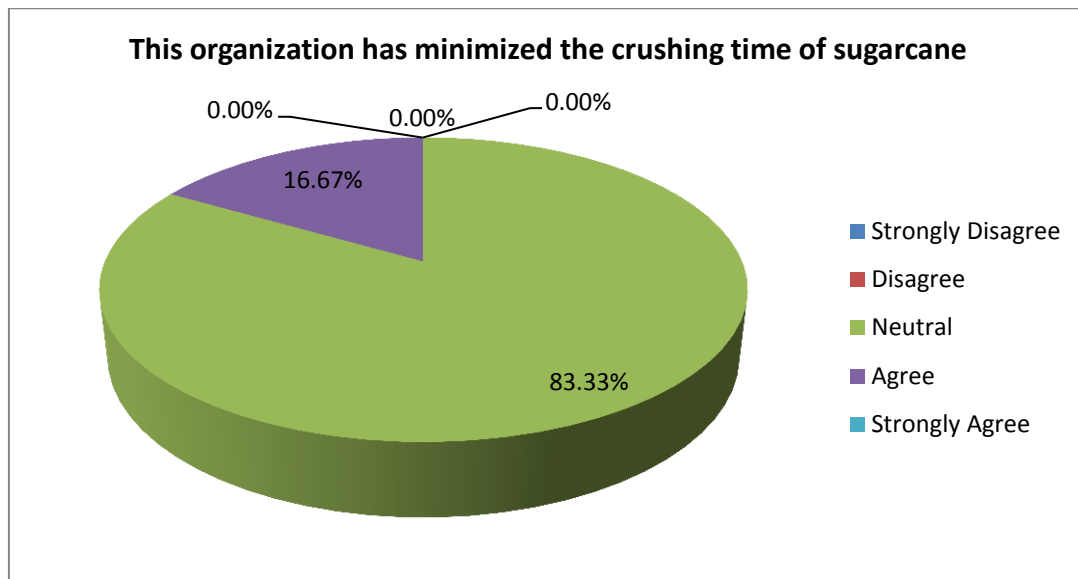
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has minimized the crushing time of sugarcane.	90	3	4	3.17	.375
Valid N (listwise)	90				

From Table 4.34 (a) it is clear that the mean score of the managers’ responses about the statement “This organization has minimized crushing time of sugarcane” is 3.17 which is slightly more than 3rd point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has minimized the crushing time of sugarcane” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.34 (b) This organization has minimized the crushing time of sugarcane

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	75	83.3	83.3	83.3
Agree	15	16.7	16.7	100.0
Total	90	100.0	100.0	

Pie Chart 4.24



From Table 4.34 (b) and Pie Chart 4.24 it is evident that 83.33% respondents are neutral and 16.7% respondents are agree with the statement “This organization has minimized the crushing time of sugarcane.” It may, therefore, be concluded that most of the managers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.14 ANALYSIS AND INTERPRETATION OF REDUCTION IN PRODUCTION CYCLE:

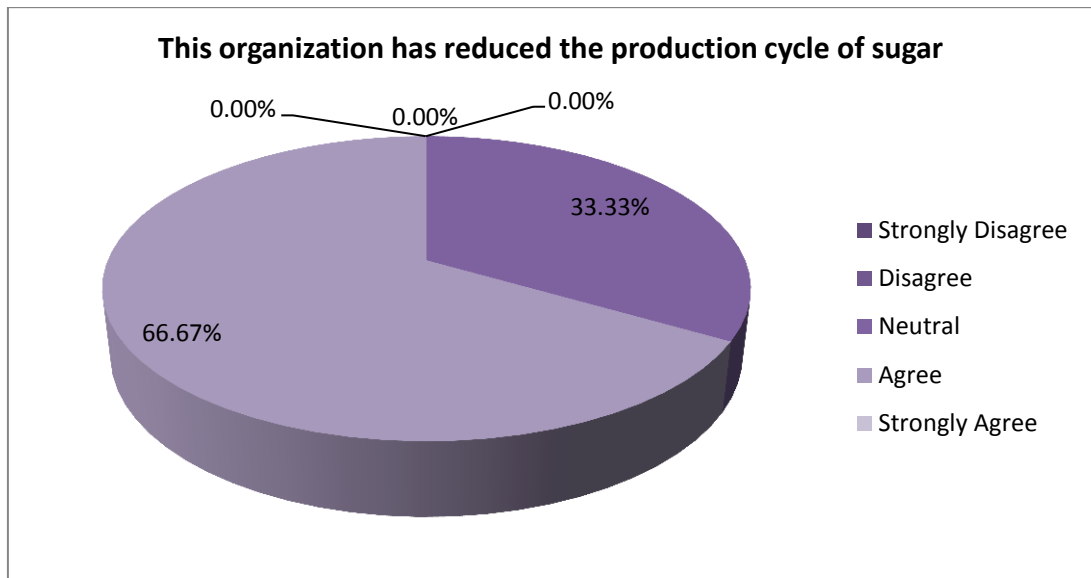
Table 4.35 (a) Descriptive Statistics of Reduction in Production Cycle

	N	Minimum	Maximum	Mean	Std. Deviation
This organization has reduced production cycle of sugar.	90	3	4	3.67	.474
Valid N (listwise)	90				

From Table 4.35 (a) it is clear that the mean score of the managers’ responses about the statement “This organization has reduced production cycle of sugar” is 3.67 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “This organization has reduced production cycle of sugar” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.35 (b) This organization has reduced production cycle of sugar

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	30	33.3	33.3	33.3
	Agree	60	66.7	66.7	100.0
	Total	90	100.0	100.0	

Pie Chart 4.25

From Table 4.35 (b) and Pie Chart 4.25 it is evident that 66.7% respondents are agree and 33.3% respondents are neutral with the statement “This organization has reduced production cycle of sugar.” It may, therefore, be concluded that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.15 ANALYSIS AND INTERPRETATION OF INCREMENT IN PRODUCTION:

Table 4.36 (b) Descriptive Statistics of Increment in Production

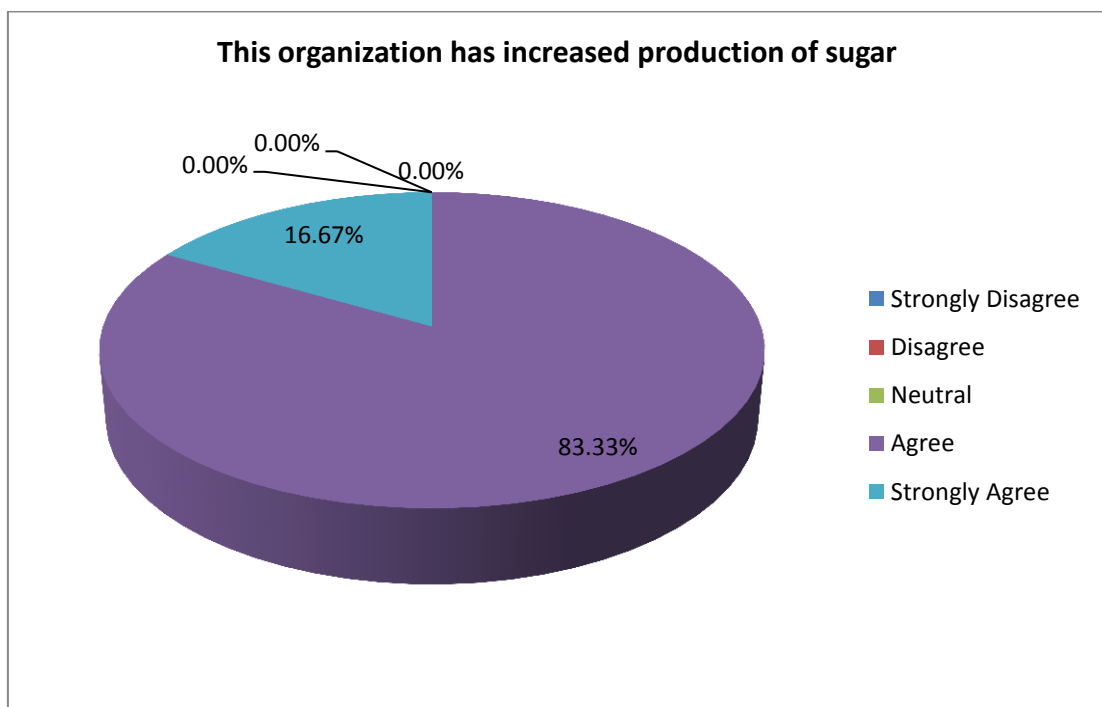
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has increased production of sugar.	90	4	5	4.17	.375
Valid N (listwise)	90				

From Table 4.36 (a) it is clear that the mean score of the managers' responses about the statement "This organization has increased production of sugar" is 4.17 which are tending to 4 point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement "This organization has increased production of sugar" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.36 (b) This organization has increased production of sugar

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	75	83.3	83.3	83.3
Strongly Agree	15	16.7	16.7	100.0
Total	90	100.0	100.0	

Pie Chart 4.26



From Table 4.36 (b) and Pie Chart 4.26 it is evident that 83.33% respondents are agree and 16.67% respondents are strongly agree with the statement "This organization has increased production of sugar." It may, therefore, be said that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.16 ANALYSIS AND INTERPRETATION OF PAYMENTS TO FARMERS:

Table 4.37 (a) Descriptive Statistics of Payments to Farmers

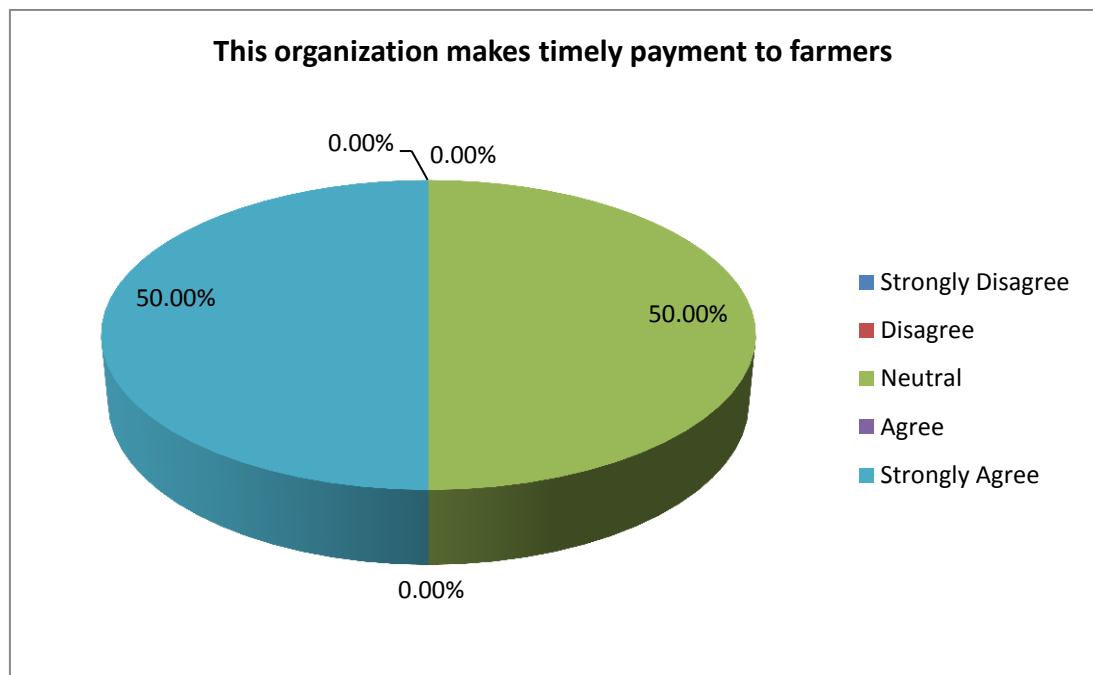
	N	Minimum	Maximum	Mean	Std. Deviation
This organization makes timely payment to farmers.	90	3	5	4.00	1.006
Valid N (listwise)	90				

From Table 4.37 (a) it is clear that the mean score of the managers' responses about the statement "This organization makes timely payment to farmers" is 4.00 which are exactly equal to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement "This organization makes timely payment to farmers" were found to be agreed for the sugar industry of eastern Uttar Pradesh.

Table 4.37 (b) This organization makes timely payment to farmers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	45	50.0	50.0	50.0
Strongly Agree	45	50.0	50.0	100.0
Total	90	100.0	100.0	

Pie Chart 4.27



From Table 4.37 (b) and Pie Chart 4.27 it is evident that 50% respondents are neutral and 50% respondents are strongly agree with the statement “This organization makes timely payment to farmers.” It may, therefore, be concluded that half of the managers were found to be neutral and half of the managers were found to be strongly agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.17 ANALYSIS AND INTERPRETATION OF COST OF PRODUCTION:

Table 4.38 (a) Descriptive Statistics Cost of Production

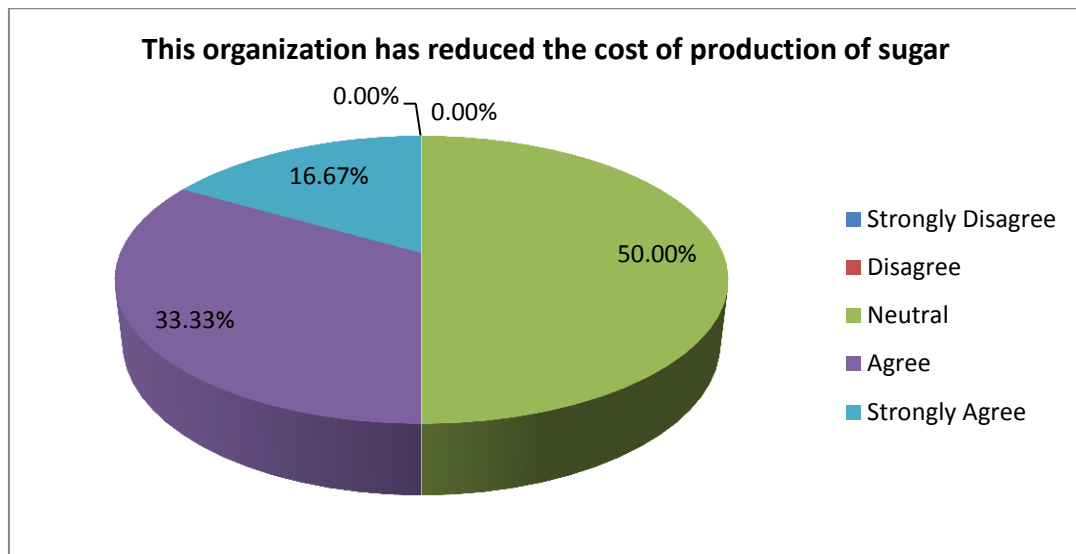
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has reduced the cost of production of sugar.	90	3	5	4.50	.750
Valid N (listwise)	90				

From Table 4.38 (a) it is clear that the mean score of the managers’ responses about the statement “This organization has reduced cost of production of sugar” is 4.50 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “This organization has reduced cost of production of sugar” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.38 (b) This organization has reduced the cost of production of sugar

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	45	50.0	50.0	50.0
Agree	30	33.3	33.3	83.3
Strongly Agree	15	16.7	16.7	100.0
Total	90	100.0	100.0	

Pie Chart 4.28



From Table 4.38 (b) and Pie Chart 4.28 it is clear that 50% respondents are neutral, 33.3% respondents are agree and 16.7% respondents are strongly agree with the statement “This organization has reduced the cost of production of sugar.” It may, therefore, be said that most of the managers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.18 ANALYSIS AND INTERPRETATION OF FLOW OF MATERIAL:

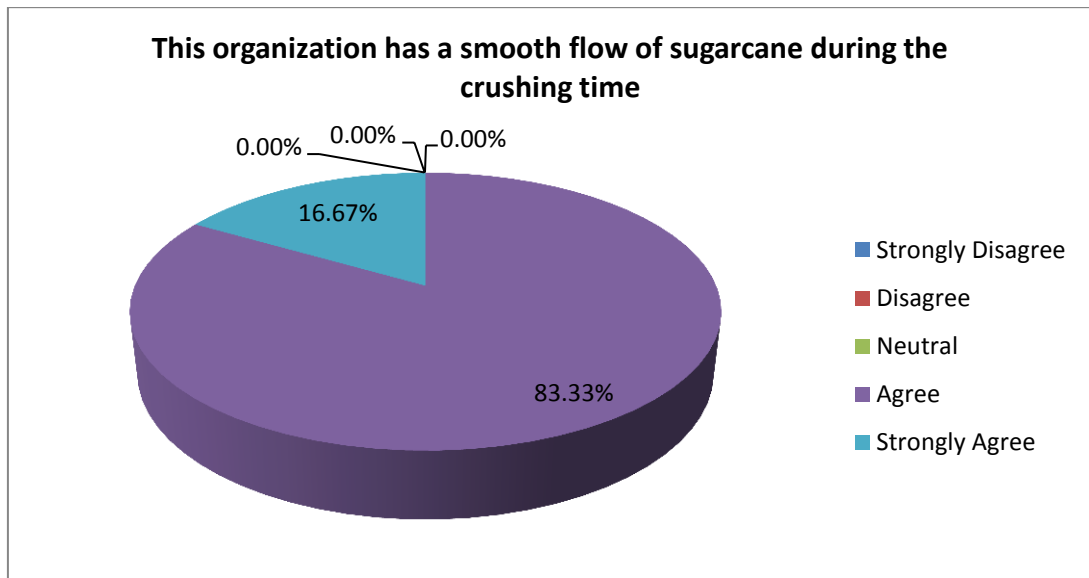
Table 4.39 (a) Descriptive Statistics of Flow of Material

	N	Minimum	Maximum	Mean	Std. Deviation
This organization has a smooth flow of sugarcane during the crushing time.	90	4	5	4.17	.375
Valid N (listwise)	90				

From Table 4.39 (a) it is evident that the mean score of the managers’ responses about the statement “This organization has smooth flow of sugarcane during crushing time” is 4.17 which are tending to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has a smooth flow of sugarcane during crushing time” were found to be agreed for the sugar industry of Eastern Uttar Pradesh

Table 4.39 (b) This organization has a smooth flow of sugarcane during the crushing time

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	75	83.3	83.3	83.3
Strongly Agree	15	16.7	16.7	100.0
Total	90	100.0	100.0	

Pie Chart 4.29

From Table 4.39 (b) and Pie Chart 4.29 it is clear that 83.33% respondents are agree and 16.67% respondents are strongly agree with the statement “This organization has a smooth flow of sugarcane during the crushing time.” It may, therefore, be concluded that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.19 ANALYSIS AND INTERPRETATION OF RELATIONSHIP:

Table 4.40 (a) Descriptive Statistics of Relationship

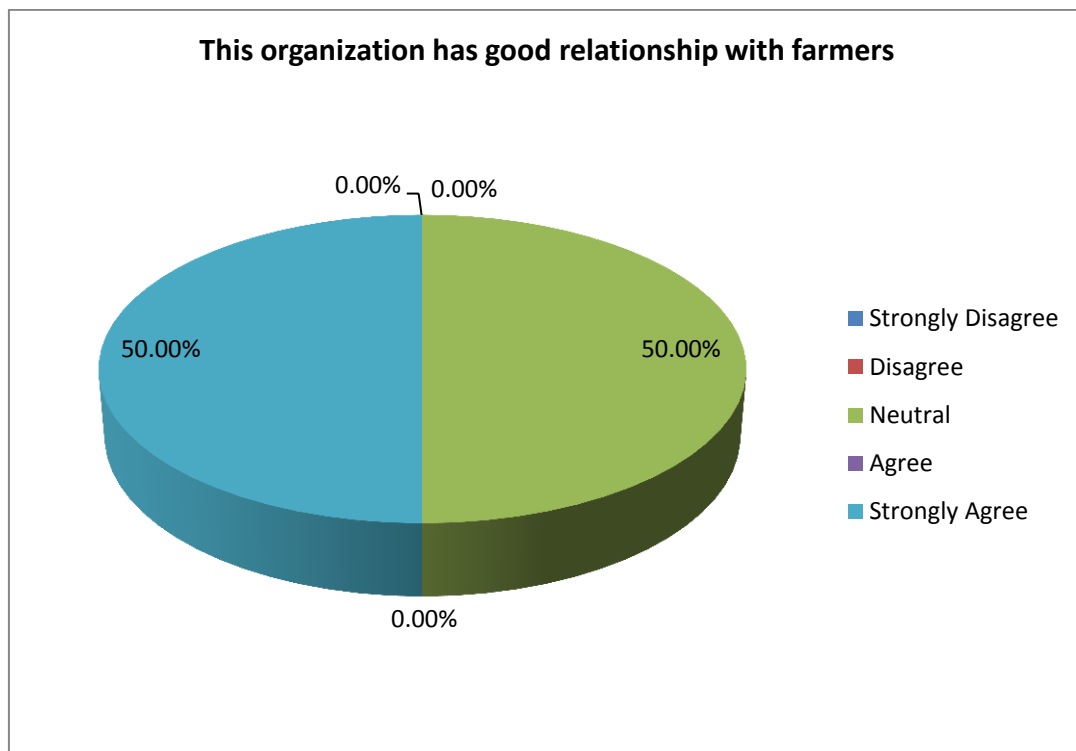
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has a good relationship with farmers.	90	3	5	4.00	1.006
Valid N (listwise)	90				

From Table 4.40 (a) it is clear that the mean score of the managers' responses about the statement "This organization has good relationship with farmers" is 4.00 which are exactly equal to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "This organization has a good relationship with farmers" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.40 (b) This organization has a good relationship with farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	45	50.0	50.0	50.0
	Strongly Agree	45	50.0	50.0	100.0
Total		90	100.0	100.0	

Pie Chart 4.30



From Table 4.40 (b) and Pie Chart 4.30 it is evident that 50% respondents are neutral and 50% respondents are strongly agree with the statement "This organization has good relationship with farmers" It may, therefore, be concluded that half of the managers were found to be neutral and half of the managers were found to be strongly agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.20 ANALYSIS AND INTERPRETATION OF PROFIT RETURN TO SHAREHOLDERS:

Table 4.41 (a) Descriptive Statistics of Return to Shareholders

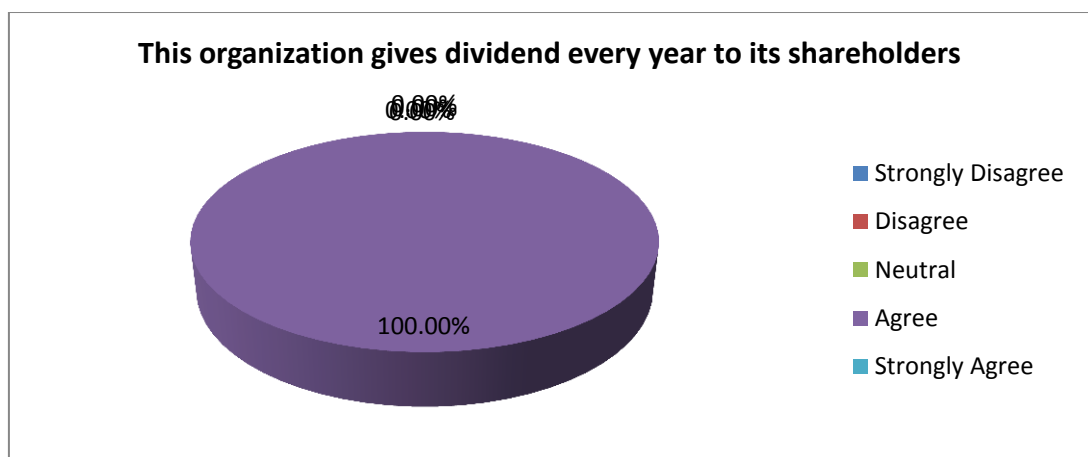
	N	Minimum	Maximum	Mean	Std. Deviation
This organization gives dividend every year to its shareholders.	90	4	4	4.00	.000
Valid N (listwise)	90				

From Table 4.41 (a) it is evident that the mean score of the managers' responses about the statement "This organization gives dividend every year to its shareholders" was 4.00 which are exactly equal to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "This organization gives dividend every year to its shareholders" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.41 (b) This organization gives dividend every year to its shareholders

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	90	100.0	100.0	100.0

Pie Chart 4.31



From Table 4.41 (b) and Pie Chart 4.31 it is evident that all the respondents are agree with the statement "This organization gives dividend every year to its shareholders."

It may, therefore, be concluded that all the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.3.21 ANALYSIS AND INTERPRETATION OF LONG-TERM SURVIVAL:

Table 4.42 (a) Descriptive Statistics of Long-term Survival

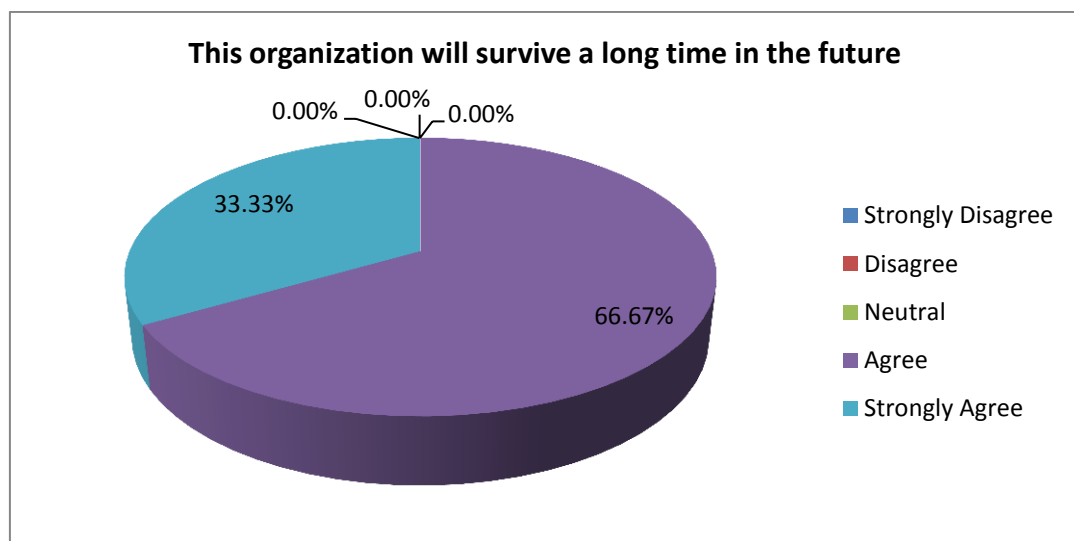
	N	Minimum	Maximum	Mean	Std. Deviation
This organization will survive a long time in the future.	90	4	5	4.33	.474
Valid N (listwise)	90				

From Table 4.42 (a) it is clear that the mean score of the managers' responses about the statement "This organization will survive a long time in future" is 4.33 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "This organization will survive a long time in the future" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.42 (b) This organization will survive a long time in the future

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	60	66.7	66.7	66.7
Strongly Agree	30	33.3	33.3	100.0
Total	90	100.0	100.0	

Pie Chart 4.32



From Table 4.42 (b) and Pie Chart 4.32 it is evident that 66.7% respondents are agree and 33.3% respondents are strongly agree with the statement “This organization will survive a long time in the future.” It may, therefore, be concluded that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.4.0 ANALYSIS OF DATA RELETED TO ITEMS UNDER ORGANIZATIONAL STRATEGIC COPETENCE

The items related to Organizational Strategic Competence from managers’ point of view have been given below in the table 4. 43.

Table 4.43 Items Related to Organizational Strategic Competence

SN.	Sub-variable	Items
1	Skills	Loading and unloading skills of sugarcane of employees of this organization have improved.
		Sugarcane crashing skills of employees of this organization have improved.
		Skills of managers in this organization have improved over the last few years.
		Sugarcane harvesting skills of farmers concerning to this organization has improved.
2	Knowledge	This organization has a sound knowledge of cane harvesting and supply.
		This organization has a good knowledge of economic situations of cane supplying farmers.
		This organization has enhanced the sugarcane crushing ability of employees.
		This organization has enhanced employee’s ability for loading and unloading of sugarcane.
		This organization has the ability to compete with others.

The data related to items under Organizational Strategic Competence from managers' point of view were analysed with the help of simple Descriptive Statistics, Frequency Test and Pie Chart. The detailed analyses of data and their interpretations have been given below under different captions.

4.2.4.1 ANALYSIS AND INTERPRETATION OF UNLOADING SKILL OF SUGARCANE OF EMPLOYEES:

Table 4.44 (a) Descriptive Statistics of Unloading Skills of sugarcane of Employees

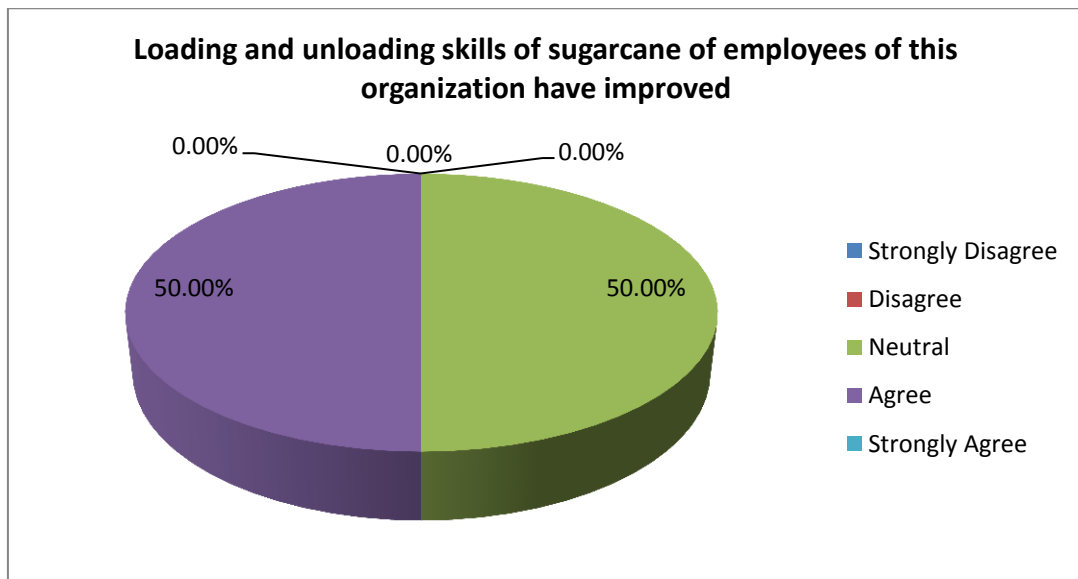
	N	Minimum	Maximum	Mean	Std. Deviation
Loading and unloading skills of sugarcane of employees of this organization have improved.	90	3	4	3.50	.503
Valid N (listwise)	90				

From Table 4.44 (a) it is evident that the mean score of the managers' responses about the statement "Loading and unloading skills of sugarcane of employees of this organization has improved." is 3.50 which are half more than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "Loading and unloading skills of sugarcane of employees of this organization has improved" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.44 (b) Loading and unloading skills of sugarcane of employees of this organization have improved

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	45	50.0	50.0	50.0
Agree	45	50.0	50.0	100.0
Total	90	100.0	100.0	

Pie Chart 4.33



From Table 4.44 (b) and Pie Chart 4.33 it is clear that 50% respondents are neutral and 50% respondents are agree with the statement “Loading and unloading skills of sugarcane of employees of this organization has improved.” It may, therefore, be said that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.4.2 ANALYSIS AND INTERPRETATION OF SUGARCANE CRUSHING SKILLS OF EMPLOYEES:

Table 4.45 (a) Descriptive Statistics of Sugarcane Crushing Skills of Employees

	N	Minimum	Maximum	Mean	Std. Deviation
Sugarcane crashing skills of employees of this organization have improved.	90	4	5	4.17	.375
Valid N (listwise)	90				

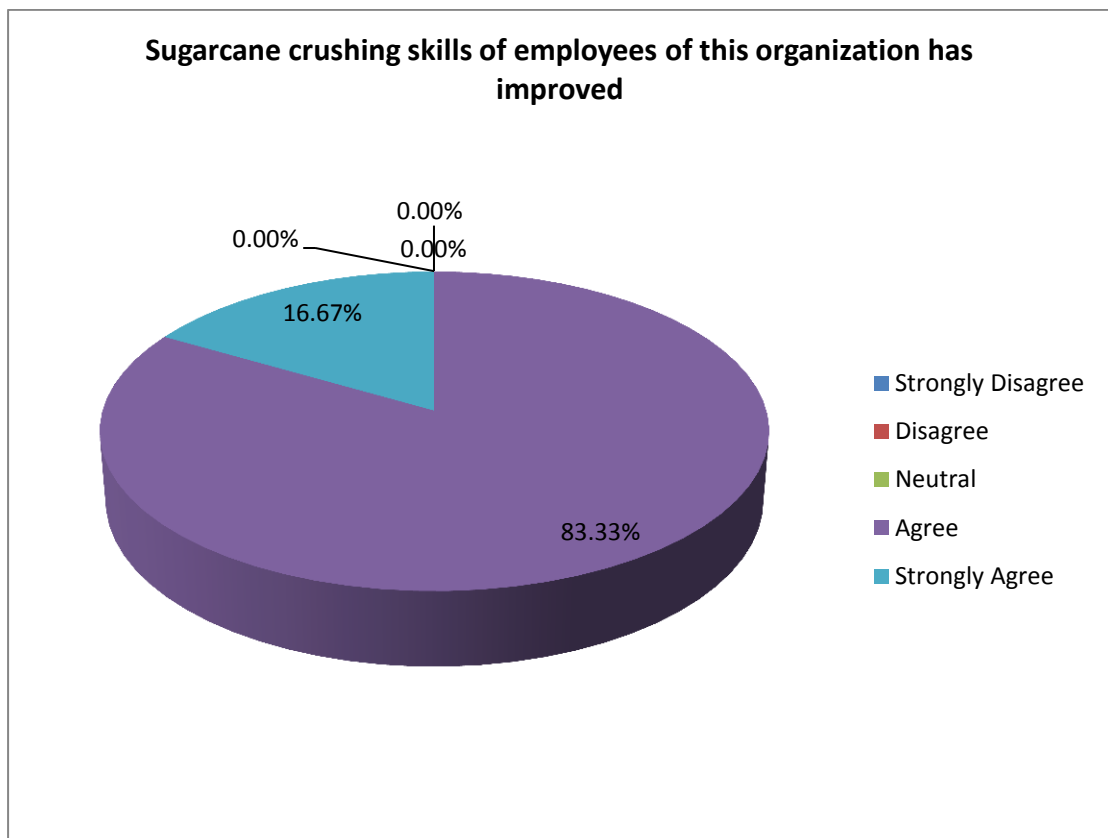
From Table 4.45 (a) it is clear that the mean score of the managers’ responses about the statement “Sugarcane crashing skills of employees of this organization has improved” is 4.17 which are tending to 4th point on Likert scale. It may, therefore, be

said that the opinions of the managers about the statement “Sugarcane crushing skills of employees of this organization have improved” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.45 (b) Sugarcane crushing skills of employees of this organization have improved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	75	83.3	83.3	83.3
	Strongly Agree	15	16.7	16.7	100.0
	Total	90	100.0	100.0	

Pie Chart 4.34



From Table 4.45 (b) and Pie Chart 4.34 it is evident that 83.33% of respondents are agree and 16.67% respondents are strongly agree with the statement “Sugarcane crushing skills of employees of this organization have improved.” It may, therefore, be said that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.4.3 ANALYSIS AND INTERPRETATION OF SKILLS OF MANAGERS:

Table 4.46 (a) Descriptive Statistics of Skills of Managers

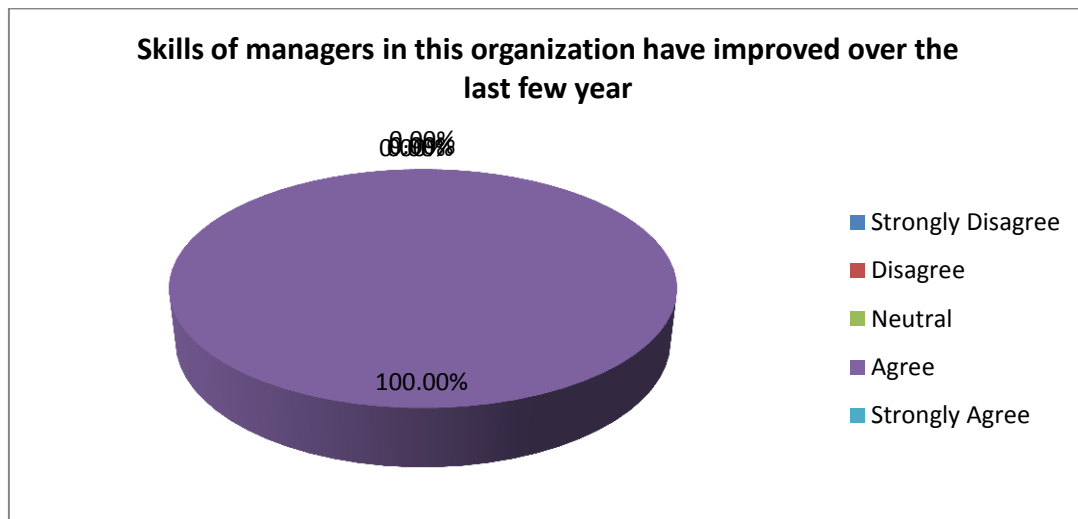
	N	Minimum	Maximum	Mean	Std. Deviation
Skills of managers in this organization have improved over the last few years.	90	4	4	4.00	.000
Valid N (listwise)	90				

From Table 4.46 (a) it is clear that the mean score of the managers' responses about the statement "Skills of managers of this organization have improved over last few years" is 4.00 which are exactly equal to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "Skills of managers of this organization have improved over last few years" were found to be agreed for the sugar industry of Easter Uttar Pradesh.

Table 4.46 (b) Skills of managers in this organization have improved over the last few years

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	90	100.0	100.0	100.0

Pie Chart 4.35



From Table 4.46 (b) and Pie Chart 4.35 it is evident that all the respondents are agree with the statement "Skills of managers of this organization have improved over the last few years." It may, therefore, be concluded that all the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.4.4 ANALYSIS AND INTERPRETATION OF SUGARCANE HARVESTING SKILLS OF FARMERS:

Table 4.47 (a) Descriptive Statistics of Sugarcane Harvesting of farmers

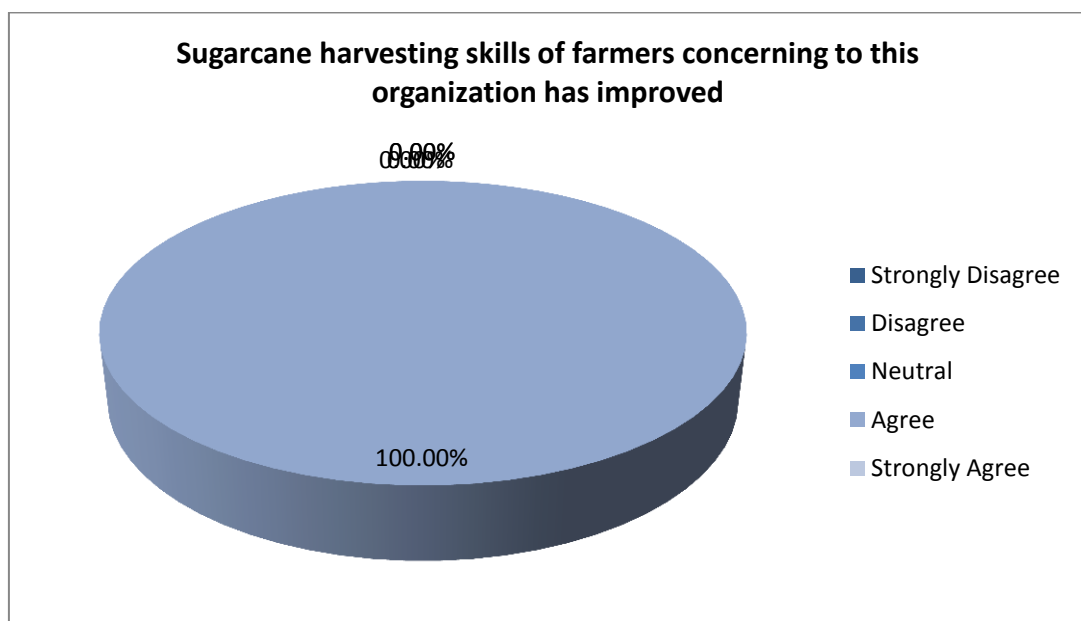
	N	Minimum	Maximum	Mean	Std. Deviation
Sugarcane harvesting skills of farmers concerning to this organization has improved.	90	4	4	4.00	.000
Valid N (listwise)	90				

From Table 4.47 (a) it is evident that the mean score of the managers' responses about the statement "Sugarcane harvesting skills of farmers concerning to this organization has improved" is 4.00 which are exactly equal to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "Sugarcane harvesting skills of farmers concerning to this organization have improved" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.47 (b) Sugarcane harvesting skills of farmers concerning to this organization has improved

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	90	100.0	100.0	100.0

Pie Chart 4.36



From Table 4.47 (b) and Pie Chart 4.36 it is clear that all the respondents are agree with the statement “Sugarcane harvesting skills of farmers concerning to this organization has improved” It may, therefore, be said that all the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.4.5 ANALYSIS AND INTERPRETATION OF KNOWLEDGE OF SUGARCANE HARVESTING:

Table 4.48 (a) Descriptive Statistics of Knowledge of cane Harvesting

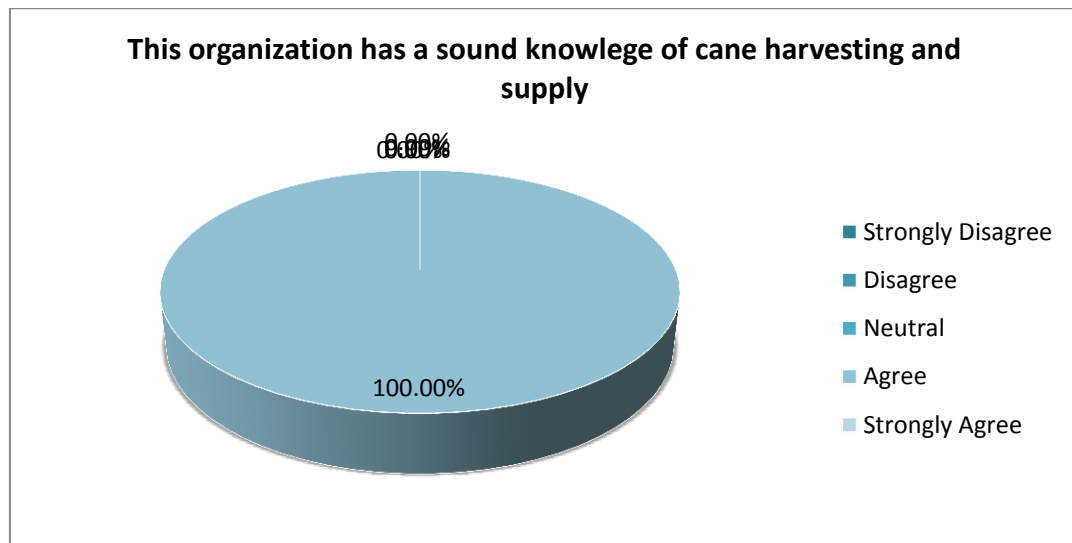
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has a sound knowledge of cane harvesting and supply.	90	4	4	4.00	.000
Valid N (listwise)	90				

From Table 4.48 (a) it is evident that the mean score of the managers’ responses about the statement “This organization has sound knowledge of cane harvesting and supply” is 4.00 which are exactly equal to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has sound knowledge of cane harvesting and supply” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.48 (b) This organization has a sound knowledge of cane harvesting and supply

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	90	100.0	100.0	100.0

Pie Chart 4.37



From Table 4.48 (b) and Pie Chart 4.37 it is evident that all the respondents are agree about the statement “This organization has sound knowledge of cane harvesting and supply.” It may, therefore, be concluded that all the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.4.6 ANALYSIS AND INTERPRETATION OF KNOWLEDGE OF ECONOMIC SITUATION OF CANE SUPPLYING FARMERS:

Table 4.49 (a) Descriptive Statistics of Knowledge of economic Situation of Cane Supplying Farmers

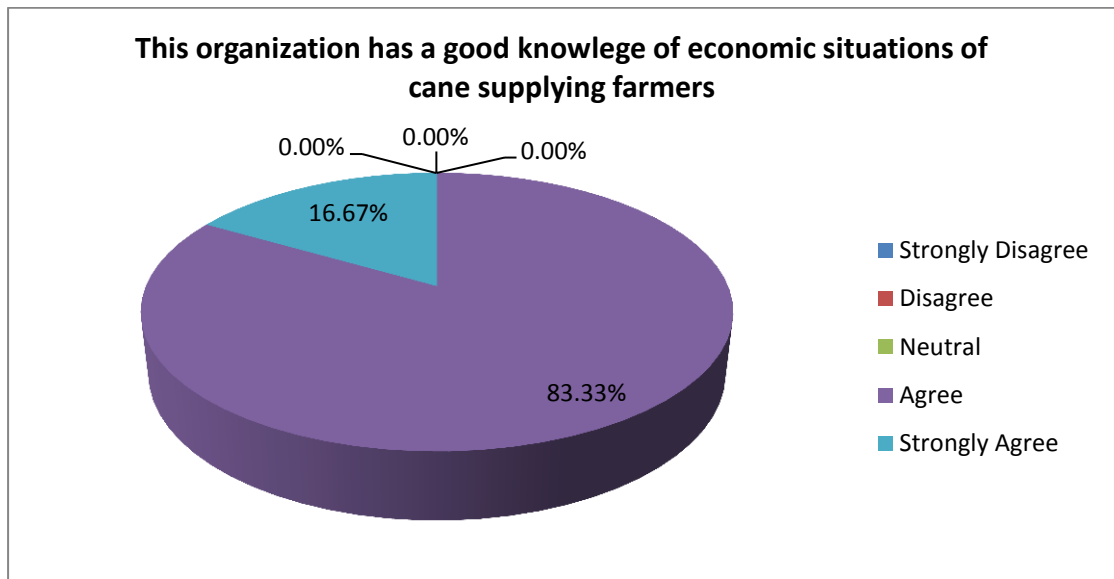
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has a good knowledge of economic situations of cane supplying farmers.	90	4	5	4.17	.375
Valid N (listwise)	90				

From Table 4.49 (a) it is clear that the mean score of the managers’ responses about the statement “This organization has good knowledge of economic situations of cane supplying farmers” is 4.17 which are tending to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has good knowledge of economic situations of cane supplying farmers” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.49 (b) This organization has a good knowledge of economic situations of cane supplying farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	75	83.3	83.3	83.3
	Strongly Agree	15	16.7	16.7	100.0
	Total	90	100.0	100.0	

Pie Chart 4.38



From Table 4.49 (b) and Pie Chart 4.38 it is clear that 83.33% respondents are agree and 16.67% respondents are strongly agree with the statement “This organization has good knowledge of economic situations of cane supplying farmers.” It may, therefore, be said that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.4.7 ANALYSIS AND INTERPRETATION OF SUGARCANE CRUSHING ABILITY OF EMPLOYEES:

Table 4.50 (a) Descriptive Statistics of Sugarcane Crushing Ability of Employees

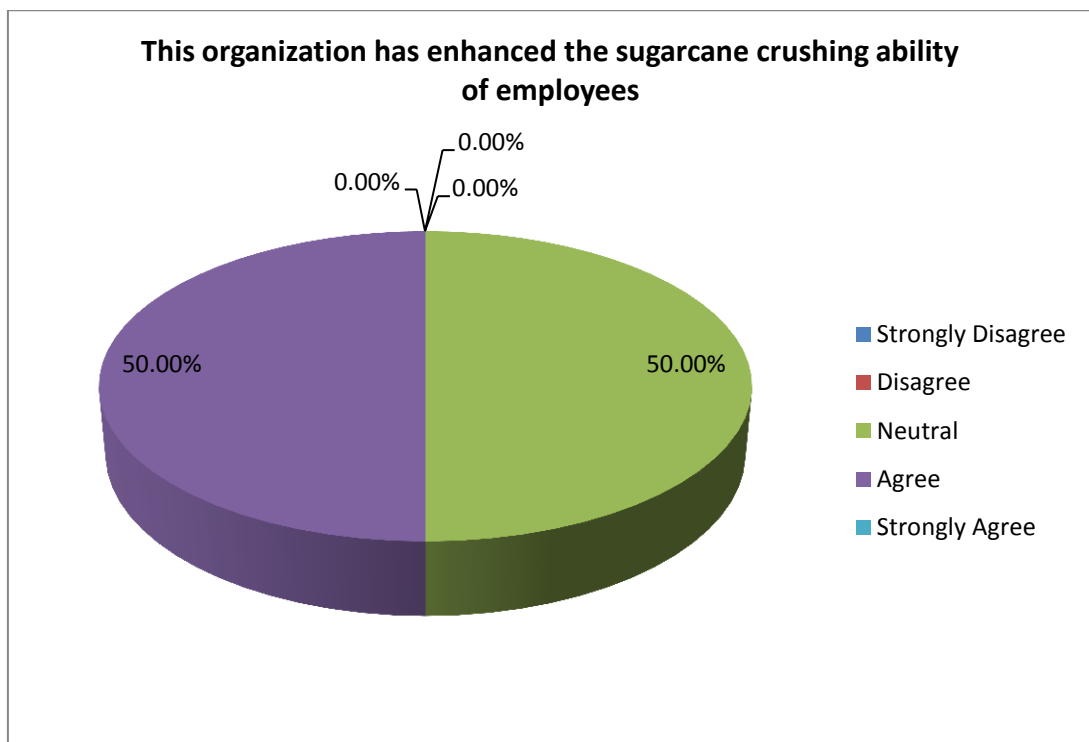
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has enhanced the sugarcane crushing ability of employees.	90	3	4	3.50	.503
Valid N (listwise)	90				

From Table 4.50 (a) it is evident that the mean score of the managers' responses about the statement "This organization has enhanced sugarcane crushing ability of employees." is 3.50 which is half more than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "This organization has enhanced the sugarcane crushing ability of employees" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.50 (b) This organization has enhanced the sugarcane crushing ability of employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	45	50.0	50.0	50.0
	Agree	45	50.0	50.0	100.0
	Total	90	100.0	100.0	

Pie Chart 4.39



From Table 4.50 (b) and Pie Chart 4.39 it is evident that 50% respondents are neutral and 50% respondents are agree with the statement "This organization has enhanced the sugarcane crushing the ability of employees." It may, therefore, be said that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.4.8 ANALYSIS AND INTERPRETATION OF EMPLOYEES' ABILITY FOR LOADING AND UNLOADING OF SUGARCANE:

Table 4.51 (a) Descriptive Statistics of Employees' Loading and Unloading Ability of Sugarcane

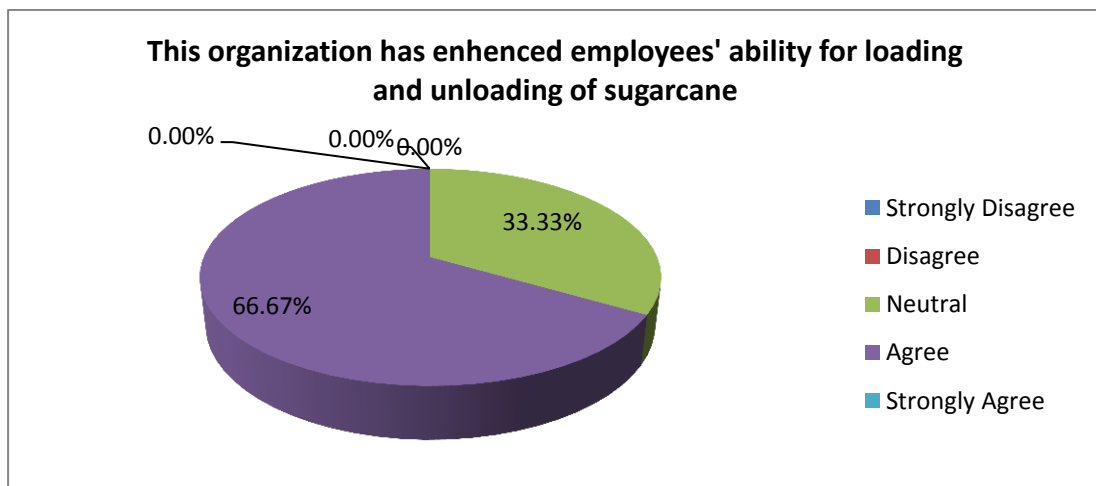
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has enhanced employee's ability for loading and unloading of sugarcane.	90	3	4	3.67	.474
Valid N (listwise)	90				

From Table 4.51 (a) it is clear that the mean score of the managers' responses about the statement "This organization has enhanced employee's ability for loading and unloading of sugarcane" is 3.67 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement "This organization has enhanced employee's ability for loading and unloading of sugarcane" were found to be agreed with statement for the sugar industry of Eastern Uttar Pradesh.

Table 4.51 (b) This organization has enhanced employee's ability for loading and unloading of sugarcane

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	30	33.3	33.3	33.3
Agree	60	66.7	66.7	100.0
Total	90	100.0	100.0	

Pie Chart 4.40



From Table 4.51 (b) and Pie Chart 4.40 it is evident that 33.3% respondents are neutral and 66.7% respondents are agree with the statement “This organization has enhanced employee’s ability for loading and unloading of sugarcane.” It may, therefore, be said that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.4.9 ANALYSIS AND INTERPRETATION OF ABILITY TO COMPETE WITH OTHERS:

Table 4.52 (a) Descriptive Statistics of Ability to Compete with Others

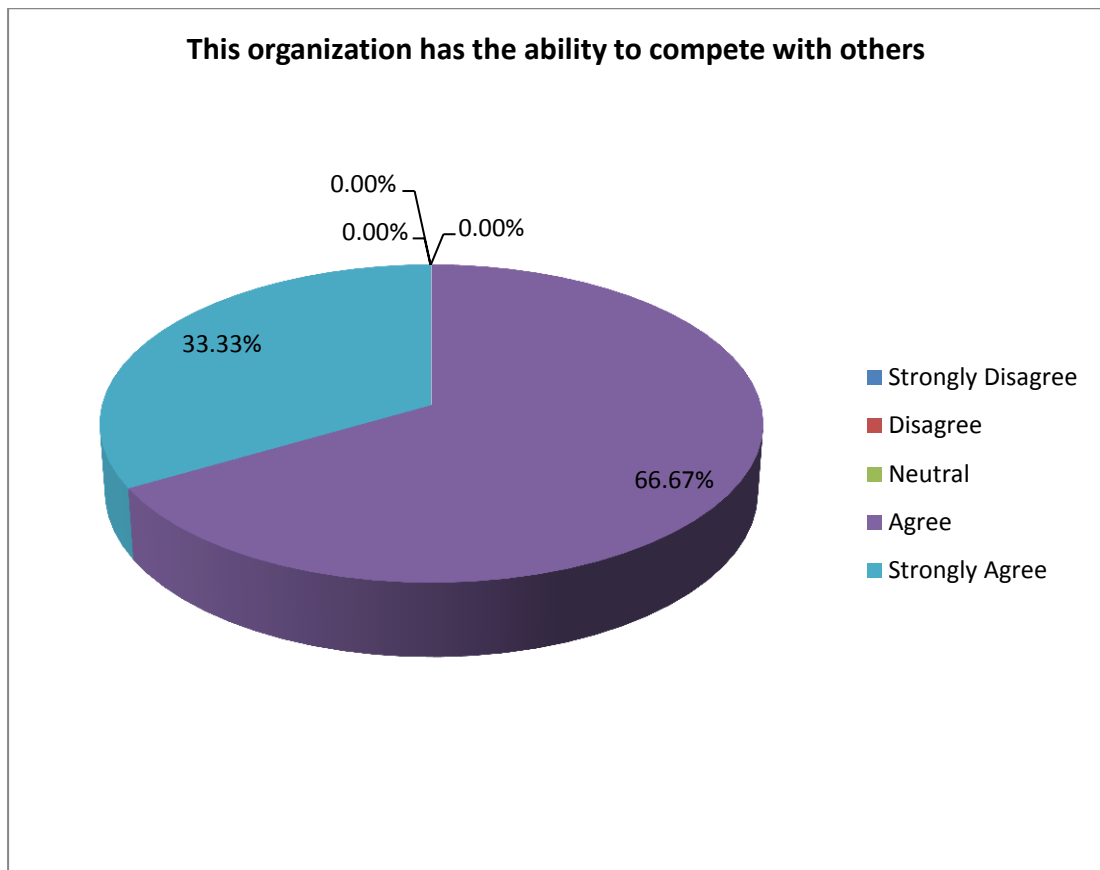
	N	Minimum	Maximum	Mean	Std. Deviation
This organization has the ability to compete with others.	90	4	5	4.33	.474
Valid N (listwise)	90				

From Table 4.52 (a) it is clear that the mean score of the managers’ responses of the statement “This organization has the ability to compete with others” is 4.33 which are tending to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has the ability to compete with others” were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.52 (b) This organization has the ability to compete with others

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	60	66.7	66.7	66.7
Strongly Agree	30	33.3	33.3	100.0
Total	90	100.0	100.0	

Pie Chart 4.41



From Table 4.52 (b) and Pie Chart 4.41 it is evident that 66.7% of respondents are agree and 33.3% respondents are strongly agree with the statement “This organization has the ability to compete with others.” It may, therefore, be concluded that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.5.0 ANALYSIS OF DATA RELETED TO FARMERS’ DEMOGRAPHY

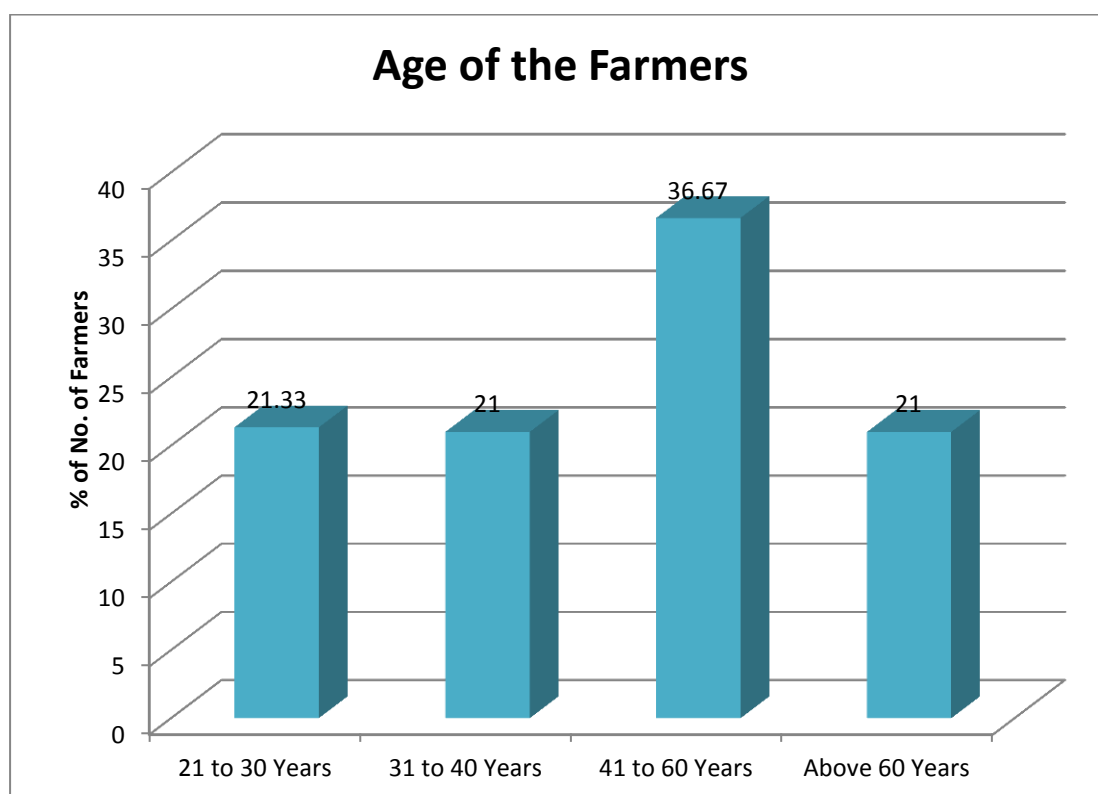
The data related to demography of sugarcane farmers of Eastern Uttar Pradesh were analysed with the help of simple Frequency Test and Bar Chart. The detailed analyses of data and their interpretations have been given below under different captions.

4.2.5.1 ANALYSIS AND INTERPRETATION OF AGE OF FARMERS:

Table 4.53 Age of the Farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21 to 30 Years	64	21.3	21.3	21.3
	31 to 40 Years	63	21.0	21.0	42.3
	41 to 60 Years	110	36.7	36.7	79.0
	above 60	63	21.0	21.0	100.0
	Total	300	100.0	100.0	

Bar Chart 4.9



From Table 4.53 and Bar Chart 4.9 it is evident that 21.33 % respondents are in the age group of 21-30 years, 21% respondents are in the age group of 31-40 years, 36.67% respondents are in the age group of 41-60 years and 21% respondents are above 60 years of age. It may, therefore, be concluded that most of the farmers were

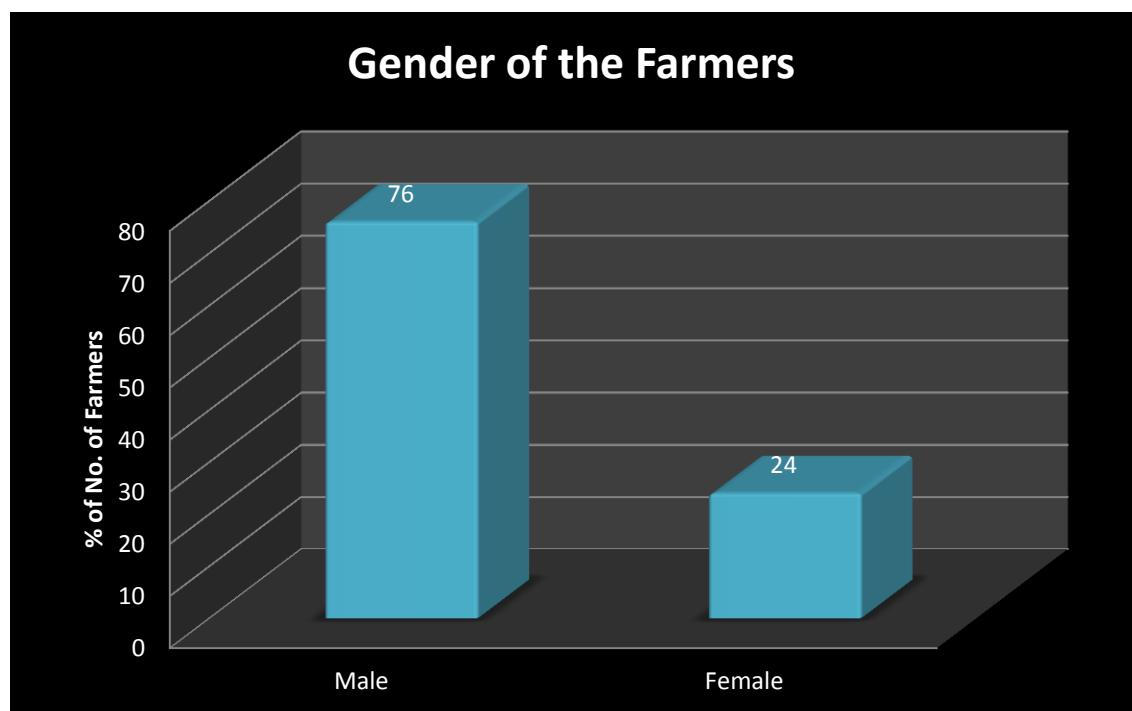
found to be matured enough and have good experience knowledge of agriculture especially cultivation of sugarcane.

4.2.5.2 ANALYSIS AND INTERPRETATION OF GENDER OF FARMERS:

Table 4.54 Gender of the Farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	228	76.0	76.0	76.0
	Female	72	24.0	24.0	100.0
	Total	300	100.0	100.0	

Bar Chart 4.10



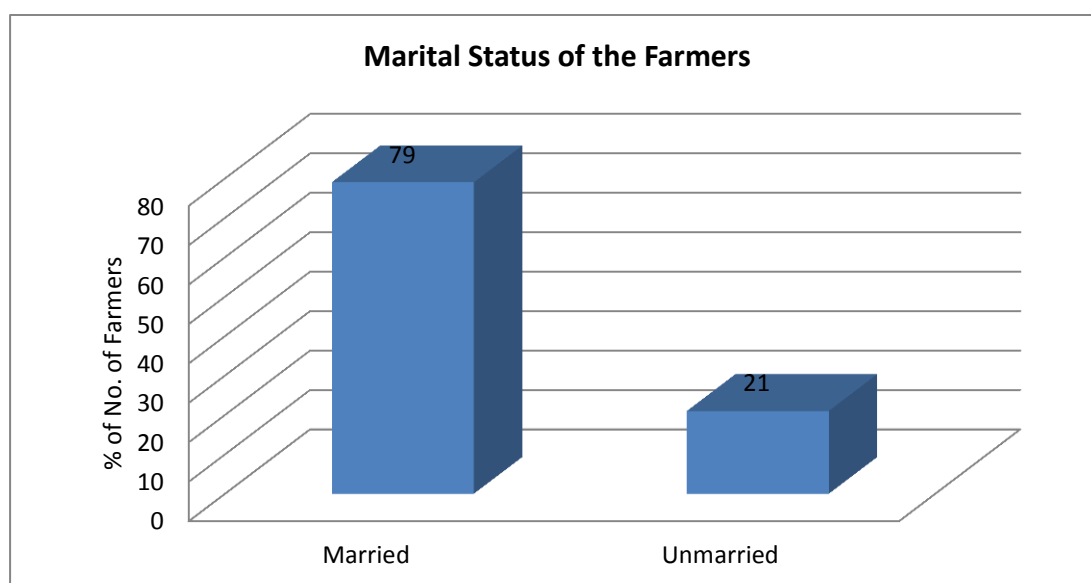
From the Table 4.54 and Bar Chart 4.10 it is evident that 76% respondents are males whereas 24% respondents are females. It may, therefore be concluded that most of the farmers engaged in sugarcane cultivation were found to be male and less females were found to be engaged in the farming of sugarcane.

4.2.5.3 ANALYSIS AND INTERPRETATION OF MARITAL STATUS OF FARMERS:

Table 4.55 Marital status of the Farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	237	79.0	79.0	79.0
	Unmarried	63	21.0	21.0	100.0
	Total	300	100.0	100.0	

Bar Chart 4.11



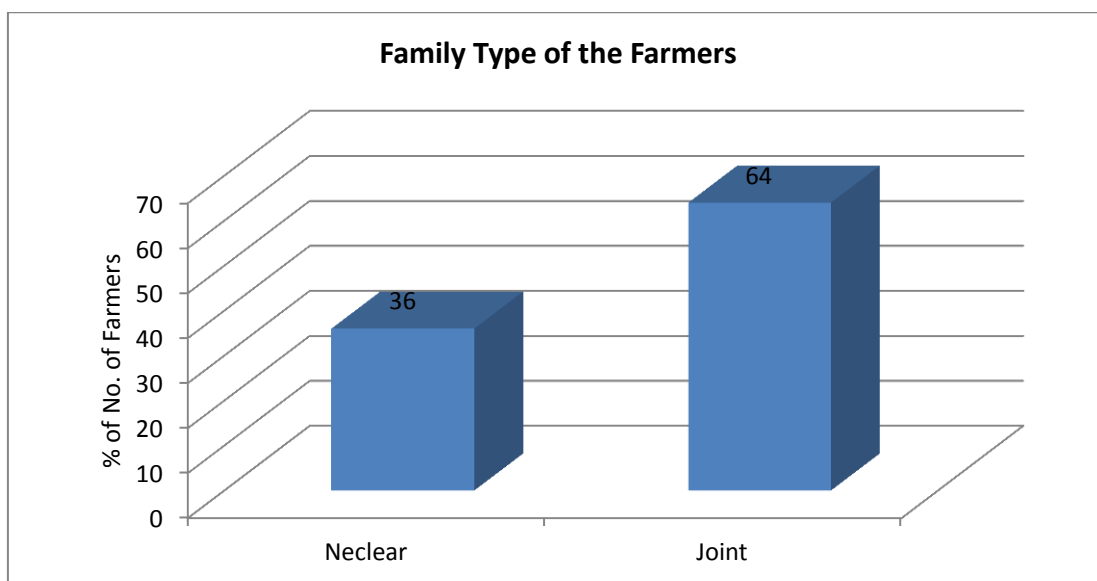
From the Table 4.55 and Bar Chart 4.11 it is evident that 79.00% of respondents are married whereas 21.00% of respondents are unmarried. It may, therefore, be said that most of the farmers were found to be married.

4.2.5.4 ANALYSIS AND INTERPRETATION OF FAMILY TYPE OF FARMERS:

Table 4.56 Family Type of the Farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Nuclear	108	36.0	36.0	36.0
	Joint	192	64.0	64.0	100.0
	Total	300	100.0	100.0	

Bar Chart 4.12



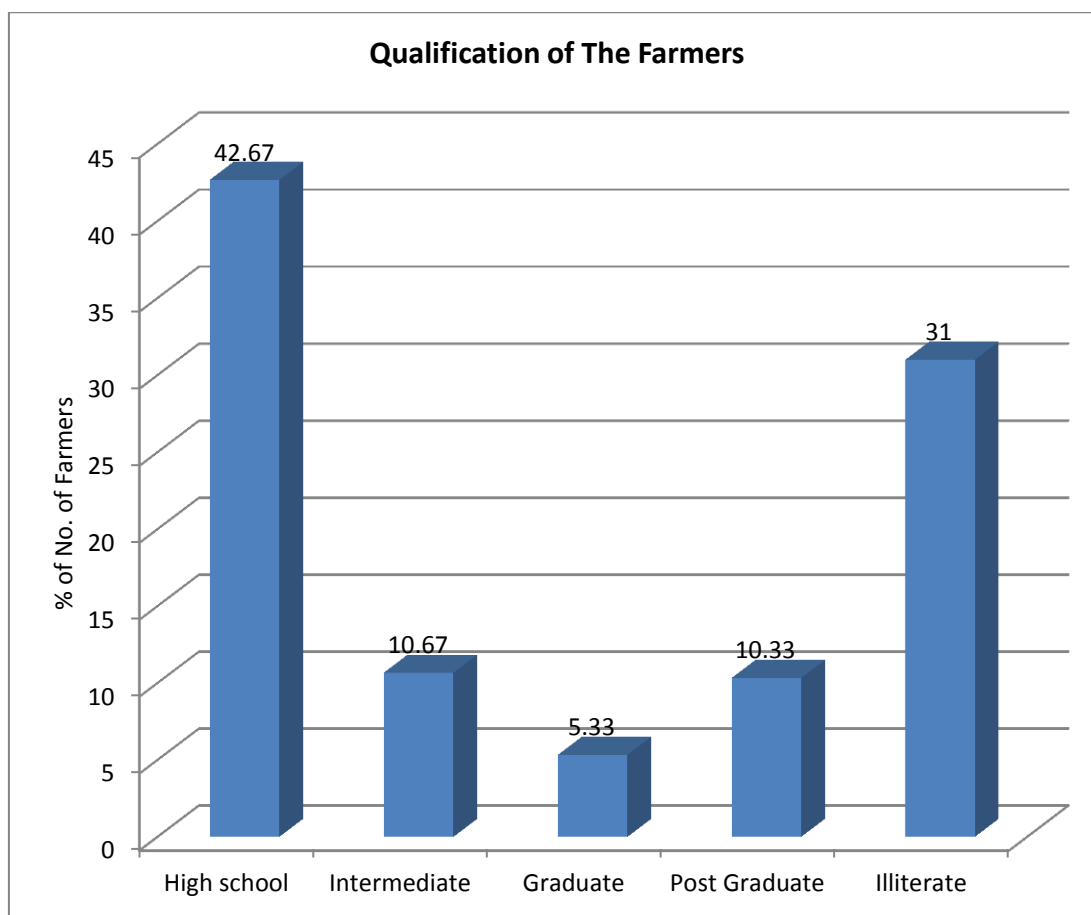
From the Table 4.56 and Bar Chart 4.12 it is clear that 64% farmers are living in the joint family concept whereas 36% respondents are living in nuclear family concept. The concept of joint family was a reality in an Indian village. It may, therefore, be concluded that nuclear family concept was growing rapidly in the villages.

4.2.5.5 ANALYSIS AND INTERPRETATION OF QUALIFICATION OF FARMERS:

Table 4.57 Qualification of the Farmers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid High school	128	42.7	42.7	42.7
Intermediate	32	10.7	10.7	53.3
Graduate	16	5.3	5.3	58.7
Post Graduate	31	10.3	10.3	69.0
Illiterate	93	31.0	31.0	100.0
Total	300	100.0	100.0	

Bar Chart 4.13



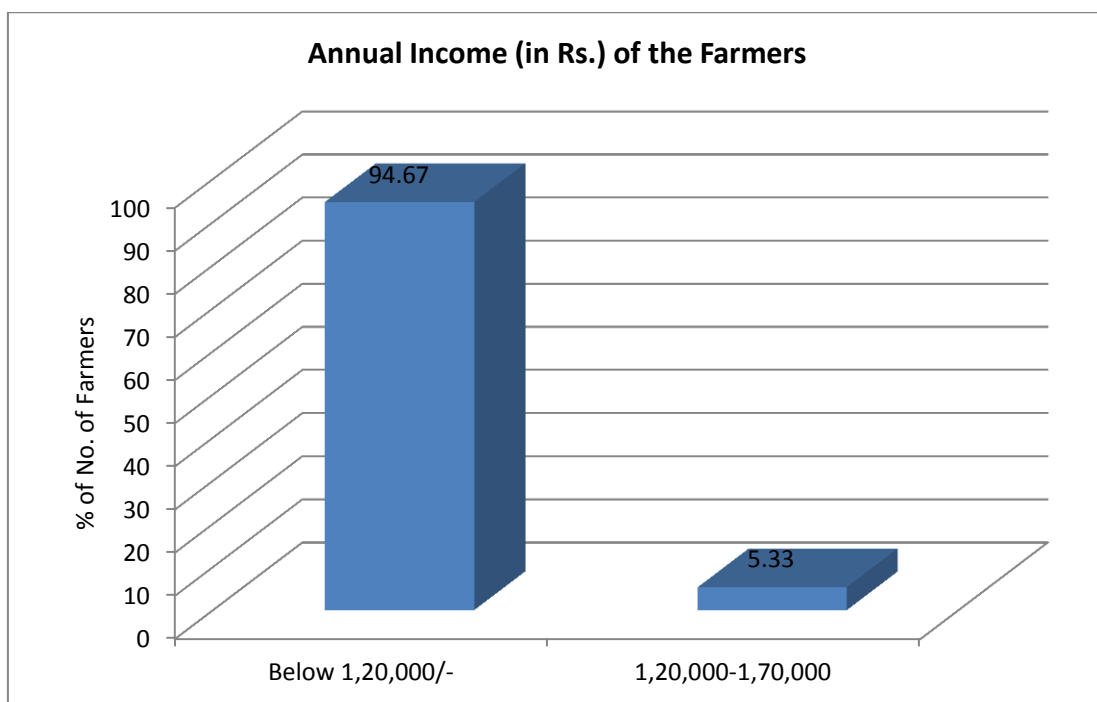
From the Table 4.57 and Bar Chart 4.13 it is clear that 42.67% respondents are High school passed, 10.67% respondents are intermediate passed, 5.33% respondents are Graduate, 10.33% respondents are Post Graduate and 31% are illiterate. It may, therefore, be concluded that most of the farmers were found to be either illiterate or educated up to the high school level.

4.2.5.6 ANALYSIS AND INTERPRETATION OF ANNUAL INCOME (in Rs.) OF FARMERS:

Table 4.58 Annual Income (in Rs) of the Farmers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Below Rs 1,20,000/-	284	94.7	94.7	94.7
Rs 1,20,001/- to Rs 1,70,000/-	16	5.3	5.3	100.0
Total	300	100.0	100.0	

Bar Chart 4.14



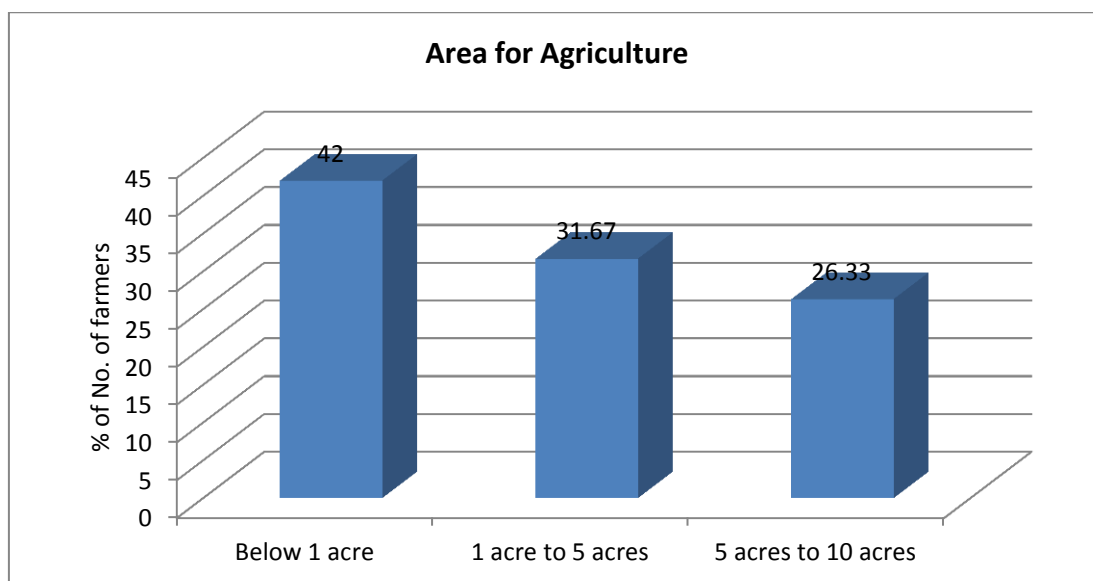
From the Table 4.58 and Bar Chart 4.14 it is evident that 94.67% respondent has their annual income below Rs 1,20,000 whereas 5.33% respondents has their annual income between Rs 1,20,001 to Rs 1,70,000. It may, therefore, be said that the economic condition of most the farmers was not satisfactory and one of the most important reason for low annual income of the farmer was their land holding which was below one acre.

4.2.5.7 ANALYSIS AND INTERPRETATION OF AREA FOR AGRICULTURE:

Table 4.59 Area for Agriculture

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Below 1 acre	126	42.0	42.0	42.0
1 acre to 5 acres	95	31.7	31.7	73.7
5 acres to 10 acres	79	26.3	26.3	100.0
Total	300	100.0	100.0	

Bar Chart 4.15



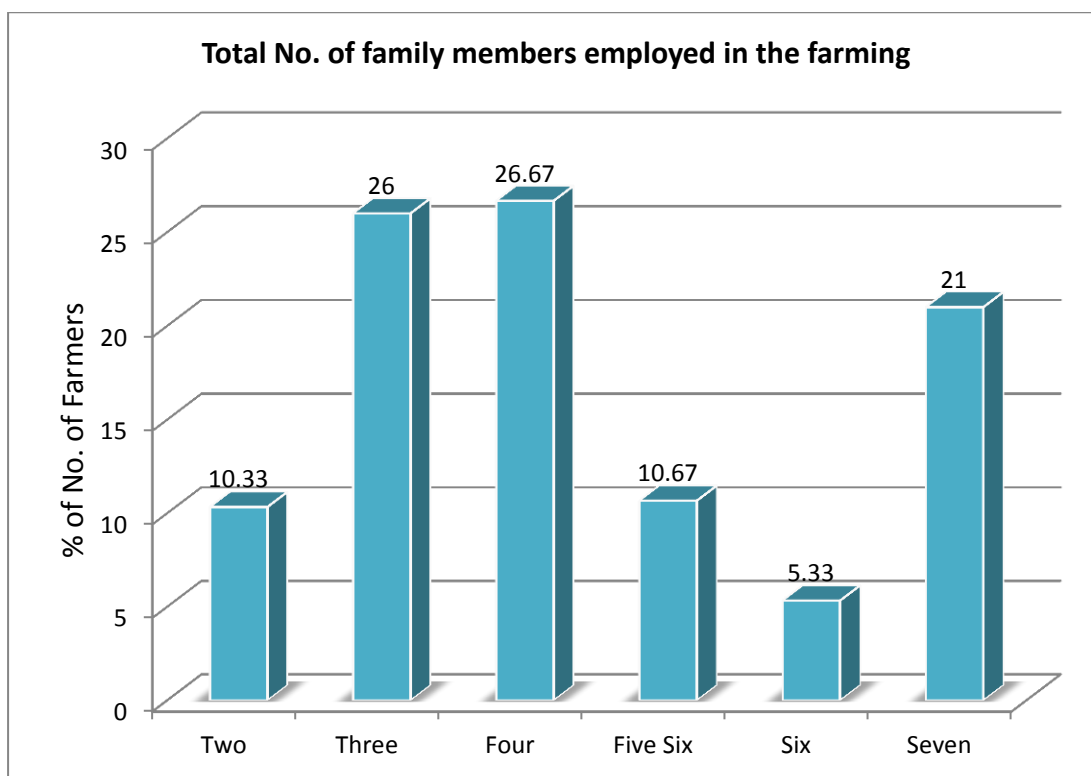
From the Table 4.59 and Bar Chart 4.15 it is clear that 42% respondents have land less than one acre, 31.67% respondents have land between 1 to 5 acres and 26.33% respondents have land between 5 to 10 acres for agriculture. It may, therefore, be concluded that most of the farmers were found to have either less than one acre or 1 to 5 acres land for sugarcane cultivation.

4.2.5.8 ANALYSIS AND INTERPRETATION OF NUMBER OF FAMILY MEMBERS ENGAGED IN SUGARCANE FARMING:

Table 4.60 Total no of family members employed in the farming

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	31	10.3	10.3	10.3
	3	78	26.0	26.0	36.3
	4	80	26.7	26.7	63.0
	5	32	10.7	10.7	73.7
	6	16	5.3	5.3	79.0
	7	63	21.0	21.0	100.0
	Total	300	100.0	100.0	

Bar Chart 4.16

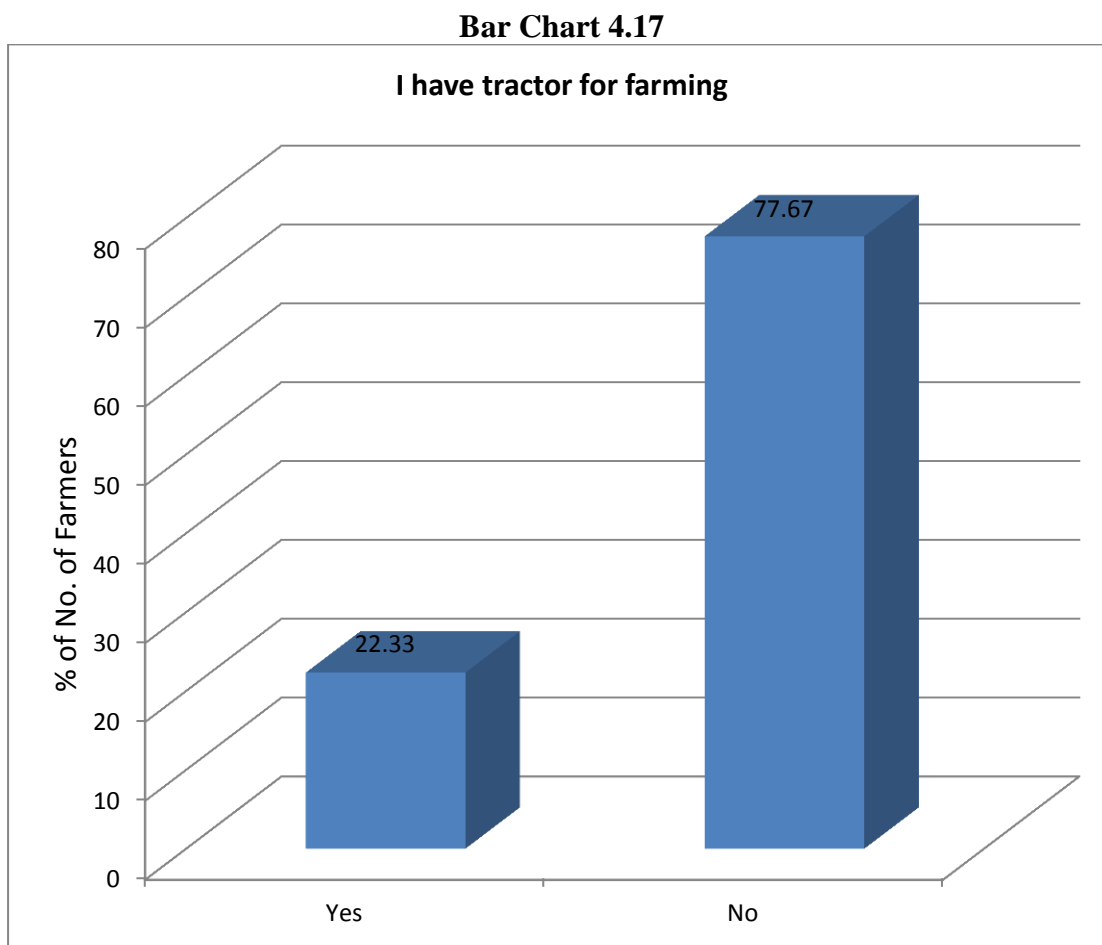


From the Table 4.60 and Bar Chart 4.16 it is evident that 10.33% respondents have 2 members, 26% respondents have 3 family members, 26.67% respondents have 4 family members, 10.67% respondents have 5 family members, 5.33% respondents have 6 family members and 21% respondents have 7 family members employed in the sugarcane farming. It may, therefore, be concluded that generally 3 to 4 members of more than half sugarcane cultivating families were found to be employed in the farming.

4.2.5.9 ANALYSIS AND INTERPRETATION OF POSSESSION OF TRACTOR OF FARMERS:

Table 4.61 I have tractor for farming

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	67	22.3	22.3	22.3
No	233	77.7	77.7	100.0
Total	300	100.0	100.0	



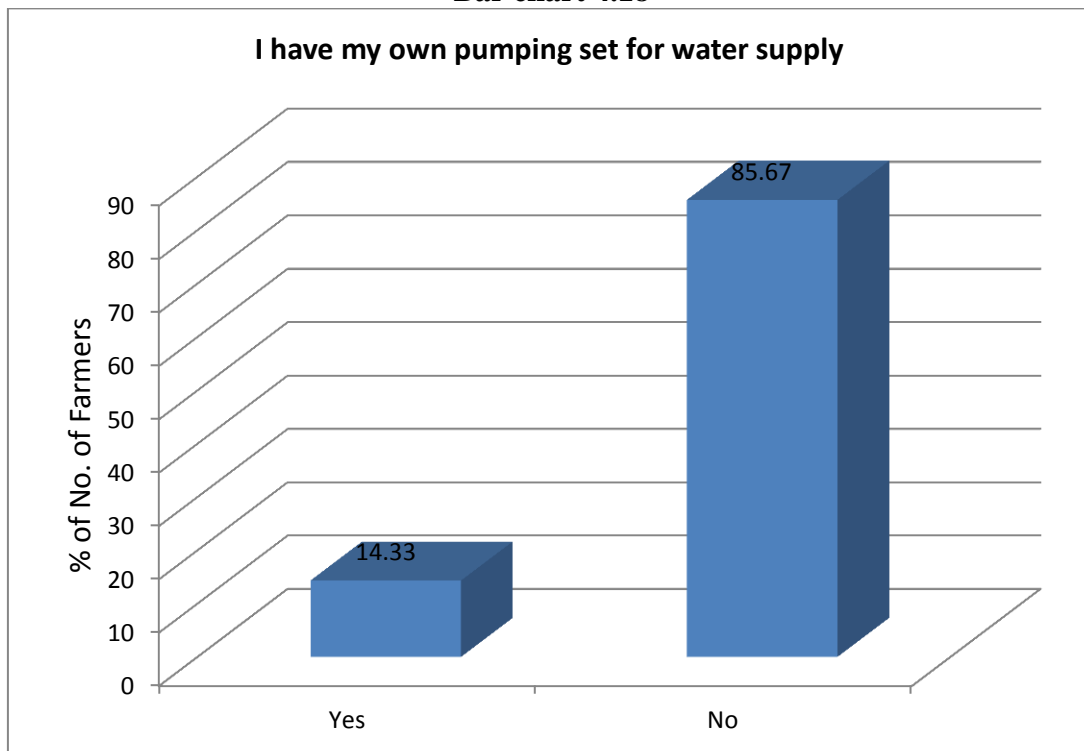
From the Table 4.61 and Bar Chart 4.17 it is evident that 22.33% respondents have their own Tractors whereas 77.67% respondents have no personal Tractors for the farming of sugarcane. It may, therefore, be concluded that most of the farmers were not found to have their own tractors for the farming of sugarcane.

4.2.5.10 ANALYSIS AND INTERPRETATION OF POSSESSION OF PUMPING SET OF FARMERS:

Table 4.62 I have my own pumping set for water supply

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	43	14.3	14.3	14.3
No	257	85.7	85.7	100.0
Total	300	100.0	100.0	

Bar chart 4.18



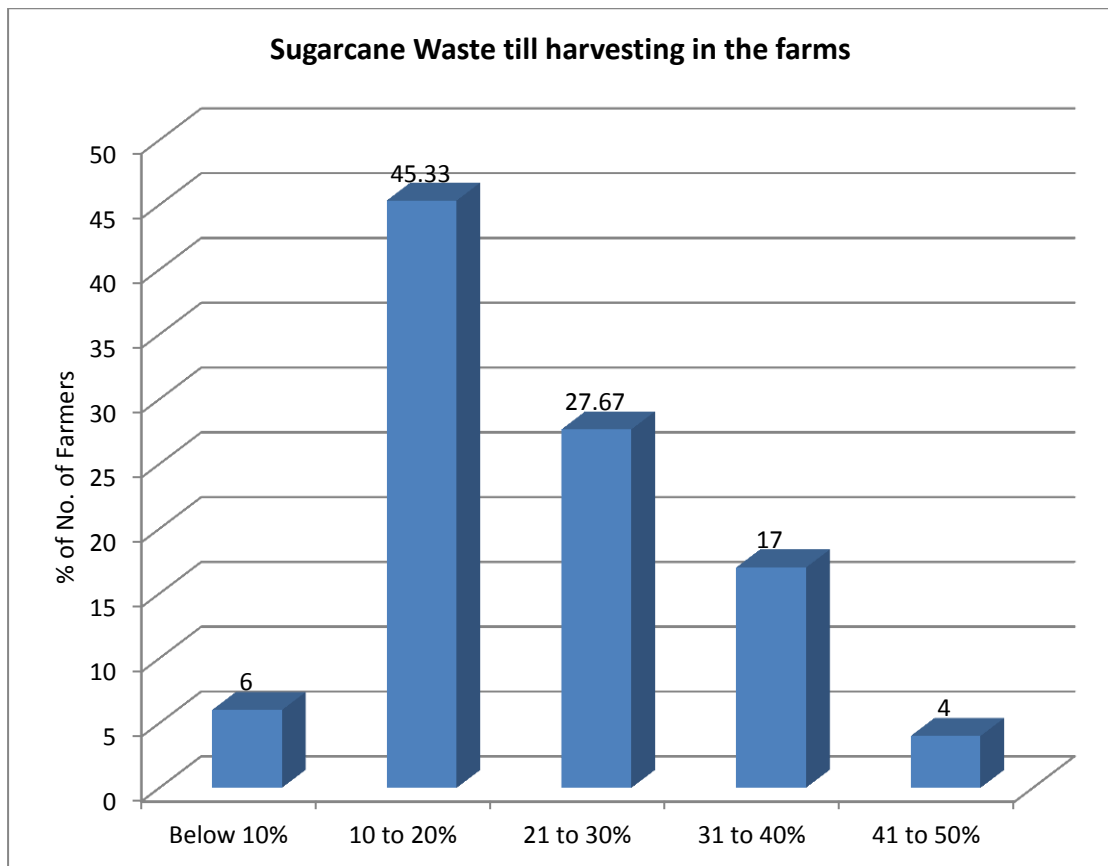
From the Table 4.62 and Bar Chart 4.18 it is evident that 14.33% respondents have their own pumping set for water supply in the farm whereas 85.67% of respondents have not their own pumping set for water supply for the farming of sugarcane. It may, therefore, be said that most of the farmers were not found to have their own pumping set for irrigation of sugarcane.

4.2.5.11 ANALYSIS AND INTERPRETATION OF SUGARCANE WASTE TILL HARVESTING IN THE FARMS:

Table 4.63 Sugarcane Waste till harvesting in the farms

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Below 10%	18	6.0	6.0	6.0
10 to 20%	136	45.3	45.3	51.3
21 to 30%	83	27.7	27.7	79.0
31 to 40%	51	17.0	17.0	96.0
41 to 50%	12	4.0	4.0	100.0
Total	300	100.0	100.0	

Bar Chart 4.19



From the Table 4.63 and Bar Chart 4.19 it is clear that in relation to sugarcane wastage till harvesting 6% respondents claim less than 10% sugarcane wastage, 45.33 % respondents claim 10 to 20 % sugarcane wastage, 27.67% respondents claim 21 to 30% sugarcane wastage, 17% claim 31 to 40% sugarcane wastage and 4% respondents claim 41 to 50% sugarcane wastage. It may, therefore, be said that 10 to 20 % sugarcane found to be wasted till harvesting.

4.2.6.0 ANALYSIS OF DATA RELETED TO ITEMS UNDER SUPPLY CHAIN MANAGEMENT FROM FARMERS' POINT OF VIEW

The items related to Supply Chain Management from Farmers' point of view have been given below in the table 4.64.

Table 4.64 Items Related to SCM from Farmers' point of view

Sl. No.	Sub-variable	Items
1	Flow of Material	During the crushing time the flow of sugarcane remains smooth from my farm to the sugar mill.
		There is no long waiting time for loading vehicle in my farm.
2	Flow of Money	I get timely payment for my sugarcane.
		I purchase timely inputs for sugarcane cultivation.
3	Flow of Information	I get the right information from sugar mill regarding payment for my sugarcane.
		I provide regular information to sugar mill regarding my yield.

The data related to items under Supply Chain Management from farmers' point of view were analysed with the help of simple Descriptive Statistics, Frequency Test and Pie Chart. The detailed analyses of data and their interpretations have been given below under different captions.

4.2.6.1 ANALYSIS AND INTERPRETATION OF FLOW SUGARCANE FROM FARMS:

Table 4.65 (a) Descriptive Statistics of Flow of Sugarcane from Farms

	N	Minimum	Maximum	Mean	Std. Deviation
During the crushing time, the flow of sugarcane remains smooth from my farm to the sugar mill.	300	1	5	3.16	1.087
Valid N (listwise)	300				

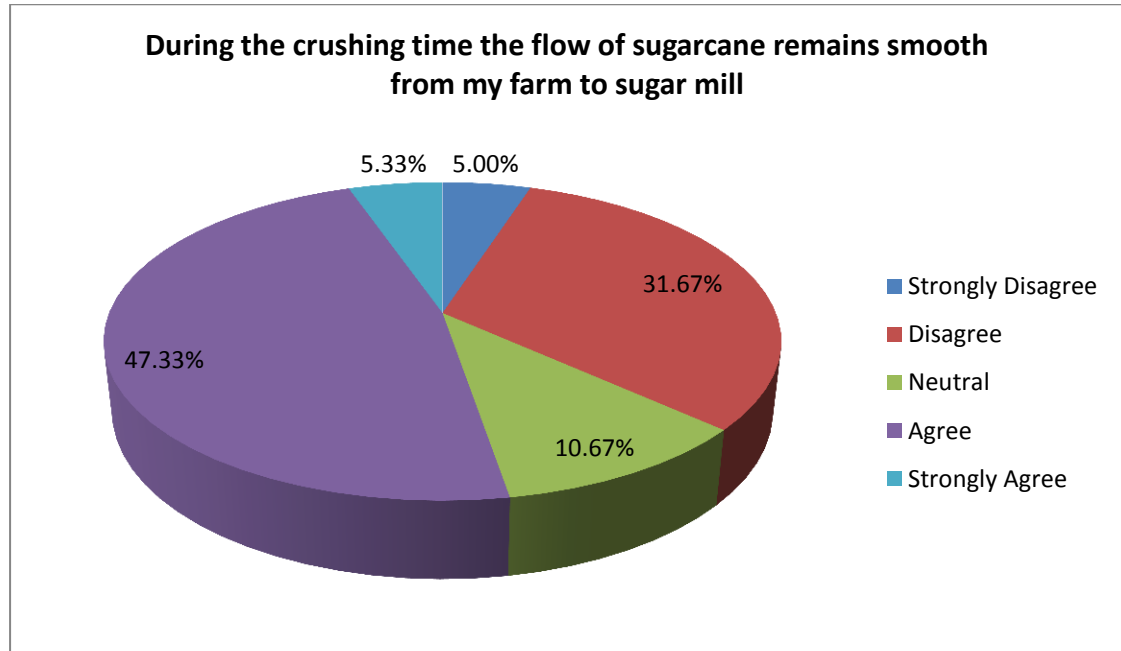
From the Table 4.65(a) it is clear that the mean score of the farmers' responses about the statement "During the crushing time the flow of sugarcane remains smooth from

my farm to sugar mill” is 3.16 which is slightly more than 3rd point on Likert scale. It may, therefore be concluded that the farmers’ opinions about the statement “During crushing time the flow of sugarcane remains smooth from my farm to sugar mill” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.65 (b) During the crushing time the flow of sugarcane remains smooth from my farm to sugar mill

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	15	5.0	5.0	5.0
Disagree	95	31.7	31.7	36.7
Neutral	32	10.7	10.7	47.3
Agree	142	47.3	47.3	94.7
Strongly Agree	16	5.3	5.3	100.0
Total	300	100.0	100.0	

Pie Chart 4.42



From the Table 4.65 (b) and Pie Chart 4.42, it is clear that 5% respondents are strongly disagree, 31.7 respondents are disagree, 10.67% respondents are neutral, 47.33% respondents are agree and 5.33% respondents are strongly agreed with the

statement “During the crushing time the flow of sugarcane remains smooth from my farm to the sugar mill.” It may, therefore, be said that more than half of the farmers were found to be either agreed or strongly agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.6.2 ANALYSIS AND INTERPRETATION OF WAITING TIME FOR LOADING VEHICLES IN FARMS:

4. 66 (a) Descriptive Statistics of Waiting Time for Loading Vehicles in Farms

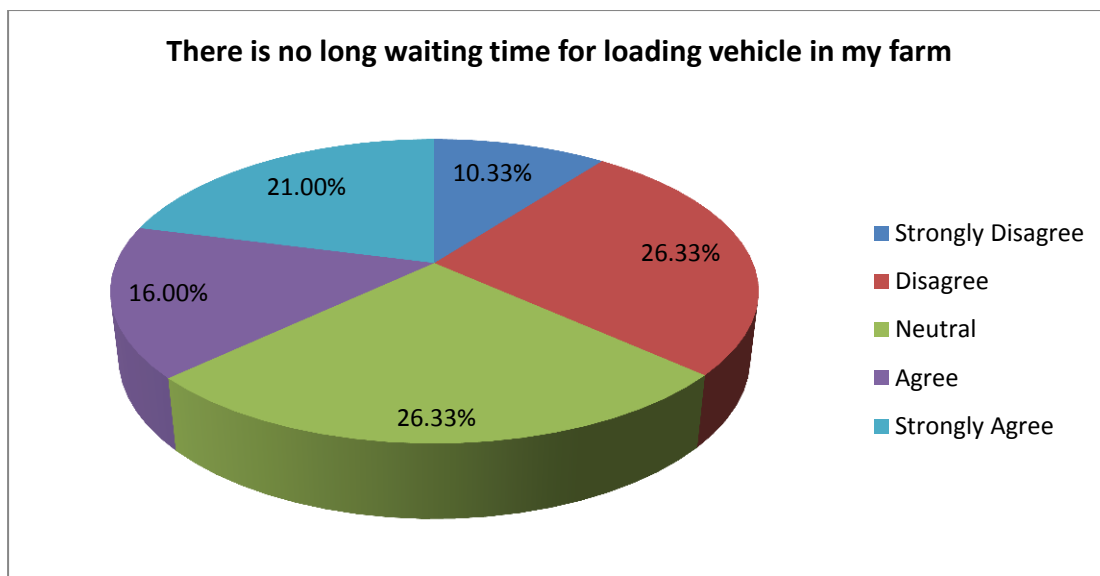
	N	Minimum	Maximum	Mean	Std. Deviation
There is no long Waiting time for loading vehicle in my farm.	300	1	5	3.11	1.292
Valid N (listwise)	300				

From the Table 4.66 (a) it is evident that the mean score of the farmers’ responses about the statement “There is no long waiting time for loading vehicle in my farm” is 3.11 which is slightly more than 3rd point on Likert scale. It may, therefore be concluded that the farmers’ opinions about the statement “There is no long waiting time for loading vehicle in my farm” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.66 (b) There is no long waiting time for loading vehicle in my farm

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	31	10.3	10.3	10.3
Disagree	79	26.3	26.3	36.7
Neutral	79	26.3	26.3	63.0
Agree	48	16.0	16.0	79.0
Strongly Agree	63	21.0	21.0	100.0
Total	300	100.0	100.0	

Pie Chart 4.43



From the Table 4.66 (b) and Pie Chart 4.43, it is evident that 10.33% respondents are strongly disagree, 26.33% respondents are disagree, 26.33% respondents are neutral, 16.00% respondents are agree and 21.00% respondents are strongly agree with the statement “There is no long waiting time for loading vehicle in my farm.” It may, therefore, be concluded that the respondents’ opinions about the statement were found to be a mixed opinion for the sugar industry of Eastern Uttar Pradesh.

4.2.6.3 ANALYSIS AND INTERPRETATION OF TIMELY PAYMENT FOR SUGARCANE:

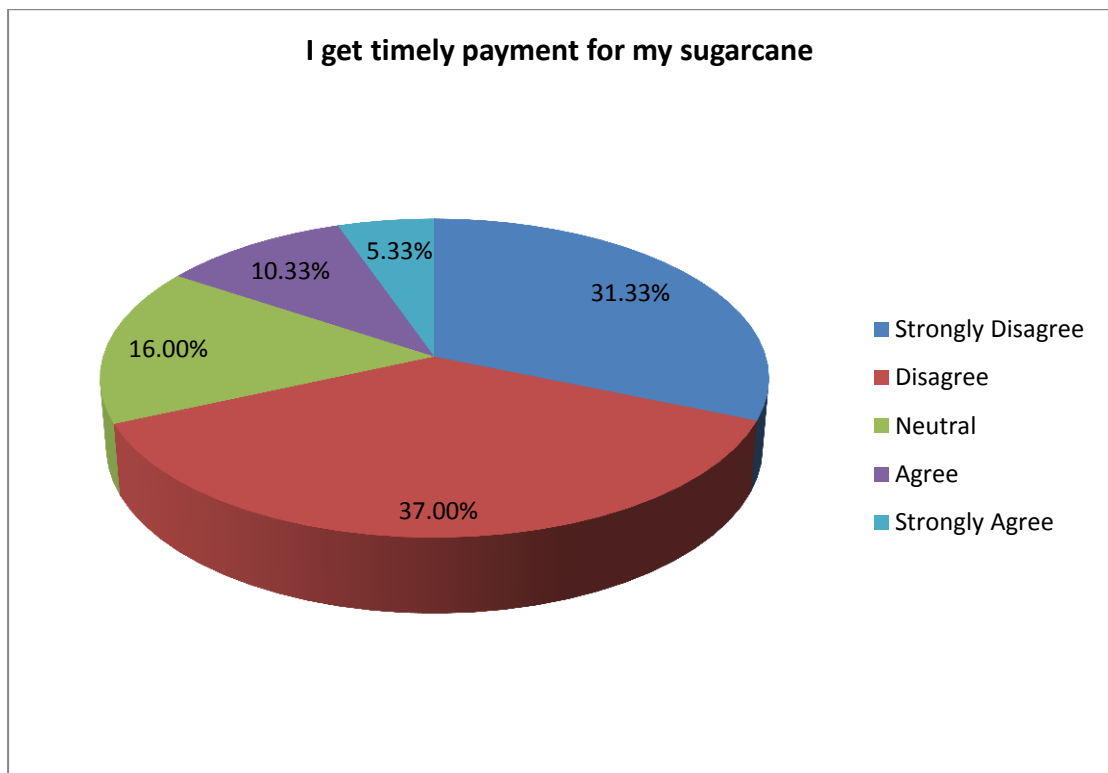
Table 4.67 (a) Descriptive Statistics of Timely Payment for Sugarcane

	N	Minimum	Maximum	Mean	Std. Deviation
I get timely payment for my sugarcane.	300	1	5	2.21	1.151
Valid N (listwise)	300				

From the Table 4.67 (a) it is clear that the mean score of farmers’ responses about the statement “I get timely payment for my sugarcane” is 2.11 which are tending to 2nd point on Likert scale. It may, therefore, be said that the farmers’ opinions about the statement “You get timely payment for your sugarcane” were found to be disagreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.67 (b) I get timely payment for my sugarcane

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	94	31.3	31.3	31.3
Disagree	111	37.0	37.0	68.3
Neutral	48	16.0	16.0	84.3
Agree	31	10.3	10.3	94.7
Strongly Agree	16	5.3	5.3	100.0
Total	300	100.0	100.0	

Pie Chart 4.44

From the Table 4.18 and Pie Chart 4.3, it is evident that 31.33% respondents are strongly disagree, 37.00% respondents are disagree, 16.00% respondents are neutral, 10.33% respondents are agree and 5.33% respondents are strongly agree with the statement “I get timely payment for my sugarcane.” Hence, it may be said that the farmers believed that they were not getting their payment timely.

4.2.6.4 ANALYSIS AND INTERPRETATION OF TIMELY PURCHASE OF INPUTS FOR SUGARCANE CULTIVATION:

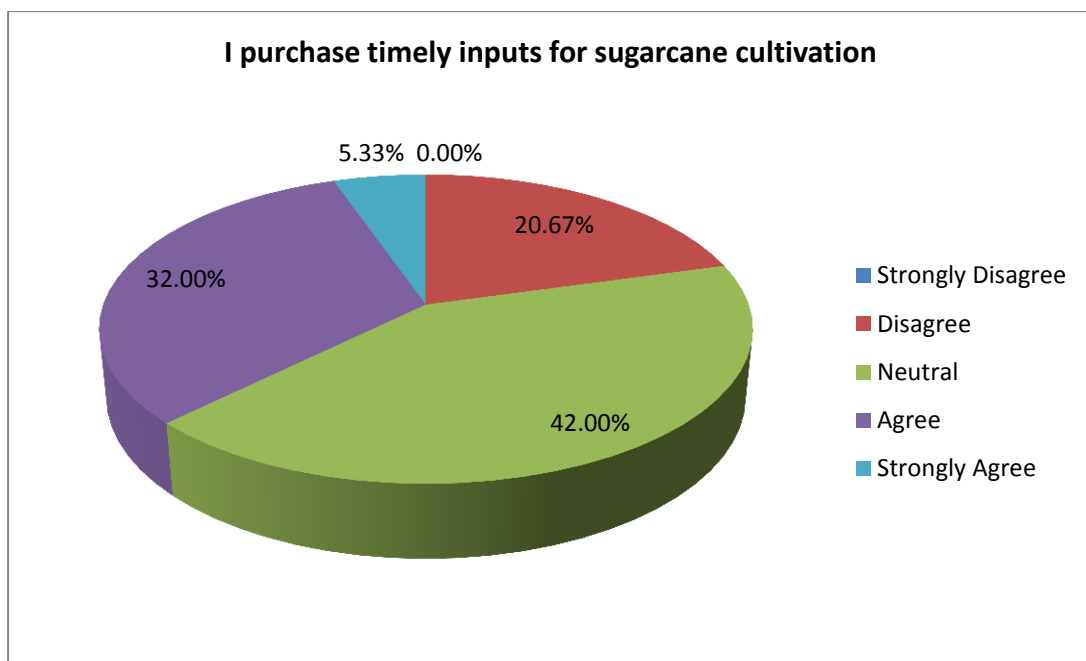
Table 4.68 (a) Descriptive Statistics of Timely Purchase of Inputs for Sugarcane Cultivation

	N	Minimum	Maximum	Mean	Std. Deviation
I purchase timely inputs for sugarcane cultivation.	300	2	5	3.22	.833
Valid N (listwise)	300				

From the Table 4.68 (a) it is clear that the mean score of the farmers' responses about the statement "I purchase timely inputs for sugarcane cultivation" is 3.22 which is slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the farmers' opinions about the statement "I purchase timely inputs for sugarcane cultivation" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.68 (b) I purchase timely inputs for sugarcane cultivation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	62	20.7	20.7	20.7
Neutral	126	42.0	42.0	62.7
Agree	96	32.0	32.0	94.7
Strongly Agree	16	5.3	5.3	100.0
Total	300	100.0	100.0	

Pie Chart 4.45

From the Table 4.68 (b) and Pie Chart 4.45 it is clear that 20.67% respondents are disagree, 42% respondents are neutral, 32% respondents are agree and 5.33% respondents are strongly agree with the statement “I purchase timely inputs for sugarcane cultivation.” It may, therefore, be said that most of the farmers were found to be either neutral or agree with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.6.5 ANALYSIS AND INTERPRETATION OF RIGHT INFORMATION FROM SUGAR MILLS:

Table 4.69 (a) Descriptive Statistics of right Information from Sugar Mills

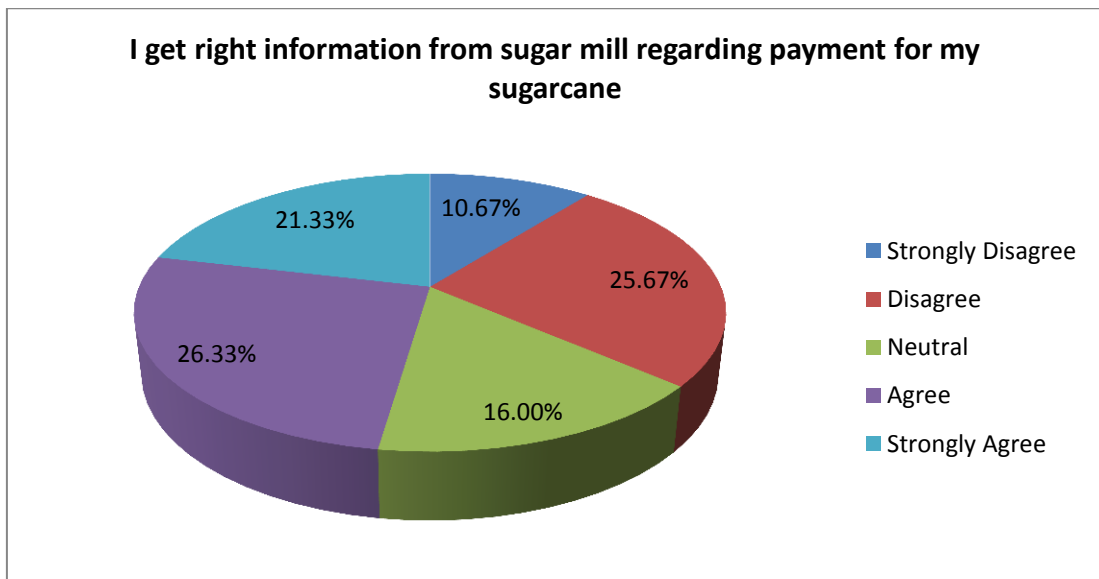
	N	Minimum	Maximum	Mean	Std. Deviation
I get the right information from sugar mill regarding payment for my sugarcane.	300	1	5	3.22	1.326
Valid N (listwise)	300				

From the Table 4.69 it is evident that the mean score of the farmers’ responses about the statement “I get right information from sugar mill regarding payment for my sugarcane” is 3.22 which is slightly more than 3rd point on Likert scale. It may, therefore be concluded that the farmers’ opinions about the statement “I get right information from sugar mill regarding payment for my sugarcane” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.69 (b) I get the right information from sugar mill regarding payment for my sugarcane

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	32	10.7	10.7	10.7
Disagree	77	25.7	25.7	36.3
Neutral	48	16.0	16.0	52.3
Agree	79	26.3	26.3	78.7
Strongly Agree	64	21.3	21.3	100.0
Total	300	100.0	100.0	

Pie Chart 4.46



From the Table 4.69 (b) and Pie Chart 4.46 it is evident that 10.67% respondents are strongly disagree, 25.67% respondents are disagree, 16% respondents are neutral, 26.33% respondents are agree and 21.33% respondents are strongly agree with the statement “I get right information from sugar mill regarding payment for my sugarcane.” It may, therefore, be concluded that farmers’ opinions about the statement were found to be mixed opinion for the sugar industry of Eastern Uttar Pradesh.

4.2.6.6 ANALYSIS AND INTERPRETATION OF REGULAR INFORMATION TO SUGAR MILLS ABOUT YIELD:

Table 4.70 (a) Descriptive Statistics of Regular Information to Sugar Mills about Yield

	N	Minimum	Maximum	Mean	Std. Deviation
I provide regular information to sugar mill regarding my yield.	300	1	5	3.47	1.360
Valid N (listwise)	300				

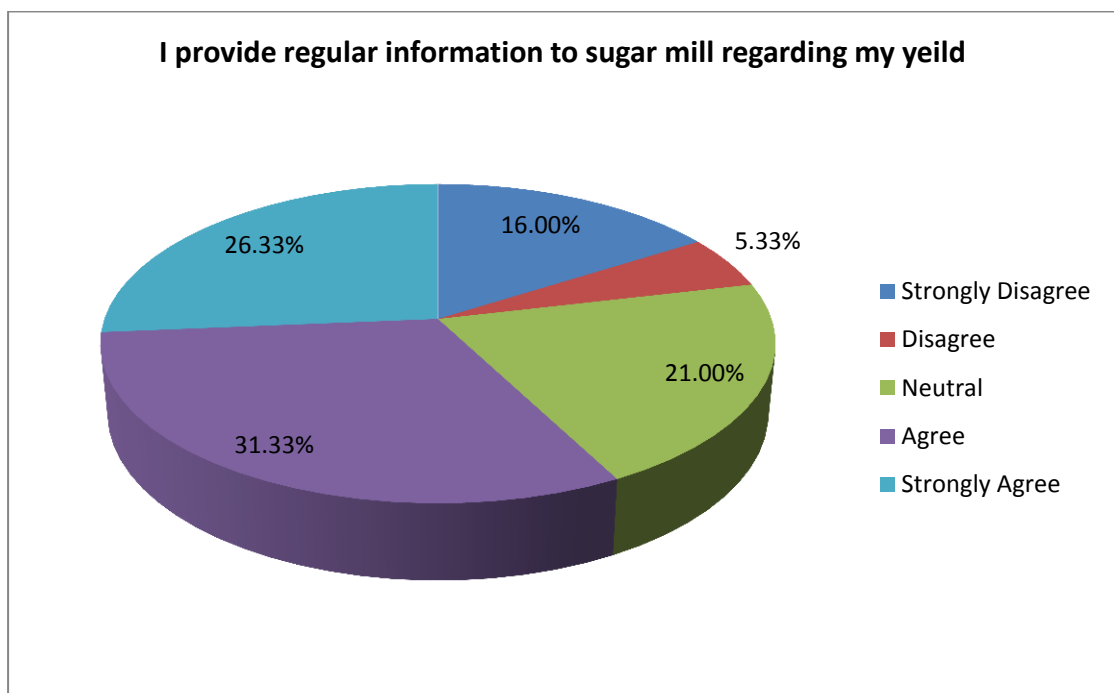
From the Table 4.70 (a) it is clear that the mean score of the farmers’ responses about the statement “I provide regular information to sugar mill regarding my yield” is 3.47 which is slightly more than 3rd point on Likert scale. It may, therefore, be said that the farmers’ opinions about the statement “I provide regular information to sugar mill

regarding my yield” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.70 (b) I provide regular information to sugar mill regarding my yield

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	48	16.0	16.0	16.0
Disagree	16	5.3	5.3	21.3
Neutral	63	21.0	21.0	42.3
Agree	94	31.3	31.3	73.7
Strongly Agree	79	26.3	26.3	100.0
Total	300	100.0	100.0	

Pie Chart 7.47



From the Table 4.70 (b) and pie char 4.47 it is evident that 16.00% respondents are strongly disagree, 5.33% respondents are disagree, 21.00% respondents are neutral, 31.33% respondents are agree and 26.33% respondents are strongly agree with the statement “I provide regular information to sugar mill regarding my yield.” It may, therefore be concluded that more than half of the farmers’ opinions about the statement were found to be either agreed or strongly agreed for the sugar industry of Eastern Uttar Pradesh.

4.2.7.0 ANALYSIS OF DATA RELETED TO ITEMS UNDER SOCIO-ECONOMIC CONDITION

The items related to Socio-economic Condition from Farmers' point of view have been given below in the table 4.71.

Table 4.71 Items Related to Socio-economic Condition

SN.	Sub-variable	Construct
1	Education	I have more literate family members as compare to those who do not cultivate sugarcane.
		I am able to provide a better education for my children as compare to those who do not cultivate sugarcane.
2	Health	My family has more healthy members compared to others.
3	Social Obligation	My family celebrate festivals in a good way as compared to those who do not cultivate sugarcane.
4	Social Recognition	My family has more social recognition as compared to those who do not cultivate sugarcane.
5	Women Empowerment	My family has more female decision-makers as compared to those who do not cultivate sugarcane.
6	Income	I earn more income as compare to those who do not cultivate sugarcane.
		I purchase more durable goods compared to those who do not cultivate sugarcane.
		Cultivation of sugarcane made me able to meet the medical expenses of my family.
7	Employment	Cultivation of sugarcane has increased the opportunities for employment in my area.

4.2.7.1 ANALYSIS AND INTERPRETATION OF LITERATE FAMILY MEMBERS:

Table 4.72 (a) Descriptive Statistics of Literate Family Members

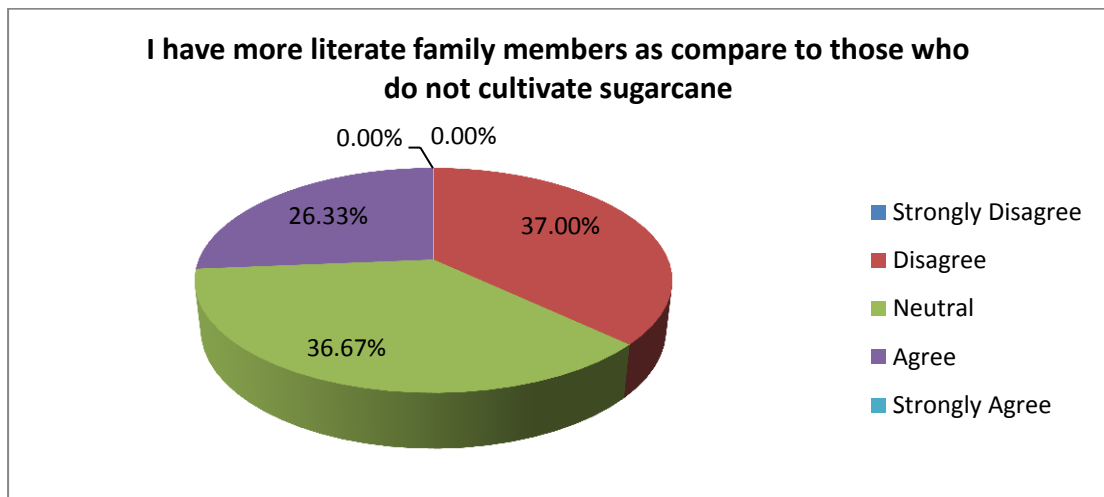
	N	Minimum	Maximum	Mean	Std. Deviation
I have more literate family members as compare to those who do not cultivate sugarcane.	300	2	4	2.89	.790
Valid N (listwise)	300				

From the Table 4.72 (a) it is evident that the mean score of the farmers' responses about the statement "I have more literate family members as compare to those who do not cultivate sugarcane" is 2.89 which is slightly less than 3rd point on Likert scale. It may, therefore, be said that the farmers' opinions about the statement "I have more literate family members as compare to those who do not cultivate sugarcane" were found to be tended to moderately disagree for the sugar industry of Eastern Uttar Pradesh.

Table 4.72 (b) I have more literate family members as compare to those who do not cultivate sugarcane

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	111	37.0	37.0	37.0
	Neutral	110	36.7	36.7	73.7
	Agree	79	26.3	26.3	100.0
	Total	300	100.0	100.0	

Pie Chart 4.48



From the Table 4.72(b) and Pie Chart 4.48, it is evident that 37.00% respondents are disagree, 36.67% respondents are neutral and 26.33% respondents are agree with the statement “I have more literate family members as compare to those who do not cultivate sugarcane.” It may, therefore be concluded that most of the farmers’ opinions about the statement were found to be either disagreed or neutral for the sugar industry of Eastern Uttar Pradesh.

4.2.7.2 ANALYSIS AND INTERPRETATION OF BETTER EDUCATION:

Table 4.73 (a) Descriptive Statistics Of Better Education

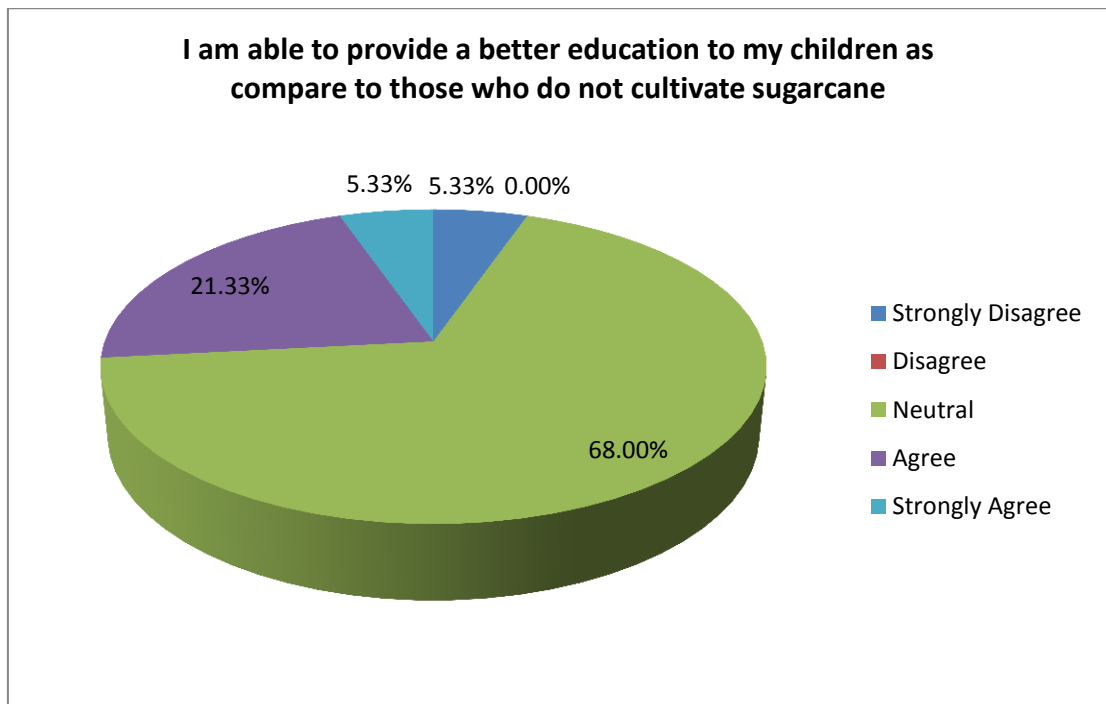
	N	Minimum	Maximum	Mean	Std. Deviation
I am able to provide a better education for my children as compare to those who do not cultivate sugarcane.	300	1	5	3.21	.772
Valid N (listwise)	300				

From the Table 4.73 (a) it is evident that the mean score of the farmers’ responses about the statement “I am able to provide better education my children as compare to those who do not cultivate sugarcane.” is 3.21 which is slightly more than 3rd point on Likert scale. It may, therefore, be said that the farmers’ opinions about the statement “I am able to provide better education my children as compare to those who do not cultivate sugarcane” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.73 (b) I am able to provide a better education for my children as compare to those who do not cultivate sugarcane

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	16	5.3	5.3	5.3
Neutral	204	68.0	68.0	73.3
Agree	64	21.3	21.3	94.7
Strongly Agree	16	5.3	5.3	100.0
Total	300	100.0	100.0	

Pie Chart 4.49



From the Table 4.73 (b) and Pie Chart 4.49 it is evident that 5.33% respondents are strongly disagree, 68.00% respondents are neutral, 21.33% respondents are agree and 5.33% respondents are strongly agree with the statement “I am able to provide better education for my children as compare to those who do not cultivate sugarcane.” It may, therefore be said that most of the farmers were found to be either neutral or agree with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.7.3 ANALYSIS AND INTERPRETATION OF HEALTHY FAMILY MEMBERS:

Table 4.74 (a) Descriptive Statistics of Healthy Family Members

	N	Minimum	Maximum	Mean	Std. Deviation
My family has more healthy members compared to others.	300	2	5	3.11	.642
Valid N (listwise)	300				

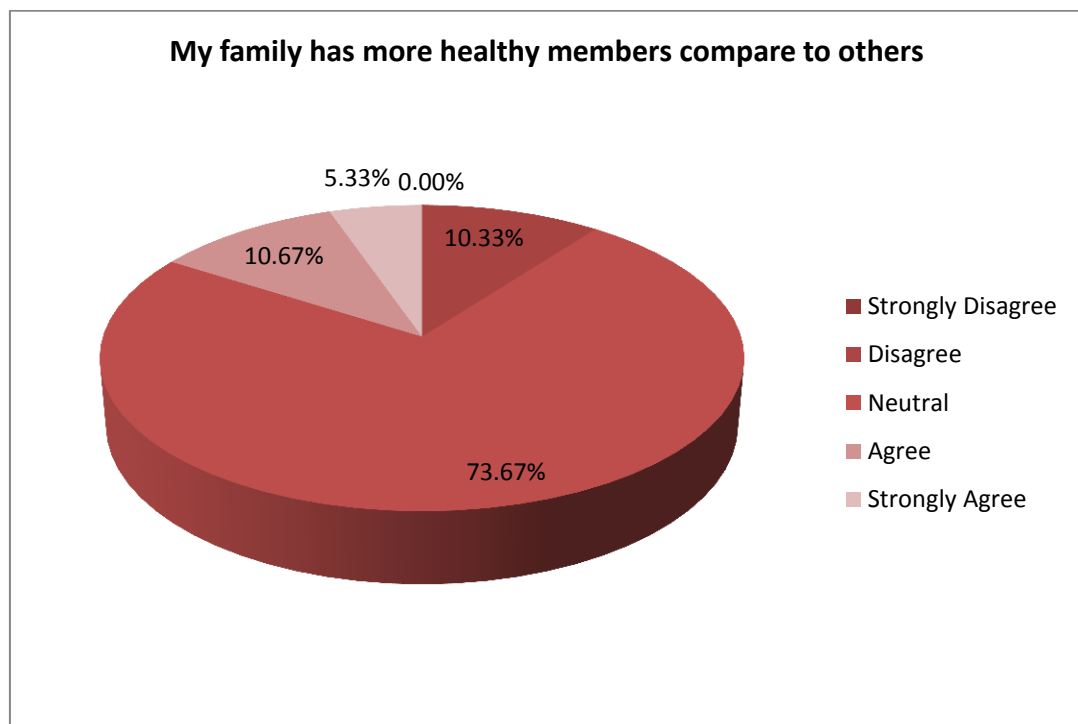
From the Table 4.74 (a) it is evident that the mean score of the farmers’ responses about the statement “My family has more healthy members as compare to others” is

3.11 which is slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the farmers' opinions about the statement "My family has more healthy members as compare to others" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.74 (b) My family has more healthy members compared to others

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	31	10.3	10.3	10.3
	Neutral	221	73.7	73.7	84.0
	Agree	32	10.7	10.7	94.7
	Strongly Agree	16	5.3	5.3	100.0
	Total	300	100.0	100.0	

Pie Chart 4.50



From the Table 4.74 (b) and Pie Chart 4.50 it is clear that 10.33% respondents are disagree, 73.67% respondents are neutral, 10.67% respondents are agree and 5.33% respondents are strongly agree with the statement "My family has more healthy members as compare to others." It may therefore, be said that most of the farmers were found to be neutral about the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.7.4 ANALYSIS AND INTERPRETATION OF CELEBRATION OF FESTIVALS:

Table 4.75 (a) Descriptive Statistics of Celebration of Festivals

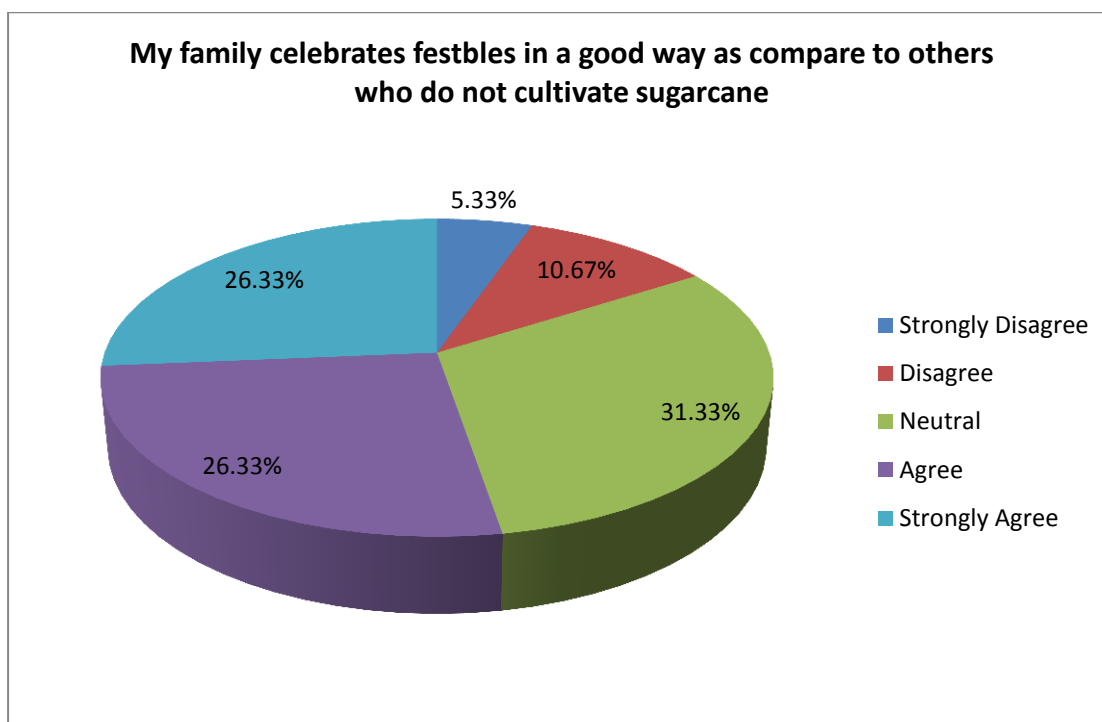
	N	Minimum	Maximum	Mean	Std. Deviation
My family celebrates festivals in a good way as compared to those who do not cultivate sugarcane.	300	1	5	3.58	1.144
Valid N (listwise)	300				

From the Table 4.75 (a) it is clear that the mean score of the formers' responses about the statement "My family celebrate festivals in a good way as compare to those who do not cultivate sugarcane" is 3.58 which are tending to 4th point on Likert scale. It may, therefore be concluded that the farmers' opinions about the statement "My family celebrate festivals in a good way as compare to those who do not cultivate sugarcane" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.75 (b) My family celebrates festivals in a good way as compared to those who do not cultivate sugarcane

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	16	5.3	5.3	5.3
Disagree	32	10.7	10.7	16.0
Neutral	94	31.3	31.3	47.3
Agree	79	26.3	26.3	73.7
Strongly Agree	79	26.3	26.3	100.0
Total	300	100.0	100.0	

Pie Chart 4.51



From the Table 4.75 (a) and Pie Chart 4.51 it is evident that 5.33% respondents are strongly disagree, 10.67% of respondents are disagree, 31.33% respondents are neutral, 26.33% respondents are agree and 26.33% respondents are strongly agree with the statement “My family celebrate festivals in a good way as compared to those who do not cultivate sugarcane.” It may, therefore, be said that more than half of the farmers were found to be either agreed or strongly agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.7.5 ANALYSIS AND INTERPRETATION OF SOCIAL RECOGNITION:

Table 4.76 (a) Descriptive Statistics of Social Recognition

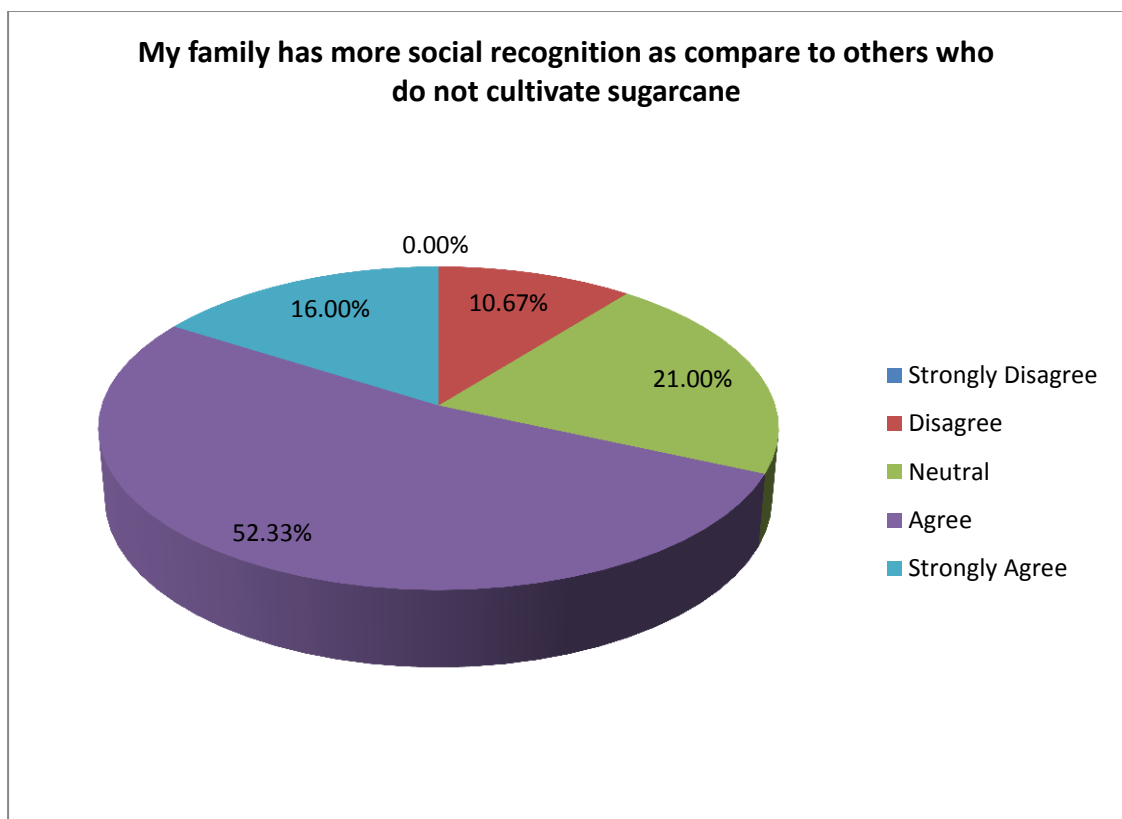
	N	Minimum	Maximum	Mean	Std. Deviation
My family has more social recognition as compared to those who do not cultivate sugarcane.	300	2	5	3.74	.854
Valid N (listwise)	300				

From the Table 4.76 (a) it is clear that the mean score of the farmers' responses about the statement "My family has more social recognition as compared to those who do not cultivate sugarcane." is 3.74 which are tending to 4th point on Likert scale. It may, therefore, be concluded that the farmers' opinions about the statement "My family has more social recognition as compared to those who do not cultivate sugarcane" were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.76 (b) My family has more social recognition as compared to those who do not cultivate sugarcane

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	32	10.7	10.7	10.7
Neutral	63	21.0	21.0	31.7
Agree	157	52.3	52.3	84.0
Strongly Agree	48	16.0	16.0	100.0
Total	300	100.0	100.0	

Pie Chart 4.52



From the Table 4.76 (b) and Pie Chart 4.52 it is evident that 10.67% respondents are disagree, 21.00% respondents are neutral, 52.33% respondents are agree and 16% respondents are strongly agree with the statement “My family has more social recognition as compared to those who do not cultivate sugarcane.” It may, therefore, be concluded that more than half of the farmers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.7.6 ANALYSIS AND INTERPRETATION OF FEMALE DECISION MAKERS:

Table 4.77 (a) Descriptive Statistics of Female Decision Makers

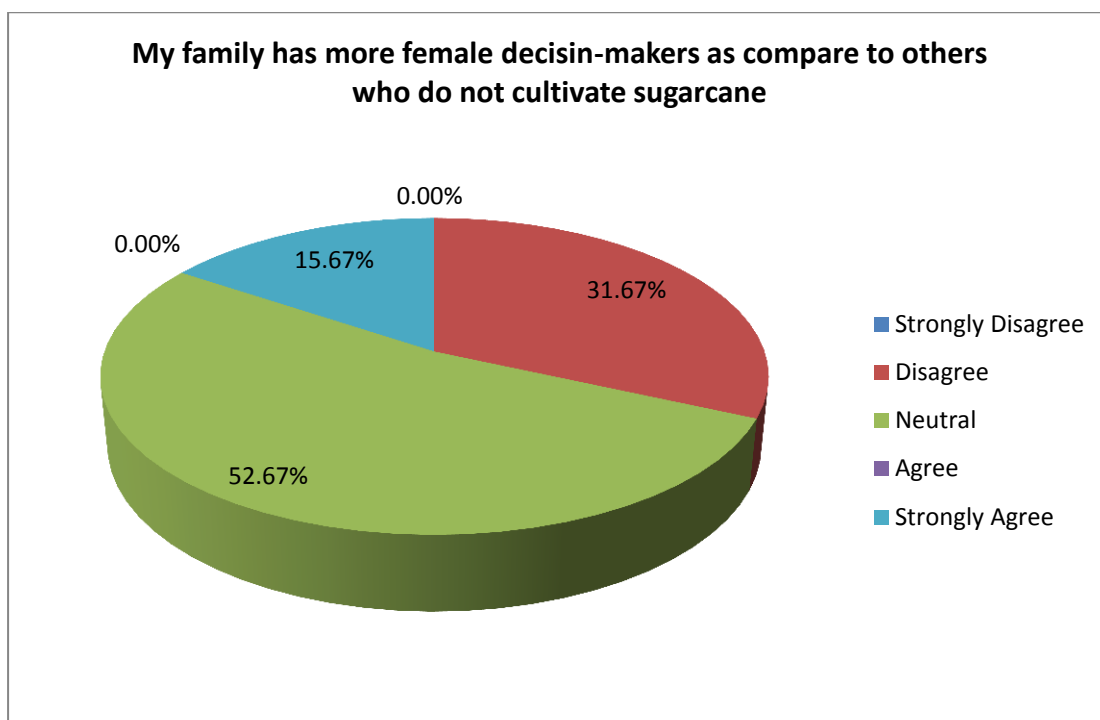
	N	Minimum	Maximum	Mean	Std. Deviation
My family has more female decision-makers as compared to those who do not cultivate sugarcane.	300	2	5	3.00	.973
Valid N (listwise)	300				

From the Table 4.77 (a) it is evident that the mean score of the farmers’ responses about the statement “My family has more female decision-makers as compare to those who do not cultivate sugarcane” is 3 which are exactly equal to 3rd point on Likert scale. It may, therefore, be said that the farmers’ opinions about the statement “My family has more female decision-makers as compare to those who do not cultivate sugarcane” were found to be neither agreed nor disagreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.77 (b) My family has more female decision-makers as compared to those who do not cultivate sugarcane

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	95	31.7	31.7	31.7
Neutral	158	52.7	52.7	84.3
Strongly Agree	47	15.7	15.7	100.0
Total	300	100.0	100.0	

Pie Chart 4.53



From the Table 4.77 (b) and Pie Chart 4.53 it is clear that 31.67% respondents are disagree, 52.67% respondents are neutral and 15.67% respondents are strongly agree with the statement “My family has more female decision-makers as compare to those who do not cultivate sugarcane.” It may, therefore, be concluded that most of the farmers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.7.7 ANALYSIS AND INTERPRETATION OF INCOME:

Table 4.78 (a) Descriptive Statistics of Income

	N	Minimum	Maximum	Mean	Std. Deviation
I earn more income as compare to those who do not cultivate sugarcane.	300	2	5	3.47	.819
Valid N (listwise)	300				

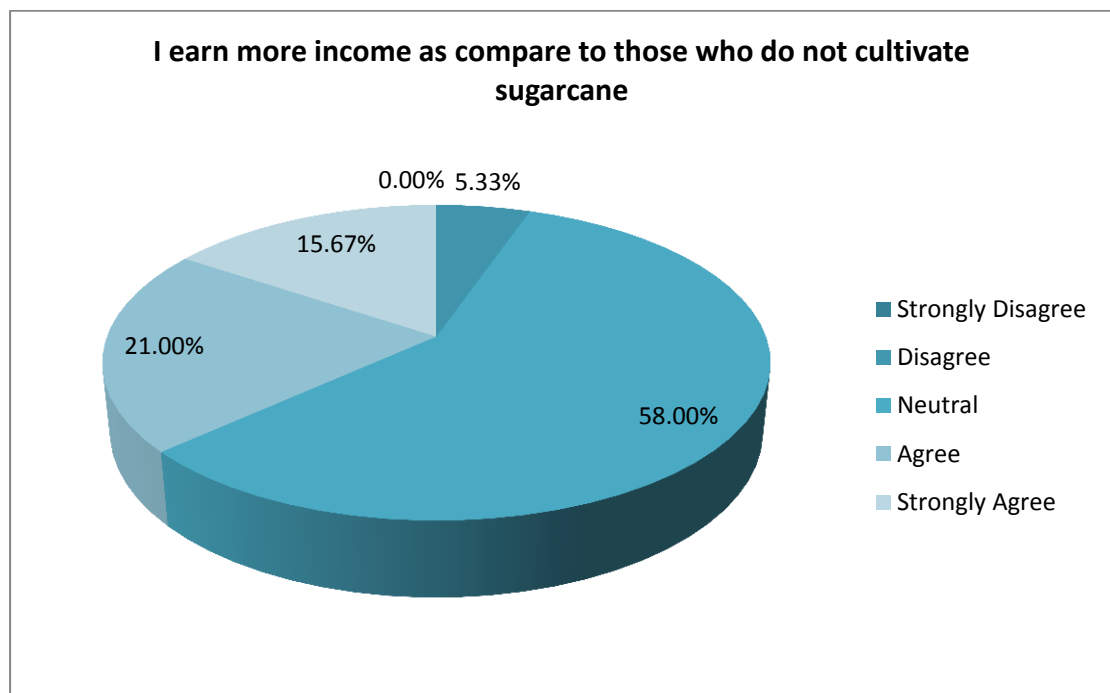
From the Table 4.78 (a) it is clear that the mean score of the respondents’ responses about the statement “I earn more income as compared to those who do not cultivate

sugarcane” is 3.47 which is slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the farmers’ opinions about the statement “I earn more income as compared to those who do not cultivate sugarcane” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.78 (b) I earn more income as compare to those who do not cultivate sugarcane

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	16	5.3	5.3	5.3
	Neutral	174	58.0	58.0	63.3
	Agree	63	21.0	21.0	84.3
	Strongly Agree	47	15.7	15.7	100.0
	Total	300	100.0	100.0	

Pie Chart 4.54



From the Table 4.78 (b) and Pie Chart 4.54 it is evident that 5.33% respondents are disagree, 58% respondents are neutral, 21% respondents are agree and 15.67% respondents are strongly agree with the statement “I earn more income as compare to those who do not cultivate sugarcane.” It may, therefore, be said that most of the farmers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.7.8 ANALYSIS AND INTERPRETATION OF PURCHASE OF DURABLE GOODS:

Table 4.79 (a) Descriptive Statistics of Purchase Durable Goods

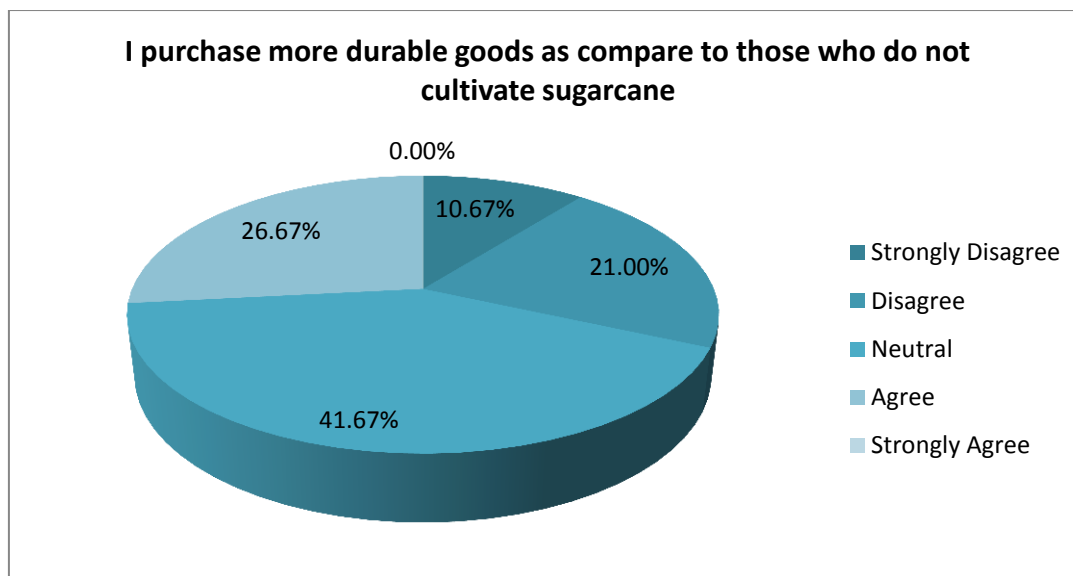
	N	Minimum	Maximum	Mean	Std. Deviation
I purchase more durable goods compared to those who do not cultivate sugarcane.	300	1	4	2.84	.939
Valid N (listwise)	300				

From the Table 4.79 (a) it is evident that the mean score of the respondents' responses about the statement "I purchase more durable goods as compare to those who do not cultivate sugarcane." is 2.84 which is slightly less than 3rd point on Likert scale. It may, therefore, be concluded that the farmers' opinions about the statement "I purchase more durable goods as compare to those who do not cultivate sugarcane" were found to be tended to moderately disagree for the sugar industry of Eastern Uttar Pradesh.

Table 4.79 (b) I purchase more durable goods as compared to those who do not cultivate sugarcane

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	32	10.7	10.7	10.7
Disagree	63	21.0	21.0	31.7
Neutral	125	41.7	41.7	73.3
Agree	80	26.7	26.7	100.0
Total	300	100.0	100.0	

Pie Chart 4.55



From the Table 4.79 (b) and Pie Chart 4.55 it is clear that 10.7% respondents are strongly disagree, 21.00% of respondents are disagree, 41.67% respondents are neutral and 26.67% respondents are agree with the statement “I purchase more durable goods as compared to those who do not cultivate sugarcane.” It may, therefore, be said that majority of the farmers were found to be either disagree or neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.7.9 ANALYSIS AND INTERPRETATION OF MEDICAL EXPENSES:

Table 4.80 (a) Descriptive Statistics of Medical Expenses

	N	Minimum	Maximum	Mean	Std. Deviation
Cultivation of sugarcane made me able to meet the medical expenses of my family.	300	1	5	3.22	1.103
Valid N (listwise)	300				

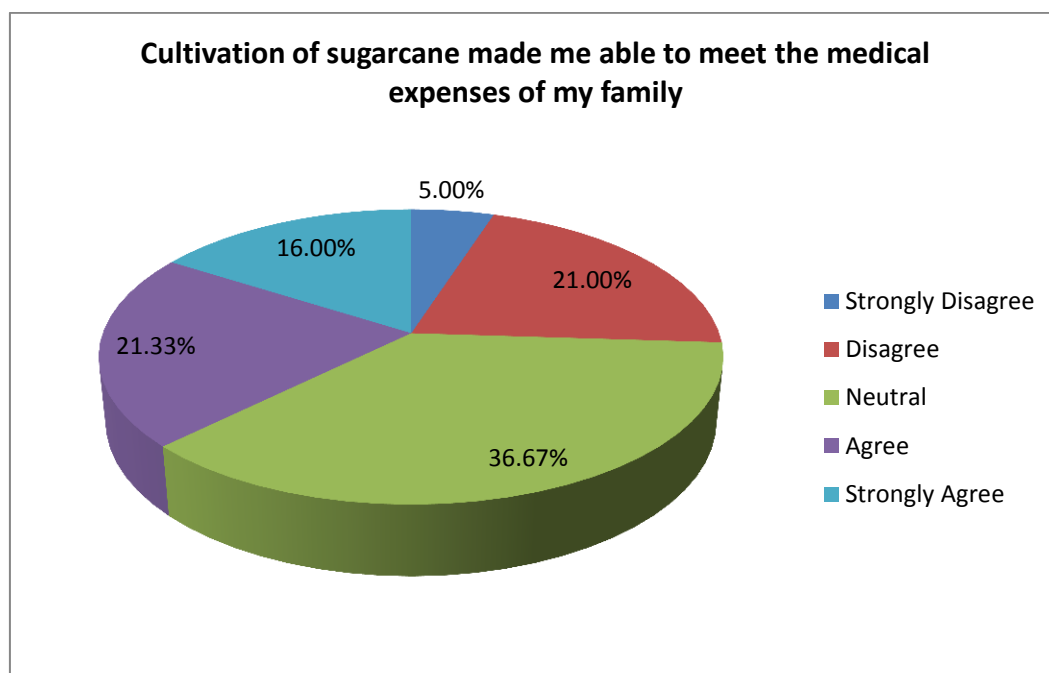
From the Table 4.80 (a) it is clear that the mean score of the respondents’ responses about the statement “Cultivation of sugarcane made me able to meet medical expenses of my family” is 3.22 which is slightly more than 3rd point on Likert scale. It may,

therefore, be concluded that the farmers' opinions about the statement "Cultivation of sugarcane made me able to meet medical expenses of my family" were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.80 (b) Cultivation of sugarcane made me able to meet the medical expenses of my family

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	15	5.0	5.0	5.0
Disagree	63	21.0	21.0	26.0
Neutral	110	36.7	36.7	62.7
Agree	64	21.3	21.3	84.0
Strongly Agree	48	16.0	16.0	100.0
Total	300	100.0	100.0	

Pie Chart 4.56



From the Table 4.80 (b) and Pie Chart 4.56 it is evident that 5.00% respondents strongly disagree, 21.00% of respondents disagree, 36.67% respondents are neutral, 21.33% respondents agree and 16.00% respondents strongly agree with the statement "Cultivation of sugarcane made me able to meet medical expenses of my family." It may, therefore, be concluded that majority of the farmers were found to be either neutral or agree with the statement for the sugar industry of Eastern Uttar Pradesh.

4.2.7.10 ANALYSIS AND INTERPRETATION OF OPPORTUNITY OF EMPLOYMENT:

Table 4.81 (a) Descriptive Statistics of Opportunity of Employment

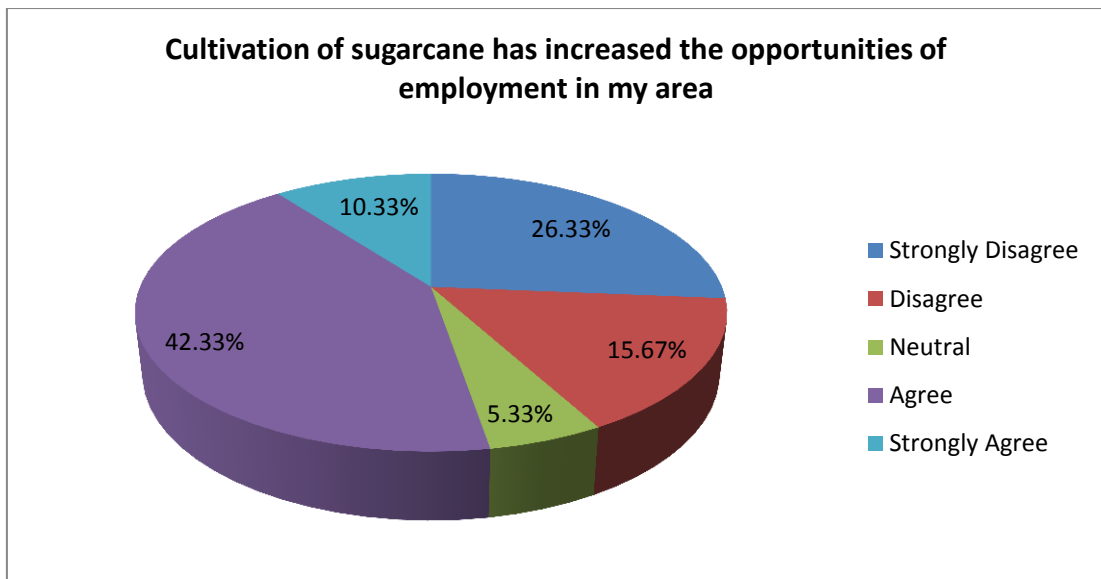
	N	Minimum	Maximum	Mean	Std. Deviation
Cultivation of sugarcane has increased the opportunities for employment in my area.	300	1	5	2.95	1.432
Valid N (listwise)	300				

From the Table 4.81 (a) it is evident that the mean score of the respondents' responses of the statement "Cultivation of sugarcane has increased the opportunities of employment in my area" is 2.95 which is slightly less than 3rd point on Likert scale. It may, therefore, be said that the farmers' opinions about the statement "Cultivation of sugarcane has increased the opportunities of employment in my area" were found to be tended to moderately disagree for the sugar industry of Eastern Uttar Pradesh.

Table 4.81 (b) Cultivation of sugarcane has increased the opportunities for employment in my area

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	79	26.3	26.3	26.3
Disagree	47	15.7	15.7	42.0
Neutral	16	5.3	5.3	47.3
Agree	127	42.3	42.3	89.7
Strongly Agree	31	10.3	10.3	100.0
Total	300	100.0	100.0	

Pie Chart 4.57



From the Table 4.81 (b) and Pie Chart 4.57 it is evident that 26.33% respondents are strongly disagree, 15.67% respondents are disagree, 5.33% respondents are neutral, 42.33% respondents are agree and 10.33% respondents are strongly agree with the statement “Cultivation of sugarcane has increased the opportunities for employment in my area.” It may, therefore, be said that majority of the farmers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

4.3.0 SECOND STAGE ANALYSIS

Under the second stage analysis the data analysis and hypothesis testing have been done objective wise. Data were analysed with the help of Frequency Test, Correlation and Regression analysis using SPSS software. The detailed analyses of data, hypothesis testing and their interpretations have been given below under various captions.

4.3.1 ANALYSIS OF DATA AND HYPOTHESIS TESTING RELATED TO FIRST OBJECTIVE

The first objective of the study was “to study the impact of determinants of Supply Chain Management on the performance of sugarcane industry of Eastern Uttar Pradesh.” Hypothesis related to this objective was that...

H₀: There is no significant impact of Supply Chain Management (flow of material/ Flow of money/ Flow of Information) on the Organizational Performance (Accounting measure- Profitability, Growth, Leverage, Liquidity, Cash Flow/ Operational Measures- Crushing Time of sugarcane, Production, Payments ,Cost of Production, Flow of Material, Relationship/ Market based Measure-Return to Shareholders/ Survival Measure- Long-Term Survival) of sugar industry.

H₀1: There is no significant impact of Supply Chain Management on the Accounting Measures under Organizational Performance of sugar industry.

H₀2: There is no significant impact of the Supply Chain Management on Operational Measures under Organizational Performance of sugar industry.

H₀3: There is no significant impact of Supply Chain Management on Survival Measure under Organizational Performance of sugar industry.

H₀: There is no significant impact of Supply Chain Management on Organizational Performance of sugar industry.

Independent Variables- SCM (flow of material/ Flow of money/ Flow of Information)

Dependent Variables- Organizational Performance (Accounting measure- Profitability, Growth, Leverage, Liquidity, Cash Flow/ Operational Measures- Crushing Time of sugarcane, Production, Payments, Cost of Production, Flow of Material, Relationship/ Market based Measure-Return to Shareholders/ Survival measure-Long Term Survival).

H₀1: There is no significant impact of Supply Chain Management on the Accounting Measures under Organizational Performance of sugar industry.

Table 4.82 (a) Descriptive Statistics of AM Under OP and SCM

	Mean	Std. Deviation	N
AM under OP	3.3833	.48242	90
SCM	3.7167	.42112	90

From Table 4.82 (a) it is evident that the mean score of opinions of 90 Managers about the Supply Chain Management is 3.7167 which are tending to 4th point on Likert scale. It may, therefore be said that Managers' opinions about Supply Chain Management were found to be tended to agree. And mean score of Accounting Measures under Organizational Performance is 3.3833 which is slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the Managers' opinions about Accounting Measure under the Organizational Performance were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.82 (b) Correlations Between AM Under OP and SCM

		AM under OP	SCM
Pearson Correlation	AM under OP	1.000	.974
	SCM	.974	1.000
Sig. (1-tailed)	AM under OP	.	.000
	SCM	.000	.
N	AM under OP	90	90
	SCM	90	90

From Table 4.82 (b) it is clear that Pearson Correlation coefficient between Supply Chain Management and that Accounting Measure is 0.974 and significance value (p-value) is 0.000 which is less than 0.05. It may, therefore be concluded that there was a high positive correlation between Supply Chain Management and Accounting Measures under Organizational Performance.

Table 4.82 (c) Model Summary of Regression of DV-AM Under OP on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.974 ^a	.949	.948	.10969	.949	1633.401	1	88	.000

a. Predictors: (Constant), SCM

Table 4.82 (d) ANOVA^a: Residual List for Regression of DV-AM Under OP on IV-SCM

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	19.654	1	19.654	1633.401	.000^b
Residual	1.059	88	.012		
Total	20.713	89			

a. Dependent Variable: AM under OP

b. Predictors: (Constant), SCM

Table 4.82 (e) Coefficients^a of Regression Analysis of DV-AM Under OP on IV-SCM

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	-.764	.103		-7.399	.000	-.969	-.559
SCM	1.116	.028	.974	40.415	.000	1.061	1.171

a. Dependent Variable: AM under OP

From Table 4.82 (c) it is quite evident that the value of R^2 is 0.949 which means it explains 94.9 % of the variance and this model is good enough to be selected. From Table 4.82 (d) Sig Value p is 0.000 which is less than 0.05 and the value of F is 1633.401 which is significant at 0.05 level with df equal to (1, 88) it reflects that the model is significant. From Table 4.82 (e) for Supply Chain Management Sig value p is 0.000 which is less than 0.05 and indicates that it is significant at 5% significance level or 95% confidence interval. Thus the null hypothesis that there is no significant impact of Supply Chain Management on Accounting Measures under Organizational Performance of sugar industry is rejected. Further from Table 4.82 (e) the value of constant and coefficient of Supply Chain Management are -0.764 and 1.116 which constitute the regression equation of Accounting Measures under Organizational Performance on Supply Chain Management as $Y (AM \text{ under } OP) = -0.764 + (1.116) (SCM)$. It may, therefore be said that there was a significant impact of Supply Chain Management on the Accounting Measures under the Organizational Performance of the sugar industry and a unit increase in the parameters of Supply Chain Management would lead to 1.116 units increase in the Accounting Measures under the Organizational Performance provided other variables remained constant.

H₀2: There is no significant impact of the Supply Chain Management on Operational Measures under Organizational Performance of sugar industry.

Table 4.83 (a) Descriptive Statistics of OM Under OP and SCM

	Mean	Std. Deviation	N
OM under OP	3.9074	.38391	90
SCM	3.7167	.42112	90

From Table 4.83 (a) it is evident that the mean scores of opinions of 90 managers about the Supply Chain Management and Operational Measures under Organizational Performance are 3.7167 and 3.9074 respectively which are tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of Managers about the Supply Chain Management and Operational Measures under Organizational Performance were found to be tended to agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.83 (b) Correlations Between OM Under OP and SCM

		OM under OP	SCM
Pearson Correlation	OM under OP	1.000	.948
	SCM	.948	1.000
Sig. (1-tailed)	OM under OP	.	.000
	SCM	.000	.
N	OM under OP	90	90
	SCM	90	90

From Table 4.83 (b) it is evident that Pearson Correlation coefficient between Supply Chain Management and Operational Measures is 0.948 and the significance value (p value) is 0.000 which is less than 0.05. It may, therefore, be concluded that there was a high positive correlation between Supply Chain Management and Operational Measures under the Organizational Performance parameter of sugar industry of Eastern Uttar Pradesh.

Table 4.83 (c) Model Summary of Regression of DV- OM Under OP on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.948 ^a	.898	.897	.12301	.898	778.947	1	88	.000

a. Predictors: (Constant), SCM

Table 4.83 (d) ANOVA^a: Residual List for Regression of DV-OM Under OP on IV-SCM

Model		Sum Squares	Df	Mean Square	F	Sig.
1	Regression	11.786	1	11.786	778.947	.000^b
	Residual	1.331	88	.015		
	Total	13.117	89			

a. Dependent Variable: OM under OP

b. Predictors: (Constant), SCM

Table 4.83 (e) Coefficients^a of Regression Analysis of DV-OM under OP on IV-SCM

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	.696	.116		6.008	.000	.466	.926
SCM	.864	.031	.948	27.910	.000	.803	.926

a. Dependent Variable: OM under OP

From Table 4.83 (c) the value of R^2 is 0.898 which means it explains 89.8 % of the variance that indicate that it is good enough to select the model. From Table 4.83 (d) Sig. Value p is 0.000 which is less than 0.05 and the value of F is 778.947 which is significant at 0.05 level with df equal to (1, 88) which shows that this model is significant. From Table 4.83 (e) for Supply Chain Management Sig value p is 0.000 which is less than 0.05 and indicates that it is significant at 5% significance level or 95% confidence interval. Thus it is safer to reject the null hypothesis that there is no significant impact of Supply Chain Management on Operational Measures under Organizational Performance of sugar industry. Further from Table 4.83 (e) the value of constant and coefficient Supply Chain Management are 0.696 and 0.864 respectively which constitute the regression equation of Operational Measures under the Organizational Performance on Supply Chain Management as Y (OM under OP) = 0.696 + (0.864) (SCM). It may, therefore, be said that there was a significant impact of Supply Chain Management on Operational Measures under Organizational Performance of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.864 units increase in the Operational Measures under Organizational Performance of the sugar industry provided other variables remained constant.

H₀3: There is no significant impact of Supply Chain Management on Market based Measure under Organizational Performance of sugar industry.

Table 4.84 (a) Descriptive Statistics of MBM Under OP and SCM

	Mean	Std. Deviation	N
MBM Under OP	4.38	.488	90
SCM	3.7167	.42112	90

From Table 4.84 (a) it is evident that the mean scores of opinions of 90 Managers about the Supply Chain Management and market based measures under the Organizational Performance are 3.7161 and 4.38 respectively which are tending to 4th point on Likert scale. It may, therefore, be said that the opinions of Managers about the Supply Chain Management and Market based Measure were found to be tended to agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.84 (b) Correlations Between MBM Under OP and SCM

		MBM Under OP	SCM
Pearson Correlation	MBM Under OP	1.000	.532
	SCM	.532	1.000
Sig. (1-tailed)	MBM Under OP	.	.000
	SCM	.000	.
N	MBM Under OP	90	90
	SCM	90	90

From Table 4.84 (b) it is clear that Pearson Correlation coefficient between Supply Chain Management and Market based Measures is 0.532 and the significance value (p value) is 0.000 which is less than 0.05. It may, therefore, be concluded that there was a moderate positive correlation between Supply Chain Management and Market based Measures under Organizational Performance parameter of sugar industry of Eastern Uttar Pradesh.

Table 4.84 (c) Model Summary of Regression of DV-MBM Under OP on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.532 ^a	.283	.275	.415	.283	34.692	1	88	.000

a. Predictors: (Constant), SCM

Table 4.84 (d) ANOVA^a: Residual of Regression for DV-MBM under OP on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.982	1	5.982	34.692	.000^b
	Residual	15.174	88	.172		
	Total	21.156	89			

a. Dependent Variable: MBM Under OP

b. Predictors: (Constant), SCM

Table 4.84 (e) Coefficients of Regression Analysis of DV-MBM Under OP on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.090	.391		5.345	.000	1.313	2.867
	SCM	.616	.105	.532	5.890	.000	.408	.823

a. Dependent Variable: MBM Under OP

From Table 4.84 (c) the value of R^2 is 0.283 which means it explains only 28.3 % of the variance that means this model is not good enough to be selected. From Table 4.84 (d) the Sig. Value p is 0.000 which is less than 0.05 and the value of F is 34.692 which is significant at 0.05 level with df equal to (1, 88). From Table 4.84 (e) for Supply Chain Management Sig value is 0.000 which is less than 0.05 that indicate that it is significant at 5% significance level or 95% confidence interval. Thus it is safer to reject the null hypothesis that there is no significant impact of Supply Chain Management on Market Based Measures under Organizational Performance of sugar industry. Further from Table 4.84 (e) the value of constant and coefficient of Supply Chain Management for managers are 2.090 and 0.616 respectively which constitute regression equation of Market based Measures under Organizational Performance on Supply Chain Management as Y (MBM under OP) = 2.090 + (0.616) (SCM). It may, therefore be said that there was a significant impact of Supply Chain Management on Market Based Measures under the Organizational Performance of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain

Management would lead to 0.616 units increase in the Market Based Measures under Organizational Performance provided other variables remained constant.

H₀4: There is no significant impact of Supply Chain Management on Survival Measure under Organizational Performance of sugar industry.

Table 4.85 (a) Descriptive Statistics of SM Under OP and SCM

	Mean	Std. Deviation	N
SM Under OP	4.33	.474	90
SCM	3.7167	.42112	90

From Table 4.85 (a) it is evident that the mean scores of opinions of 90 Managers about the Supply Chain Management and Survival Measures under the Organizational Performance are 3.7161 and 4.33 respectively which are tending to 4th point on Likert scale. It may, therefore, be said that the opinions of Managers about the Supply Chain Management and Survival Measure were found to be tended to agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.85 (b) Correlations Between SM Under OP and SCM

		SM Under OP	SCM
Pearson Correlation	SM Under OP	1.000	.647
	SCM	.647	1.000
Sig. (1-tailed)	SM Under OP	.	.000
	SCM	.000	.
N	SM Under OP	90	90
	SCM	90	90

From Table 4.85 (b) it is clear that Pearson Correlation coefficient between Supply Chain Management and Survival Measures is 0.647 and the significance value (p value) is 0.000 which is less than 0.05. It may, therefore, be concluded that there was a moderate positive correlation between Supply Chain Management and Survival

Measures under Organizational Performance parameter of sugar industry of Eastern Uttar Pradesh.

Table 4.85 (c) Model Summary of Regression of DV-SM Under OP on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.647 ^a	.419	.412	.363	.419	63.451	1	88	.000

a. Predictors: (Constant), SCM

Table 4.85 (d) ANOVA^a: Residual of Regression for DV-SM under OP on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.379	1	8.379	63.451	.000^b
	Residual	11.621	88	.132		
	Total	20.000	89			

a. Dependent Variable: SM Under OP

b. Predictors: (Constant), SCM

Table 4.85 (d) Coefficients^a of Regression Analysis of DV-SM Under OP on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.625	.342		4.751	.000	.945	2.305
	SCM	.729	.091	.647	7.966	.000	.547	.910

a. Dependent Variable: SM Under OP

From Table 4.85 (c) the value of R^2 is 0.419 which means it explains 41.9 % of the variance and this model is good enough to be selected. From Table 4.85 (d) the Sig. Value p is 0.000 which is less than 0.05 and the value of F is 63.451 which is significant at 0.05 level with df equal to (1, 88) which indicates that it is significant model. From Table 4.85 (e) for Supply Chain Management Sig value is 0.000 which is less than 0.05 and indicates that it is significant at 5% significance level or 95% confidence interval. Thus it is safer to reject the null hypothesis that there is no significant impact of Supply Chain Management on Survival Measures under Organizational Performance of sugar industry. Further from Table 4.85 (e) the value of constant and coefficient of Supply Chain Management for managers are 1.625 and 0.729 respectively which constitute regression equation of Survival Measures under Organizational Performance on Supply Chain Management as $Y (\text{SM under OP}) = 1.625 + (0.729) (\text{SCM})$. It may, therefore be said that there was a significant impact of Supply Chain Management on Survival Measures under the Organizational Performance of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.729 units increase in the Survival Measures under the Organizational Performance provided other variables remained constant.

H_0 : There is no significant impact of Supply Chain Management on Organizational Performance of sugar industry.

Table 4.86 (a) Descriptive Statistics of OP and SCM

	Mean	Std. Deviation	N
OP	4.0005	.37578	90
SCM	3.7167	.42112	90

From Table 4.86 (a) it is clear that mean scores of opinions of 90 Managers about the Supply Chain Management and Organizational Performance are 3.7167 and 4.0005 respectively which are tending to 4th point on Likert scale. It may, therefore be concluded that the Managers' opinions the Supply Chain Management and Organisational Performance were found to be tended to agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.86 (b) Correlations Between OP and SCM

		OP	SCM
Pearson Correlation	OP	1.000	.931
	SCM	.931	1.000
Sig. (1-tailed)	OP	.	.000
	SCM	.000	.
N	OP	90	90
	SCM	90	90

From Table 4.86 (b) it is clear that Pearson Correlation coefficient between Supply Chain Management and that Organisational Performance is 0.931 and significance value (p-value) is 0.000 which is less than 0.05. It may, therefore be said that there was a high positive correlation between Supply Chain Management and Organizational Performance for the sugar industry of Eastern Uttar Pradesh.

Table 4.86 (c) Model Summary of Regression of DV-OP on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					Square Change	F Change	df1	df2	Sig. F Change
1	.931 ^a	.867	.866	.13763	.867	575.524	1	88	.000

a. Predictors: (Constant), SCM

Table 4.86 (d) ANOVA^a: Residual List for Regression of DV-OP on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10.901	1	10.901	575.524	.000^b
	Residual	1.667	88	.019		
	Total	12.568	89			

a. Dependent Variable: OP

b. Predictors: (Constant), SCM

Table 4.86 (e) Coefficients^a of Regression Analysis of DV-OP on IV-SCM

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	.912	.130		7.036	.000	.654	1.169
SCM	.831	.035	.931	23.990	.000	.762	.900

a. Dependent Variable: OP

From Table 4.86 (c) the value of R^2 is 0.867 which means it explains 86.7 % of the variance and this model is good enough to be selected. From Table 4.86 (d) Sig Value p is 0.000 which is less than 0.05 and the value of F is 575.524 which is significant at 0.05 level with df equal to (1, 88) it indicates that the model is significant. From Table 4.86 (e) for Supply Chain Management Sig value p is 0.000 which is less than 0.05 and reflects that it is significant at 5% significance level or 95% confidence interval. Thus the null hypothesis that there is no significant impact of Supply Chain Management on Organizational Performance of sugar industry is rejected. Further from Table 4.86 (e) the value of constant and the coefficient of Supply Chain Management are 0.912 and 0.831 respectively which constitute the regression equation of Organizational Performance on Supply Chain Management as $Y (OP) = 0.912 + (0.831) (SCM)$. It may, therefore be said that there was a significant impact of Supply Chain Management on Organizational Performance of the sugar industry of Eastern Uttar Pradesh and an unit increase in the parameters of Supply Chain Management would lead to 0.831 units increase in the Organizational Performance provided other variables remained constant.

4.3.2 ANALYSIS OF DATA AND HYPOTHESIS TESTING RELATED TO SECOND OBJECTIVE

The second objective of study was “to study the impact of determinants of Supply Chain Management on Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh.” Hypothesis related to this objective was that...

H₀: There is no significant impact of Supply Chain Management (Flow of Material/ Flow of money/ Flow of Information) on the Organizational Strategic Competence (Skills, Knowledge)

H₀₁: There is no significant impact of Supply Chain Management on Employees’ Skills under Organizational Strategic Competence of sugar industry.

H₀₂: There is no significant impact of Supply Chain Management on Employees’ Knowledge under Organizational Strategic Competence of sugar industry.

H₀: There is no significant impact of Supply Chain Management on Organizational Strategic Competence of sugar industry.

Independent Variables- SCM (Flow of Material/ Flow of Money/ Flow of Information)

Dependent Variables- Organizational Strategic Competence (Skills, Knowledge)

H₀₁: There is no significant impact of Supply Chain Management on Employees’ Skills under Organizational Strategic Competence of sugar industry.

Table 4.87 (a) Descriptive Statistics of Skills Under OSC and SCM

	Mean	Std. Deviation	N
Skills Under OSC	3.9167	.18738	90
SCM	3.7167	.42112	90

From Table 4.87 (a), it is evident that the mean scores of opinions of 90 Managers about the Supply Chain Management and Employees' Skills under Organizational Strategic Competence are 3.7167 and 3.9167 respectively which are tending to 4th point on Likert scale. It may, therefore be concluded that the Managers' opinions about the Supply Chain Management and Employees' Skills under Organizational Strategic Competence were found to be tended to agree.

Table 4.87 (b) Correlations Between Skills under OAC and SCM

		Skills Under OSC	SCM
Pearson Correlation	Skills Under OSC	1.000	.926
	SCM	.926	1.000
Sig. (1-tailed)	Skills Under OSC	.	.000
	SCM	.000	.
N	Skills Under OSC	90	90
	SCM	90	90

From Table 4.87 (b) it is clear that Pearson Correlation coefficient between Supply Chain Management and that Employees' Skills is 0.926 and significance value (p-value) is 0.000 which is less than 0.05. It may, therefore be said that there was a high positive correlation between Supply Chain Management and Employees' Skills under Organizational Strategic Competence.

**Table 4.87 (c) Model Summary of Regression of DV-Skills Under OSC on IV-
SCM**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.926 ^a	.857	.855	.07136	.857	525.667	1	88	.000

a. Predictors: (Constant), SCM

Table 4.87 (d) ANOVA^a: Residual List for Regression of DV-Skills Under OSC on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.677	1	2.677	525.667	.000^b
	Residual	.448	88	.005		
	Total	3.125	89			

a. Dependent Variable: Skills Under OSC

b. Predictors: (Constant), SCM

Table 4.87 (e) Coefficients^a: of Regression Analysis of DV-Skills under OSC on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.386	.067		35.516	.000	2.253	2.520
	SCM	.412	.018	.926	22.927	.000	.376	.448

a. Dependent Variable: Skills Under OSC

From Table 4.87 (c) it is evident that the value of R^2 is 0.857 which means it explains 85.7 % of the variance and the model is good enough to be selected. From Table 4.87 (d) Sig Value p is 0.000 which is less than 0.05 and the value of F is 525.667 which is significant at 0.05 level with df equal to (1, 88) it indicates that this model is significant. From Table 4.87 (e) for Supply Chain Management Sig value p is 0.000 which is less than 0.000 and shows that it is significant at 5% significance level or 95% confidence interval. Thus it is safer to reject the null hypothesis that there is no significant impact of Supply Chain Management on Employees' Skills under Organizational Strategic Competence of sugar industry. Further from Table 4.87 (e) the value of constant and coefficient of Supply Chain Management are 2.386 and 0.412 respectively which constitute the regression of Employees' Skills under

Organizational Strategic Competence on Supply Chain Management as Y (Employees' Skills under OSC) = 2.386 + (0.412) (SCM). It may, therefore, be said that there was a significant impact of Supply Chain Management on the Employees' Skills under Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.412 units increase in the Employees' skills under Organizational Strategic Competence provided other variables remained constant.

H₀2: There is no significant impact of Supply Chain Management on Employees' Knowledge under Organizational Strategic Competence of sugar industry.

Table 4.88 (a) Descriptive Statistics of Knowledge Under OSC and SCM

	Mean	Std. Deviation	N
Knowledge Under OSC	3.9333	.14991	90
SCM	3.7167	.42112	90

From Table 4.88 (a) it is clear that the mean scores of opinions of 90 Managers about the Supply Chain Management and Employees' Knowledge under Organizational Strategic Competence are 3.7167 and 3.9333 respectively which are tending 4th point on Likert scale. It may, therefore, be concluded that the Managers' opinions about Supply Chain Management and Employees' Knowledge under Organizational Strategic Competence were found to be tended to agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.88 (b) Correlations Between Knowledge under OSC and SCM

		Knowledge Under OSC	SCM
Pearson Correlation	Knowledge Under OSC	1.000	.926
	SCM	.926	1.000
Sig. (1-tailed)	Knowledge Under OSC	.	.000
	SCM	.000	.
N	Knowledge Under OSC	90	90
	SCM	90	90

From Table 4.88 (b) it is clear that Pearson Correlation coefficient between Supply Chain Management and that Employees' Knowledge is 0.926 and significance value (p-value) is 0.000 which is less than 0.05. It may therefore be said that there was a high positive correlation between Supply Chain Management and Employees' Knowledge under Organizational Strategic Competence for the sugar industry of Eastern Uttar Pradesh.

Table 4.88 (b) Model Summary of regression of DV-Knowledge Under OSC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.926 ^a	.857	.855	.05709	.857	525.667	1	88	.000

a. Predictors: (Constant), SCM

Table 4.88 (d) ANOVA^a: Residual List for Regression of DV-Knowledge Under OSC IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.713	1	1.713	525.667	.000 ^b
	Residual	.287	88	.003		
	Total	2.000	89			

a. Dependent Variable: Knowledge Under OSC

b. Predictors: (Constant), SCM

Table 4.88 (e) Coefficients^a of Regression Analysis of DV-Knowledge under OSC on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	2.709	.054		50.401	.000	2.602	2.816
	SCM	.329	.014	.926	22.927	.000	.301	.358

a. Dependent Variable: Knowledge Under OSC

From Table 4.88 (c) the value of R^2 is 0.857 which means it explains 85.7 % of the variance and indicates that this model is good enough to be selected. From Table 4.88 (d) Sig Value p is 0.000 which is less than 0.05 and the value of F is 525.667 which is significant at 0.05 level with df equal to (1, 88) it indicates that this model is significant. From Table 4.88 (e) for Supply Chain Management Sig value p is 0.000 which is less than 0.05 and reflects that it is significant at 5% significance level or 95% confidence interval. Thus the null hypothesis that there is no significant impact of Supply Chain Management on Employees' Knowledge under Organizational Strategic Competence of sugar industry is rejected. Further from Table 4.88 (e) the value of constant and the coefficient of Supply Chain Management are 2.709 and 0.329 respectively which constitute the regression equation of Employees' Knowledge under Organizational Strategic Competence knowledge on Supply Chain Management as Y (Employees' Knowledge under OSC) = 2.709 + (0.329) (SCM). It may, therefore, said that there was a significant impact of Supply Chain Management on the Employees' Knowledge under Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.329 units increase in the Employees' Knowledge under Organizational Strategic Competence provided other variables remained constant.

H₀: There is no significant impact of Supply Chain Management on Organizational Strategic Competence of sugar industry.

Table 4.89 (a) Descriptive Statistics of OSC AND SCM

	Mean	Std. Deviation	N
OSC	3.9250	.16864	90
SCM	3.7167	.42112	90

From Table 4.89 (a) it is evident that the mean scores of opinions of 90 Managers about the Supply Chain Management and Organizational Strategic Competence are 3.7167 and 3.9250 respectively which are tending to 4th point on Likert scale. It may, therefore be concluded that Managers' opinions about Supply Chain Management and Organizational Strategic Competence were found to be tended to agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.89 (b) Correlations Between OSC and SCM

		OSC	SCM
Pearson Correlation	OSC	1.000	.926
	SCM	.926	1.000
Sig. (1-tailed)	OSC	.	.000
	SCM	.000	.
N	OSC	90	90
	SCM	90	90

From Table 4.89 (b) it is clear that Pearson Correlation coefficient between Supply Chain Management and Organisational Strategic Competence is 0.926 and significance value (p-value) is 0.000 which is less than 0.05. It may, therefore be said that there was a high positive correlation between Supply Chain Management and Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh.

Table 4.89 (c) Model Summary of Regression of DV-OSC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.926 ^a	.857	.855	.06422	.857	525.667	1	88	.000

a. Predictors: (Constant), SCM

Table 4.89 (d) ANOVA^a: Residual List for Regression of DV-OSC on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.168	1	2.168	525.667	.000^b
	Residual	.363	88	.004		
	Total	2.531	89			

a. Dependent Variable: OSC

b. Predictors: (Constant), SCM

Table 4.89 (e) Coefficients^a of Regression Analysis of DV-OSC on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.547	.060		42.132	.000	2.427	2.668
	SCM	.371	.016	.926	22.927	.000	.339	.403

a. Dependent Variable: OSC

From Table 4.89 (c) it is evident that the value of R^2 is 0.857 which means it explains 85.7 % of the variance and reflects that this model is good enough to be selected. From Table 4.89 (d) Sig Value p is 0.000 which is less than 0.05 and the value of F is 525.667 which is significant at 0.05 level with df equal to (1, 88) it indicates that this model is significant. From Table 4.89 (e) for Supply Chain Management Sig value p is 0.000 which is less than 0.05 and shows that it is significant at 5% significance level or 95% confidence interval. Thus it is safer to reject the null hypothesis that there is no significant impact of Supply Chain Management on Organizational Strategic Competence of sugar industry. Further from Table 4.89 (e) the value of constant and the coefficient of Supply Chain Management are 2.547 and 0.371 respectively which constitute the regression equation of Organizational Strategic Competence on Supply Chain Management as $Y (OSC) = 2.547 + (0.371) (SCM)$. It may, therefore, be concluded that there was a significant impact of Supply Chain Management on Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.371 units increase in the Organizational Strategic Competence provided other variables remained constant.

4.3.3 ANALYSIS OF DATA AND HYPOTHESIS TESTING RELATED TO THIRD OBJECTIVE

The third objective of the study was “to study the impact of determinants of Supply Chain Management of sugar industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.” Hypothesis related to this objective was that...

H₀: There is no significant impact of Supply Chain Management (Flow of Material /Flow of Money/Flow of Information) of sugar industry on Socio-economic Condition (Education/ Health/ Social Obligation/ Social Recognition/ Women Empowerment/ Income/ Employment) of farmers of Eastern Uttar Pradesh.

H₀₁: There is no significant impact of Supply Chain Management of sugar industry on Education under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₂: There is no significant impact of Supply Chain Management of sugar industry on Health under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₃: There is no significant impact of Supply Chain Management of sugar industry on Social Obligation under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₄: There is no significant impact of Supply Chain Management of sugar industry on the Social Recognition under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₅: There is no significant impact of Supply Chain Management of sugar industry on Women Empowerment under Socio-economic Condition of Eastern Uttar Pradesh.

H₀₆: There is no significant impact of Supply Chain Management of sugar industry on Income under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀₇: There is no significant impact of Supply Chain Management of sugar industry on Employment under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H₀: There is no significant impact of Supply Chain Management of sugar industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Independent Variables- Supply Chain Management (Flow of Material/ Flow of Money/ Flow of Information).

Dependent Variables- Socio Economic Condition (Education/ Health/ Social Obligation/ Social Recognition/ Women Empowerment/ Income/ Employment).

H₀1: There is no significant impact of Supply Chain Management of sugar industry on Education under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Table 4.90 (a) Descriptive Statistics of Education under SEC and SCM

	Mean	Std. Deviation	N
Education under SEC	3.0533	.65082	300
SCM	3.0478	.73994	300

From Table 4.90 (a) it is evident that mean scores of opinions of 300 Farmers about the Supply Chain Management and Farmers' Education under Socio-economic Condition are 3.0533 and 3.0478 respectively which are slightly more than 3rd point on Likert scale. It may, therefore, be said that the Farmers' opinions about the SCM and Farmers' Education under Socio-economic Condition were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.90 (b) Correlation Between Education under SEC and SCM

		Education under SEC	SCM
Pearson Correlation	Education under SEC	1.000	.571
	SCM	.571	1.000
Sig. (1-tailed)	Education under SEC	.	.000
	SCM	.000	.
N	Education under SEC	300	300
	SCM	300	300

From Table 4.90 (b) it is evident that Pearson Correlation coefficient between Supply Chain Management and Farmers' Education is 0.571 and the significance value (p-value) is 0.000 which is less than 0.05. It may, therefore, be concluded that Supply Chain Management was found to have moderate positive correlation with Farmer's Education under Socio-economic Condition parameter of the sugar industry of Eastern Uttar Pradesh.

Table 4.90 (c) Model Summary of Regression of DV-Education under SEC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.571 ^a	.326	.324	.53513	.326	144.259	1	298	.000

a. Predictors: (Constant), SCM

Table 4.90 (d) ANOVA^a: Residual List of Regression of DV-Education Under SEC on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	41.310	1	41.310	144.259	.000^b
	Residual	85.336	298	.286		
	Total	126.647	299			

a. Dependent Variable: Education under SEC

b. Predictors: (Constant), SCM

Table 4.90 (e) Coefficients^a of Regression Analysis DV-Education under SEC on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1.000	(Constant)	1.522	0.131		11.606	0.000	1.264	1.780
	SCM	0.502	0.042	0.571	12.011	0.000	0.420	0.585

a. Dependent Variable: Education under SEC

From Table 4.90 (c) it is evident that the value of R^2 is 0.326 which means it explains only 32.6 % of the variance and the model is not good enough to be selected. From Table 4.90 (d) Sig. Value p is 0.000 which is less than 0.05 and value of F is 144.259 which is significant at 0.05 level with df equal to (1, 298) it indicates that the model is significant. From Table 4.90 (e) for Supply Chain Management Sig. value p is 0.000 which is less than 0.05 and indicates that it is significant at 5% significance level or 95% confidence interval. Thus the null hypothesis that there is no significant impact of Supply Chain Management of sugar industry on Education under Socio-economic Condition of the farmers of Eastern Uttar Pradesh is rejected. Further from Table 4.90 (e) the value of constant and coefficient of Supply Chain Management for Farmers are 1.522 and 0.502 respectively which constitute regression equation of Education under Socio-economic Condition on Supply Chain Management as Y (Education under SEC) = $1.522 + (0.502) (SCM)$. It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Education under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.502 units increase in the Farmers' Education under Socio-economic Condition provided other variables remained constant.

H₀₂: There is no significant impact of Supply Chain Management of sugar industry on Health under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Table 4.91 (a) Descriptive Statistics of Health Under SEC and SCM

	Mean	Std. Deviation	N
Health Under SEC	3.11	.642	300
SCM	3.0478	.73994	300

From Table 4.91 (a) it is evident that mean scores of opinions of 300 Farmers about the Supply Chain Management and Health under Socio-economic Condition are 3.0478 and 3.11 respectively which are slightly more than 3rd point on Likert scale. It may, therefore, be said that the Farmers' opinions about the Supply Chain

Management and Health under Socio-economic Condition were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.91 (b) Correlations Between Health Under SEC and SCM

		Health Under SEC	SCM
Pearson Correlation	Health Under SEC	1.000	.123
	SCM	.123	1.000
Sig. (1-tailed)	Health Under SEC	.	.017
	SCM	.017	.
N	Health Under SEC	300	300
	SCM	300	300

From Table 4.91 (b) it is evident that Pearson Correlation coefficient between Supply Chain Management and Health under Socio-economic Condition is 0.123 and the significance value (p-value) is 0.017 which is less than 0.05. It may, therefore, be concluded that Supply Chain Management was found to have very low positive correlation with Health under Socio-economic Condition parameter of the sugar industry of Eastern Uttar Pradesh.

Table 4.91 (c) Model Summary of Regression of DV-Health Under SEC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.123 ^a	0.015	0.012	0.639	0.015	4.548	1	298

a. Predictors: (Constant), SCM

Table 4.91 (d) ANOVA^a: Residual List for Regression of DV-Health Under SEC on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.854	1	1.854	4.548	.034^b
	Residual	121.516	298	.408		
	Total	123.370	299			

a. Dependent Variable: Health Under SEC

b. Predictors: (Constant), SCM

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1.00 0	(Constant)	2.786	0.157		17.798	0.000	2.478	3.094
	SCM	0.106	0.050	0.123	2.133	0.034	0.008	0.205

From Table 4.91 (c) it is evident that the value of R^2 is 0.015 which means it explains only 1.5 % of the variance and this model is not a good enough to be selected. From Table 4.91 (d) Sig. Value p is 0.034 which is less than 0.05 and value of F is 4.548 which is significant at 0.05 level with df equal to (1, 298) it indicates that the model is significant. From Table 4.91 (e) for Supply Chain Management Sig. value p is 0.000 which is less than 0.05 and reflects that it is significant at 5% significance level or 95% confidence interval. Thus the null hypothesis that there is no significant impact of Supply Chain Management of sugar industry on Health under the Socio-economic Condition of farmers of Eastern Uttar Pradesh is rejected. Further from Table 4.91 (e) the value of constant and coefficient of Supply Chain Management for farmers are 2.786 and 0.106 respectively which constitute regression equation of Farmers' Health under Socio-economic Condition on Supply Chain Management as Y (Farmers' Health under SEC) = 2.786 + (0.106) (SCM). It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Health under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of SCM would lead to 0.106 units increase in the Farmers' Health under Socio-economic Condition provided other variables remained constant.

H₀₃: There is no significant impact of Supply Chain Management of sugar industry on Social Obligation under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Table 4.92 (a) Descriptive Statistics of Social Obligation Under SEC and SCM

	Mean	Std. Deviation	N
Social Obligation Under SEC	3.58	1.144	300
SCM	3.0478	.73994	300

From Table 4.92 (a) it is evident that the mean score of opinions of 300 Farmers about the Supply Chain Management is 3.0478 which is slightly more than 3rd point on Likert scale. It may, therefore be said Farmers opinions about the Supply Chain Management were found to be tended to moderately agree. And mean score of the Farmers' opinions about the Social Obligation under Socio-economic Condition is 3.58 which are tending to 4th point on Likert scale. It may, therefore be concluded that Farmers' opinions about the Social Obligation under Socio-economic Condition were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.92 (b) Correlations Between Social Obligation Under SEC and SCM

		Social Obligation Under SEC	SCM
Pearson Correlation	Social Obligation Under SEC	1.000	.408
	SCM	.408	1.000
Sig. (1-tailed)	Social Obligation Under SEC	.	.000
	SCM	.000	.
N	Social Obligation Under SEC	300	300
	SCM	300	300

From Table 4.92 (b) it is clear that Pearson Correlation coefficient between Supply Chain Management and Social Obligation is 0.408 and the significance value (p-value) is 0.000 which is less than 0.05. It may, therefore, be said that Supply Chain Management was found to have moderate positive correlation with Social Obligation

under Socio-economic Condition parameter of the sugar industry of Eastern Uttar Pradesh.

Table 4.92 (c) Model Summary of Regression of DV-Social Obligation Under SEC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.408 ^a	0.166	0.164	1.046	0.166	59.485	1	298

a. Predictors: (Constant), SCM

Table 4.92 (d) ANOVA^a: Residual List for Regression of DV-Social Obligation Under SEC on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	65.101	1	65.101	59.485	.000^b
	Residual	326.135	298	1.094		
	Total	391.237	299			

a. Dependent Variable: Social Obligation Under SEC

b. Predictors: (Constant), SCM

Table 4.92 (e) Coefficients^a of Regression Analysis of DV-Social Obligation Under SEC on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.655	.256		6.453	.000	1.150	2.159
	SCM	.631	.082	.408	7.713	.000	.470	.792

a. Dependent Variable: Social Obligation Under SEC

From Table 4.92 (c) it is quite evident that the value of R^2 is 0.166 which means it explains only 16.6 % of the variance and this model is not good enough to be

selected. From Table 4.92 (d) Sig. Value p is 0.000 which less than 0.05 and value of F is 59.485 which is significant at 0.05 level with df equal to (1,298) it shows that model is significant. From Table 4.92 (e) for Supply Chain Management Sig value is 0.000 which is less than 0.05 and reflects that it is significant at 5% significance level or 95% confidence interval. Thus it is safer to reject the null hypothesis that there is no significant impact of Supply Chain Management of sugar industry on Social Obligation under the Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further from Table 4.92 (e) the value of constant and coefficient of Supply Chain Management for farmers are 1.7 55 and 0.631 respectively which constitute regression equation of Social Obligation under Socio-economic Condition on Supply Chain Management as $Y (\text{Social Obligation under SEC}) = 1.655 + (0.631) (\text{SCM})$. It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Social Obligation under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.631 units increase in the Farmers' Social Obligation under Socio-economic Condition provided other variables remained constant.

H04: There is no significant impact of Supply Chain Management of sugar industry on the Social Recognition under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Table 4.93 (a) Descriptive Statistics of Social Recognition Under SEC and SCM

	Mean	Std. Deviation	N
Social Recognition under SEC	3.74	.854	300
SCM	3.0478	.73994	300

From Table 4.93 (a) it is evident that the mean score of opinions of 300 Farmers about the Supply Chain Management is 3.0478 which is slightly more than 3rd point on Likert scale. It may, therefore be said Farmers opinions about the Supply Chain Management were found to be tended to moderately agree. And mean score of the Farmers' opinions about the Social Recognition under Socio-economic Condition is 3.74 which are tending to 4th point on Likert scale. It may, therefore be concluded that

Farmers' opinions about the Social Recognition under Socio-economic Condition were found to be agreed for the sugar industry of Eastern Uttar Pradesh.

Table 4.93 (b) Correlations Between Social Recognition Under SEC and SCM

		Social Recognition under SEC	SCM
Pearson Correlation	Social Recognition under SEC	1.000	.353
	SCM	.353	1.000
Sig. (1-tailed)	Social Recognition under SEC	.	.000
	SCM	.000	.
N	Social Recognition under SEC	300	300
	SCM	300	300

From Table 4.93 (b) it is evident that Pearson Correlation coefficient between Supply Chain Management and Social Recognition is 0.353 and the significance value (p-value) is 0.000 which is less than 0.05. It may, therefore, be said that Supply Chain Management was found to have low positive correlation with Social Recognition under Socio-economic Condition parameter of the sugar industry of Eastern Uttar Pradesh.

Table 4.93 (c) Model Summary of Regression of DV-Social Recognition Under SEC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.353 ^a	.125	.122	.801	.125	42.505	1	298	.000

a. Predictors: (Constant), SCM

Table 4.93 (d) ANOVA^a: Residual List for Regression of DV-Social Recognition Under SEC on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	27.237	1	27.237	42.505	.000^b
	Residual	190.960	298	.641		
	Total	218.197	299			

a. Dependent Variable: Social Recognition under SEC

b. Predictors: (Constant), SCM

Table 4.93 (e) Coefficients^a of Regression Analysis of DV-Social Recognition Under SEC on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.493	.196		12.709	.000	2.107	2.880
	SCM	.408	.063	.353	6.520	.000	.285	.531

a. Dependent Variable: Social Recognition under SEC

From Table 4.93 (c) it is quite evident that the value of R^2 is 0.125 which means it explains only 12.5 % of the variance and this model is not good enough to be selected. From Table 4.93 (d) Sig. Value p is 0.000 which is less than 0.05 and value of F is 42.505 which is significant at 0.05 level with df equal to (1,298) it indicates that model is significant. From Table 4.93 (e) for Supply Chain Management Sig value is 0.000 which is less than 0.05 and reflects that it is significant at 5% significance level or 95% confidence interval. Thus it is safer to reject the null hypothesis that there is no significant impact of Supply Chain Management of sugar industry on Social Recognition under the Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further from Table 4.93 (e) the value of constant and coefficient of Supply Chain Management for farmers are 2.439 and 0.408 respectively which constitute regression equation of Social Recognition under Socio-economic Condition on Supply Chain Management as Y (Social Recognition under SEC) =

2.439 + (0.408) (SCM). It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Social Recognition under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.408 units increase in the Farmers' Social Recognition under Socio-economic Condition provided other variables remained constant.

H05: There is no significant impact of Supply Chain Management of sugar industry on Women Empowerment under Socio-economic Condition of Eastern Uttar Pradesh.

Table 4.94 (a) Descriptive Statistics of Women Empowerment Under SEC and SCM

	Mean	Std. Deviation	N
Women Empowerment under SEC	3.00	.973	300
SCM	3.0478	.73994	300

From Table 4.94 (a) it is evident that the mean score of opinions of 300 farmers about the Supply Chain Management is 3.0478 which is slightly more than 3rd point on Likert scale. It may, therefore be said that Farmers' opinions about Supply Chain Management were found to be tended to moderately agree. And mean score of Farmers' opinion about Women Empowerment under the Socio-economic Condition is exactly equal to 3rd point on Likert scale. It may, therefore, be concluded that farmers' opinions about the Women Empowerment under Socio-economic Condition were found to be neutral for the sugar industry of Eastern Uttar Pradesh.

Table 4.94 (b) Correlations Between Women Empowerment Under SEC and SCM

			Women Empowerment under SEC	SCM
Pearson Correlation	Women Empowerment under SEC	SCM	1.000	-.099
	SCM	Women Empowerment under SEC	-.099	1.000
Sig. (1-tailed)	Women Empowerment under SEC	SCM	.	.044
	SCM	Women Empowerment under SEC	.044	.
N	Women Empowerment under SEC	SCM	300	300
	SCM	Women Empowerment under SEC	300	300

From Table 4.94 (b) it is clear that Pearson Correlation coefficient between Supply Chain Management and Women Empowerment is -0.009 and the significance value (p-value) is 0.044 which is less than 0.05. It may, therefore, be said that Supply Chain Management was found to have very low negative correlation with Women Empowerment under Socio-economic Condition parameter of the sugar industry of Eastern Uttar Pradesh.

Table 4.94 (c) Model Summary of Regression of DV-Women Empowerment Under SEC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.099 ^a	.010	.006	.970	.010	2.943	1	298	.087

a. Predictors: (Constant), SCM

Table 4.94 (d) ANOVA^a: Residual List for Regression of DV-Women Empowerment Under SEC on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.768	1	2.768	2.943	.087^b
	Residual	280.229	298	.940		
	Total	282.997	299			

a. Dependent Variable: Women Empowerment under SEC

b. Predictors: (Constant), SCM

Table 4.94 (e) Coefficients^a of Regression Analysis of DV-Women Empowerment Under SEC on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	3.393	.238		14.275	.000	2.925	3.861
	SCM	-.130	.076	-.099	-1.716	.087	-.279	.019

a. Dependent Variable: Women Empowerment under SEC

From Table 4.94 (c) it is evident that the value of R^2 is 0.010 which means it explains only 1.0 % of the variance and this model is not good enough to be selected. Further from Table 4.94 (d) the value of F is 2.943 with df equal to (1, 398) and Sig. Value p is 0.087 which is more than 0.05 which reflects that model is not significant. Thus model summary and results of ANOVA do not permit further interpretation. Thus the null hypothesis that there is no significant impact of Supply Chain Management of sugar industry on Women Empowerment under Socio-economic Condition of farmers Eastern Uttar Pradesh is not rejected. It may, therefore, be concluded that there was no significant impact of Supply Chain Management of sugar industry on Women Empowerment under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

H06: There is no significant impact of Supply Chain Management of sugar industry on Income under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Table 4.95 (a) Descriptive Statistics of Income Under SEC and SCM

	Mean	Std. Deviation	N
Income under SEC	3.1789	.62661	300
SCM	3.0478	.73994	300

From Table 4.95 (a) it is evident that the mean scores of opinions of 300 Farmers about the Supply Chain Management and Farmers' Income under the Socio-economic Condition are 3.0478 and 3.1789 respectively which are slightly more than 3rd point on Likert scale. It may, therefore, be said that Farmers' opinions about the Supply Chain Management and Farmers' Income under Socio-economic Condition were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.95 (b) Correlations Between Income Under SEC and SCM

		Income Under SEC	SCM
Pearson Correlation	Income under SEC	1.000	.588
	SCM	.588	1.000
Sig. (1-tailed)	Income under SEC	.	.000
	SCM	.000	.
N	Income under SEC	300	300
	SCM	300	300

From Table 4.95 (b) Pearson Correlation coefficient between Supply Chain Management and Farmers' Income is 0.588 and the significance value (p value) is 0.000 which is less than 0.05. It may, therefore be concluded that there was a moderate positive correlation between Supply Chain Management and Farmers' Income under Socio-economic Condition parameter of the sugar industry of Eastern Uttar Pradesh.

Table 4.95 (c) Model Summary of Regression of DV-Income Under SEC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					Square Change	F Change	df1	df2	Sig. F Change
1	.588 ^a	.346	.344	.50759	.346	157.665	1	298	.000

a. Predictors: (Constant), SCM

Table 4.95 (e) ANOVA^a: Residual List for Regression of DV-Income Under SEC on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	40.622	1	40.622	157.665	.000^b
	Residual	76.778	298	.258		
	Total	117.400	299			

a. Dependent Variable: Income under SEC

b. Predictors: (Constant), SCM

Table 4.95 (e) Coefficients^a of Regression Analysis of DV-Income Under SEC on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.661	.124		13.348	.000	1.416	1.906
	SCM	.498	.040	.588	12.556	.000	.420	.576

a. Dependent Variable: Income under SEC

From Table 4.95 (c) it is quite evident that the value of R^2 is 0.346 which means it explains only 34.6 % of the variance and this model is good enough to be selected. From Table 4.95 (d) the Sig. Value p is 0.000 which is less than 0.05 and the value of F is 157.665 which is significant at 0.05 level with df equal to (1, 298) it shows that

the model is significant. From Table 4.95 (e) for Supply Chain Management Sig value is 0.000 which is less than 0.05 and indicates that it is significant at 5% significance level or 95% confidence interval. Thus the null hypothesis that there is no significant impact of Supply Chain Management of sugar industry on Women Empowerment under Socio-economic Condition of farmers of Eastern Uttar Pradesh is rejected. Further from Table 4.95 (e) the value of constant and coefficient of Supply Chain Management for farmers are 1.661 and 0.498 respectively which constitute regression equation of Farmers' Income under Socio-economic Condition on Supply Chain Management as Y (Farmers' Income under SEC) = 1.661 + (0.498) (SCM). It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Income under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.498 units increase in the Farmers' Income under Socio-economic Condition provided other variables remained constant.

H07: There is no significant impact of Supply Chain Management of sugar industry on Employment under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Table 4.96 (a) Descriptive Statistics of Employment Under SEC and SCM

	Mean	Std. Deviation	N
Employment under SEC	2.95	1.432	300
SCM	3.0478	.73994	300

From Table 4.96 (a) it is evident that the mean score of opinion of 300 Farmers about the Supply Chain Management is 3.0478 which is slightly more than 3rd point on Likert scale. It may, therefore be said that Farmers' opinions about Supply Chain Management were found to be tended to moderately agree. And mean score of Farmers' opinion about Employment under the Socio-economic Condition is 2.95 which is slightly less than 3rd point on Likert scale. It may, therefore, be concluded that Farmers' opinions about the Employment under the Socio-economic Condition were found to be tended to moderately disagree for the sugar industry of Eastern Uttar Pradesh.

Table 4.96 (b) Correlations between Employment Under SEC and SCM

		Employment under SEC	SCM
Pearson Correlation	Employment under SEC	1.000	.339
	SCM	.339	1.000
Sig. (1-tailed)	Employment under SEC	.	.000
	SCM	.000	.
N	Employment under SEC	300	300
	SCM	300	300

From Table 4.96 (b) Pearson Correlation coefficient between Supply Chain Management and Farmer's Employment is 0.339 and the significance value (p value) is 0.000 which is less than 0.05. It may, therefore, be concluded that there was a low positive correlation between Supply Chain Management and Farmer's Employment under the Socio-economic Condition parameter of sugar industry of Eastern Uttar Pradesh.

Table 4.96 (c) Model Summary of Regression of DV-Employment Under SEC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.339 ^a	.115	.112	1.349	.115	38.717	1	298	.000

a. Predictors: (Constant), SCM

Table 4.96 (d) ANOVA^a: Residual List for Regression of DV-Employment Under SEC on IV-SCM

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	70.502	1	70.502	38.717	.000^b
	Residual	542.645	298	1.821		
	Total	613.147	299			

a. Dependent Variable: Employment under SEC

b. Predictors: (Constant), SCM

Table 4.96 (e) Coefficients^a of Regression Analysis of DV- Employment Under SEC on IV-SCM

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	.947	.331		2.862	.005	.296	1.597
SCM	.656	.105	.339	6.222	.000	.449	.864

a. Dependent Variable: Employment under SEC

From Table 4.96 (c) it is evident that the value of R^2 is 0.115 which means it explains only 11.5 % of the variance and this model is not good enough to be selected. From Table 4.96 (d) the Sig. Value p is 0.000 which is less than 0.05 and the value of F is 38.717 which is significant at 0.05 level with df equal to (1, 298) it shows that it is a significant model. From Table 4.96 (e) for Supply Chain Management Sig value is 0.000 which is less than 0.05 and indicates that it is significant at 5% significance level or 95% confidence interval. Thus it is safer to reject the null hypothesis that there is no significant impact of Supply Chain Management of sugar industry on Employment under Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further from Table 4.96 (e) the value of constant and coefficient of Supply Chain Management for Farmers are 0.656 and 0.947 respectively which constitute regression equation of Farmers' Employment under Socio-economic Condition on Supply Chain Management as Y (Farmers' Employment under SEC) = 0.947 + (0.656) (SCM). It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Employment under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.656 units increase in the Farmers' Employment under Socio-economic Condition provided other variables remained constant.

H₀: There is no significant impact of Supply Chain Management of sugar industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh.

Table 4.97 (a) Descriptive Statistics of SEC and SCM

	Mean	Std. Deviation	N
SEC All Items	3.2010	.45775	300
SCM	3.0478	.73994	300

From Table 4.97 (a) it is evident that the mean score of opinions of 300 Farmers about the Supply Chain Management is 3.0478 which is slightly more than 3rd point on Likert scale. It may, therefore be said that Farmers' opinions about Supply Chain Management were found to be tended to moderately agree. And mean score of Farmers' opinion about Socio-economic Condition is 3.2010 which is also slightly more than 3rd point on Likert scale. It may, therefore, be concluded that Farmers' opinions about Socio-economic Condition were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh.

Table 4.97 (b) Correlations Between SEC and SCM

		SEC All Items	SCM
Pearson Correlation	SEC All Items	1.000	.674
	SCM	.674	1.000
Sig. (1-tailed)	SEC All Items	.	.000
	SCM	.000	.
N	SEC All Items	300	300
	SCM	300	300

From Table 4.97 (b) Pearson Correlation coefficient between Supply Chain Management and Socio-economic Condition is 0.674 and the significance value (p value) is 0.000 which is less than 0.05. It may, therefore, be concluded that there was a high positive correlation between Supply Chain Management and Socio-economic Condition of farmers of sugar industry of Eastern Uttar Pradesh.

Table 4.97 (c) Model Summary of Regression of DV-SEC on IV-SCM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.674 ^a	.454	.453	.33867	.454	248.219	1	298	.000

a. Predictors: (Constant), SCM

Table 4.97 (d) ANOVA^a: Residual List for Regression of DV-SEC on IV-SCM

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.470	1	28.470	248.219	.000^b
	Residual	34.180	298	.115		
	Total	62.650	299			

a. Dependent Variable: SEC All Items

b. Predictors: (Constant), SCM

Table 4.97 (e) Coefficients^a of Regression Analysis of DV-SEC on IV-SCM

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.930	.083		23.250	.000	1.767	2.093
	SCM	.417	.026	.674	15.755	.000	.365	.469

a. Dependent Variable: SEC All Items

From Table 4.97 (c) it is evident that the value of R^2 is 0.454 which means it explains 45.4 % of the variance and this model is good enough to be selected. From Table 4.97 (d) the Sig. Value p is 0.000 which is less than 0.05 and the value of F is 248.219 which is significant at 0.05 level with df equal to (1, 298) it shows that model is significant. From Table 4.97 (e) for Supply Chain Management Sig value is 0.000 which is less than 0.05 and indicates that it is significant at 5% significance level or 95% confidence interval. Thus it is safer to reject the null hypothesis that there is no

significant impact of Supply Chain Management of sugar industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further from Table 4.97 (e) the value of constant and coefficient of Supply Chain Management for Farmers are 1.930 and 0.417 respectively which constitute regression equation of Socio-economic Condition on Supply Chain Management as $Y (\text{SEC}) = 1.930 + (0.417) (\text{SCM})$. It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.417 units increase in the Farmers' Socio-economic Condition provided other variables remained constant.

CHAPTER V

FINDINGS AND DISCUSSIONS

5.1.0 INTRODUCTION:

In the previous chapter a detailed analysis and interpretation of data have been given objective wise and the present chapter is devoted to findings and discussions of the study which have been explained below under the different captions.

5.2.0 DEMOGRAPHY OF MANAGERS

In this study the demography of Managers of various sugar mills of Eastern Uttar Pradesh were analyzed with the help of frequency test and bar chart and the detailed findings and discussions have been given below.

5.2.1 LEVEL OF MANAGERS: it was found that 20% respondents were top level managers, 51.11% respondents were middle-level managers and 28.89% respondents were lower-level managers. Hence it may be concluded that there was an adequate representation of all the level of managers in the study.

5.2.2 AGE OF MANAGERS: 83.33% respondents were found to be in the age group of 41 to 60 years whereas only 16.67% respondents were found to be in the age group of 21 to 30 years. Therefore it could be concluded that the Managers were mature enough to express their opinion about Supply Chain Management, Organizational Performance and Organizational Strategic Competence of sugar industry with accuracy.

5.2.3 SEX OF MANAGERS: In the study all the respondents were found to be male. Hence it could be concluded that there were either no female managers or their no is negligible in the sugar industry of Eastern Uttar Pradesh. It indicated the sugar mills were found to be highly male dominated.

5.2.4 MARITAL STATUS OF MANAGERS: During this study all the managers were found to be married. It may, therefore, be said that the managers were found to have both the family and professional responsibilities that helped in

extracting experienced responses with respect to the Supply Chain Management, Organizational Performance and Organizational Strategic Competence of sugar industry.

5.2.5 FAMILY CONCEPT OF MANAGERS: In this study 25.56% managers were found to be living in the nuclear family concept and 74.44% managers were found to be living in the joint family concept. One of most pertinent fact about the sugar industry was that most of the sugar mills were situated in the remote area or villages and the concept of joint family was a reality in the Indian villages. But the results indicated that the concept of nuclear family was growing rapidly in the villages.

5.2.6 QUALIFICATION OF MANAGERS: During the study it was found that 67% respondents were postgraduate whereas 33.33% respondents were Graduate. The results reflected that the most of the managers were well qualified hence; their responses were assumed to be reliable, valid and accurate in context of Supply Chain Management, Organizational Performance and Organizational Strategic Competence.

5.2.7 SALARY OF MANAGERS: In the study it was found that 16.67% respondents were getting monthly salary between Rs. 35001 - 45000, 17.78% respondents were getting monthly salary between Rs. 45001 - 55000, 14.44% respondents were getting monthly salary between Rs. 55001 – 65000 and 51.11 % respondents were getting monthly salary above Rs. 65000. It may, therefore, be concluded that more than half of the manager were found to have monthly salary above Rs. 65000 which was handsome amount in context of rural areas.

5.2.8 SUGARCANE WASTE: During the study it was found that 72.22% managers reported below 10% sugarcane waste and 27.78% managers claimed 10-20% sugarcane waste during the processing in the sugar mills. It may, therefore, be concluded that sugarcane waste was found to be below 10% during processing in the mills. The findings indicated that the sugar mills were facing an issue of ineffective and inefficient Supply Chain Management.

5.3.0 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO SCM FROM MANAGERS' POINT OF VIEW

There were 11 items related to Supply Chain Management from Managers' point of view under 3 heads Flow of Material, Flow of Money and Flow of Information in which 5 items were under Flow of Material, 2 items were under Flow of Money and 4 items were under Flow of Information. Data were analyzed with the help of descriptive statistics, frequency test and pie chart. A detailed findings and discussion have been given below under various captions.

5.3.1 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO

FLOW OF MATERIAL: The first item related to Flow of Material was "This organization has efficient flow of sugarcane from farmers to the sugar mill." In the investigation of the study it was found that the mean score of opinions of manager about the statement was 4.50 which were tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of managers about the statement "This organization has efficient flow of sugarcane from farmers to the sugar mill" were found to be agreed for the sugar industry. Further the findings of the study also revealed that 50% respondents were agreed and 50% respondents were strongly agreed with the statement "This organization has an efficient flow of sugarcane from farmers to the sugar mill." It may, therefore be said that half of the managers were found to be agreed and half of the managers were found to be strongly agreed with the statement i.e. the supply of sugarcane from farm to sugar mills was smooth and adequate.

The second item related to Flow of Material was "This organization has efficient flow of work in progress between various production sub-systems." During the investigation the mean score of the responses of managers was found to be 4.00 which were exactly equal to 4th point on Likert scale. It may, therefore, be said that the opinions of managers about the statement "This organization has efficient flow of work in progress between various production sub-systems" were found to be agreed for the sugar industry. Furthermore in the findings of the study 100% respondents were found to be agreed with the statement "This organization has an efficient flow of work in progress between various production sub-systems." It may, therefore, be

concluded that all the managers were found to be agreed with the statement i.e. the flow of work in progress was not excellent but it was good.

The third item related to Flow of Material was “This organization has efficient flow of finished goods (sugar) from mill to ultimate user.” The mean score of opinions of managers about the statement was found to be 4.17 which were tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of managers about the statement “This organization has efficient flow of finished goods (sugar) from mill to ultimate user” were found to be agreed for the sugar industry. Moreover in the investigation of the study it was also found that 83.33% respondents were agree and 16.67% respondents were strongly agree with the statement “This organization has an efficient flow of finished goods (sugar) from the mill to the ultimate user.” Hence, the inference could be drawn that most of the managers were found to be agreed with the statement i.e. the flow of finished goods was not excellent but it was good.

The fourth item related to Flow of Material was “This organization maintains inventory that meets demand and minimizes cost.” During the investigation of the study the mean score of opinions of managers about the statement was found to be 4.17 which were tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of managers about the statement “This organization maintains inventory that meets demand and minimizes cost” were found to be agreed for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also reflected that 83.33% respondents were agreed and 16.67% respondents were strongly agreed with the statement “This organization maintains an inventory that meets demand and minimizes cost.” It may, therefore, be concluded that most of the managers were found to be agreed with the statement. The inference could also be drawn that the inventory management of the sugar industry was found to be good but it was not excellent.

The fifth item related to Flow of Material was “This organization has the flexibility to meet unforeseen requirements of demand and supply.” In the investigation of the study it was found that the mean score of the responses of managers about the statement was 3.50 which was slightly more than 3rd point on Likert scale. It may, therefore, be said that the opinions of managers about the statement “This organization has the flexibility to meet unforeseen requirements of demand and

supply” were found to be tended to moderately agree for the sugar industry. Further the findings of the study also indicated that 50% respondents were neutral and 50% respondents were agreed with the statement “This organization has the flexibility to meet unforeseen requirements of demand and supply.” It may, therefore, be said that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement. The conclusion could also be drawn that the flexibility of sugar industry to cope up with unforeseen circumstances was not to the extent what it should have been.

5.3.2 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO FLOW OF MONEY: The first item related to Flow of money was “This organization has efficient flow of cash from end user to sugar mill.” During the study the mean score of opinions of managers about the statement was found to be was 3.83 which were tending to 4th point on Likert scale and reflected that the opinions of the managers about the statement “This organization has an efficient flow of cash from end user to sugar mill” were agreed for the sugar industry. Moreover, the findings of the study also shown that 50.00% respondents were neutral, 16.67% respondents were agreed and 33.33% respondents were strongly agreed with the statement “This organization has efficient flow of cash from end user to sugar mill.” It may, therefore, be concluded that most of the managers were found to be neutral with the statement for the sugar industry. The inference could also be traced that in sugar industry of Eastern Uttar Pradesh the flow of cash from the end user to sugar industry was not at par but it was slightly poor.

The second item related to Flow of Money was “This organization has efficient flow of cash from sugar mill to farmers” In the study the mean score of responses of managers about the statement was found to be 3.83 which were tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “This organization has an efficient flow of cash from sugar mill to farmers” were found to be agreed for the sugar industry. Further the findings of the study also proved that 50.00% respondents were neutral, 16.67% respondents were agreed and 33.33% respondents were strongly agreed with the statement “This organization has an efficient flow of cash from sugar mill to farmers.” It may, therefore, be said that half of the managers were found be neutral and half of the

managers were found to be either agreed or strongly agreed with the statement for the sugar industry of Eastern Uttar Pradesh. The conclusion could also be held that in sugar industry of Eastern Uttar Pradesh the flow of cash from sugar mills to farmers was not at par the requirements and expectations of the farmers.

5.3.3 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO FLOW OF INFORMATION:

The first item related to Flow of Information was “This organization has efficient forward flow of information.” In the investigation of the study it was found that the mean score of opinions of managers was found to be 3.50 which was slightly more than 3rd point on Likert scale which led to the conclusion that the opinions of the managers about the statement “This organization has efficient forward flow of information” were tending to moderately agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also revealed that 50% respondents were neutral and 50% respondents were agreed with the statement “This organization has an efficient forward flow of information.” Hence, half of the managers were found to be neutral and half of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh. The conclusion could also be drawn that forward flow of information of the sugar industry of Eastern Uttar Pradesh was weak.

The second item related to Flow of Information was “In this organization Supply Chain related information is available as and when required.” During the study the mean score of the opinions of managers about the statement was found to be 3.67 which were tending to 4th point on Likert scale and reflected that the opinions of the managers about the statement “In this organization Supply Chain related information is available as and when required” were tending to agree for the sugar industry. Further the findings of the study also reflected that 33.33% respondents were neutral and 66.7% respondents were agreed with the statement “In this organization Supply Chain related information is available as and when required” It may, therefore be said that most of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh. The inference could also be traced that availability of information related to Supply Chain of sugar industry of Eastern Uttar Pradesh was not sufficient.

The third item related to Flow of Information was “This organization has an efficient backward flow of information.” In the investigation of the study it was found that the mean score of the responses of managers about the statement was 2.67 which was slightly less than 3rd point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has an efficient backward flow of information” were found to be tended to moderately disagree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also reflected that 50% respondents were disagreed, 33.33% respondents were neutral and 16.67% of respondents were agreed with the statement “This organization has an efficient backward flow of information.” Hence, most of the managers were found to be disagreed with the statement for the sugar industry of Eastern Uttar Pradesh. The inference could also be traced that the backward flow of information of Eastern Uttar Pradesh was very weak.

The fourth item related to Flow of Information was “The Supply Chain activities are well coordinated and integrated in this organization.” During the investigation of the study it was found that the mean score of the responses of managers was found to be 3.17 which was slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of managers about the statement “The Supply Chain activities are well coordinated and integrated into this organization” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh. Further in the findings 83.33% respondents were found to neutral and 16.7% respondents were found to be agreed with the statement “Supply Chain activities are well coordinated and integrated into to this organization.” It may, therefore, be concluded that most of the managers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh. The conclusion could also be drawn that in the sugar industry of Eastern Uttar Pradesh the supply chain activities were not well coordinated and integrated.

5.4.0 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO ORGANIZATIONAL PERFORMANCE

There were 21 items related to Organizational Performance from Managers’ point of view under 4 heads Accounting Measures, Operational Measures, Market Based

Measures and Survival Measures. Further under Accounting Measures there were 4 sub heads Profitability, Growth, Leverage and Liquidity in which 5 items were under Profitability, 2 items were under Growth and 2 items were under Leverage and 3 items were under Liquidity. Likewise under Operational Measures there were 6 sub heads Crushing Time of Sugarcane, Production, Payments, Cost of Production, Flow of Material and Relationship in which single item was under Crushing Time of Sugarcane, 2 items were under Production, One item was under Payments, one item was under Cost of Production, one item was under Flow of Material and one item was under Relationship. Similarly under Market Based Measure there was one sub head Return to Shareholders having single item. And finally under Survival Measures there was one sub head Long-term Survival having single item. Data were analyzed with the help of descriptive statistics, frequency test and pie chart. The detailed findings and discussions of items related to Organizational Performance have been given below under various captions.

5.4.1 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO PROFITABILITY UNDER ACCOUNTING MEASURES: The first item related to Profitability under Accounting Measures was “This organization has good Return on Assets.” In the investigation of the study it found that the mean score of the responses of managers about the statement was 3.50 which was slightly more than 3rd point on Likert scale. It may, therefore, be said that the opinions of managers about the statement “This organization has good Return on Assets” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh. Further in the findings it was also revealed that 50% respondents were neutral and 50% respondents were agree with the statement “This organization has good Return on Assets.” It may, therefore, be concluded that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement. The inference could also be drawn that the Return on Assets of sugar industry of Eastern Uttar Pradesh was not up to the extent what it should have been.

The second item related to Profitability under Accounting Measures was “This organization has good Return on Equity.” During the study the mean score of opinions of managers about the statement was found to be 3.00 which were exactly equal to 3rd point on Likert scale. It may, therefore, be said that the opinions of the

managers about the statement “This organization has good Return on Equity” were found to be neutral for the sugar industry of Eastern Uttar Pradesh. Further in the findings of the study it was also found that 50% respondents were disagree and 50% respondents were agree with the statement “This organization has an efficient flow of sugarcane from farmers to the sugar mill.” Hence, half of the managers were found to be disagreed and half of the managers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh. The conclusion could also be drawn that Return on Equity of sugar industry of Eastern Uttar Pradesh was not at par the expectations.

The third item related to Profitability under Accounting Measures was “This organization has profit margin on Sales.” In the investigation of the study it was found that the mean score of the opinions of managers about the statement was 2.17 which were tending to 2nd point on Likert scale and reflected that the opinion of the managers about the statement “This organization has a profit margin on Sales” were tending to disagreed for the sugar industry. Further in the findings of the study it was also found that 50% respondents were strongly disagree, 33.33% respondents were neutral and 16.7% respondents were agree with the statement “This organization has a profit margin on Sales.” Hence, inference could be traced that profit margin on the sales of the sugar industry of Eastern Uttar Pradesh was very less.

The fourth item related to Profitability under Accounting Measures was “This organization has good Return on Investment.” In the study the mean score of responses of managers about the statement was found to be 3 which were exactly equal to 3rd point on Likert scale and reflected that the opinions of the managers about the statement “This organization has good Return on Investment” were neutral for the sugar industry. Further the findings of the study also reflected that 50% respondents were disagreed and 50% respondents were agreed with the statement “This organization has good Return on Investment” It may, therefore, be concluded that half of the managers were found to be disagreed and half of the managers were found to be agreed with the statement for the sugar industry. The inference could also be traced that the Return on Investment of sugar industry of Eastern Uttar Pradesh was not at par the expectations.

The fifth item related to Profitability under Accounting Measures was “This organization is earning good Net Income in comparison to industry standard.” During the investigation of the study it was found that the mean score of the opinions of managers about the statement was 3.50 which were half more than 3rd point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization is earning good Net Income in comparison to industry standard” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh. Further the findings also reflected that 50% respondents were neutral and 50% respondents were agreed with the statement “This organization is earning good Net Income in comparison to industry standard.” It may, therefore, be said that half of the managers were found to be neutral and half of the managers were found to be agreed with the statement. The inference led to the conclusion that earning of Net Income of the sugar industry of Eastern Uttar Pradesh was not at par the expectations.

5.4.2 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO GROWTH UNDER ACCOUNTING MEASURES: The first item related to Growth under Accounting Measures was “Sales of this organization have increased over years.” During the investigation of the study it was found that the mean score of opinions of managers about the statement was 4.50 which were tending to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “Sales of this organization have increased over the years” were found to be agreed for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also reflected that 50% respondents were agreed and 50% respondents were strongly agreed with the statement “Sales of this organization have increased over years.” It may, therefore, be said that sales growth of the sugar industry of Eastern Uttar Pradesh over the years was good but it was not excellent.

The second item related to Growth under Accounting Measures was “Number of employees of this organization has increased over years.” In the investigation of the study it found that the mean score of responses of managers about the statement was 3.50 which was half more than 3rd point on Likert scale and reflected that the opinions of the managers about the statement “Number of employees of this organization has increased over the years” were tending to moderately agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also revealed that 50%

respondents were agreed and 50% respondents were strongly agreed with the statement “Number of employees of this organization has increased over years.” Hence, Growth of in numbers of employees of the sugar industry of Eastern Uttar Pradesh was good but it was not very impressive.

5.4.2 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO LEVERAGE UNDER ACCOUNTING MEASURES: The first item related to Leverage under Accounting Measures was “Debt on equity of organization has decreased over years.” In the investigation of the study it was found that the mean score of the responses of the managers about the statement was 3.17 which was slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “Debt on equity of organization has decreased over years” were found to be tended to moderately agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also reflected that 83.33% respondents were neutral and 16.67% respondents were strongly agreed with the statement “Debt on equity of organization has decreased over years.” Hence, the inference could be traced that decrease in Debt on Equity of the sugar industry of Eastern Uttar Pradesh was not at par the expectations.

The second item related to Leverage under Accounting Measures was “Debt on Total Assets of the organization has decreased over the years.” In the investigation of the study the mean score of the opinion of the managers about the statement was found to be 2.67 which was slightly less than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “Debt on Total Assets of the organization has decreased over the years” were found to be tended moderately disagree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also indicated that 50% respondents were disagreed, 33.3% respondents were neutral and 16.7% respondents were agreed with the statement “This organization has an efficient flow of sugarcane from farmers to the sugar mill.” It may, therefore, be concluded that decrease in the Debt on Total Assets of the sugar industry of Eastern Uttar Pradesh was not at par the expectations.

5.4.3 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO LIQUIDITY UNDER ACCOUNTING MEASURES: The first item related

to Liquidity under Accounting Measures was “This organization has adequate cash at hand for its operating cycle.” During the investigation of the study it was found that the mean score of the responses of managers about the statement was 4.00 which were exactly equal to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has adequate cash at hand for its operating cycle” were found to be agreed for the sugar industry of Eastern Uttar Pradesh. Further in the findings of the study 100% respondents were found to be agreed with the statement “This organization has adequate cash at hand for its operating cycle.” It may, therefore, be concluded that all the managers were found to be agreed with the statement for the sugar industry of eastern Uttar Pradesh. The inference could also be drawn that sugar industry of Uttar Pradesh had slightly good cash at hand for its operating cycle.

The second item related to Liquidity under Accounting Measures was “This organization has few short-term loans.” During the investigation of the study it was found that the mean score of the opinions of the managers about the statement was 3.17 which was slightly more than 3rd point on Likert scale and reflected that the opinions of the managers about the statement “This organization has few short-term loans” were tending to moderately agree for the sugar industry of Eastern Uttar Pradesh. Further in the findings it was also found that 83.33% respondents were neutral and 16.67% respondents were agree with the statement “This organization has few short-term loans.” It may, therefore, be said that most of the managers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

The third item related to Liquidity under Accounting Measures was “This organization has adequate cash flow.” In the investigation of the study it was found that the mean score of the opinions of the managers about the statement was 4.00 which were exactly equal to 4th point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “This organization has adequate cash flow” were found to be agreed for the sugar industry of Eastern Uttar Pradesh. Further in the findings of the study it was also found that 100% respondents were agree with the statement “This organization has adequate cash flow.” Hence, the inference could be traced that the sugar industry of Eastern Uttar Pradesh had slightly good cash flow.

5.4.4 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO CRUSHING TIME OF SUGARCANE UNDER OPERATIONAL MEASURES: The item related to Crushing Time of Sugarcane under Operational Measures was “This organization has minimized crushing time of sugarcane.” In the investigation it was found that the mean score of the opinions of the managers about the statement was 3.17 which was slightly more than 3rd point on Likert scale and reflected the opinions of the managers about the statement “This organization has minimized the crushing time of sugarcane” were tending to moderately agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also revealed that 83.33% respondents were neutral and 16.7% respondents were agreed with the statement “This organization has minimized the crushing time of sugarcane.” It may, therefore, be concluded that the time taken in the sugarcane crushing was slightly more for the sugar industry of Eastern Uttar Pradesh.

5.4.5 FINDINGS AND DISCUSSIONS OF ITEMS RELATE TO PRODUCTION UNDER OPERATIONAL MEASURES: The first item related to Production under Operational Measures was “This organization has reduced production cycle of sugar.” In the study it was found that the mean score of the responses of the managers about the statement was 3.67 which were tending to 4th point on Likert scale and indicated that the opinions of the managers about the statement “This organization has reduced production cycle of sugar” were tending to agree for the sugar industry of Eastern Uttar Pradesh. Further the findings also revealed that 66.7% respondents were agreed and 33.3% respondents were neutral with the statement “This organization has reduced production cycle of sugar.” It may, therefore, be concluded that production cycle the sugar industry of Eastern Uttar Pradesh was not very impressive.

The second item related to Production under Operational Measures “This organization has increased production of sugar.” During the investigation of the study it was found that the mean score of the responses of the managers about the statement was 4.17 which were tending to 4 point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has increased production of sugar” were found to be agreed for the sugar industry of Eastern Uttar Pradesh. Further the findings also reflected that 83.33% respondents were agreed and

16.67% respondents were strongly agreed with the statement “This organization has increased production of sugar.” It may, therefore, be said that the production of the sugar industry of Eastern Uttar Pradesh was found to be slightly good.

5.4.6 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO PAYMENTS UNDER OPERATIONAL MEASURES: The item related to Payments under Operational Measures was “This organization makes timely payment to farmers.” In study it was found that the mean score of the opinions of the managers about the statement was 4.00 which were exactly equal to 4th point on Likert scale and reflected that the opinions of the managers about the statement “This organization makes timely payment to farmers” were tending to agree for the sugar industry of eastern Uttar Pradesh. Further the findings of the study also revealed that 50% respondents were neutral and 50% respondents were strongly agreed with the statement “This organization makes timely payment to farmers.” Hence, the conclusion could be drawn that in the sugar industry of Eastern Uttar Pradesh payments to the farmers was not impressive.

5.4.7 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO COST OF PRODUCTION UNDER OPERATIONAL MEASURES: The item related to Cost of Production under Operational Measures was “This organization has reduced cost of production of sugar.” During the investigation of the study it was found that the mean score of the responses of managers was 4.50 which were tending to 4th point on Likert scale and reflected that the opinions of the managers about the statement “This organization has reduced cost of production of sugar” were tending to agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also revealed that 50% respondents were neutral, 33.3% respondents were agreed and 16.7% respondents were strongly agreed with the statement “This organization has reduced the cost of production of sugar.” It may, therefore, be said that the reduction in cost of production of the sugar industry of Eastern Uttar Pradesh was slightly good.

5.4.8 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO FLOW OF MATERIAL UNDER OPERATIONAL MEASURES: The item related to Flow of Material under Operational Measures was “This organization has smooth flow of sugarcane during crushing time.” In the investigation of the study

the mean score of the opinions of managers was found to be 4.17 which were tending to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization has a smooth flow of sugarcane during crushing time” were found to be agreed for the sugar industry of Eastern Uttar Pradesh. Further findings also reflected that 83.33% respondents were agreed and 16.67% respondents were strongly agreed with the statement “This organization has a smooth flow of sugarcane during the crushing time.” Hence, the conclusion could be drawn that flow of sugarcane during the crushing time of the sugar industry of Eastern Uttar Pradesh was slightly good.

5.4.9 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO RELATIONSHIP UNDER OPERATIONAL MEASURES: The item related to Relationship under Operational Measures was “This organization has good relationship with farmers.” During the investigation of the study it was found that the mean score of the responses of managers about the statement was 4.00 which were exactly equal to 4th point on Likert scale and reflected that the opinions of the managers about the statement “This organization has a good relationship with farmers” were agreed for the sugar industry of Eastern Uttar Pradesh. Further in the findings it was also proved that 50% respondents were neutral and 50% respondents were strongly agree with the statement “This organization has good relationship with farmers.” Hence inferences could be traced that the relationship of the sugar industry of Eastern Uttar Pradesh with the farmers was not very impressive.

5.4.10 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO RETURN TO SHREHOLDERS UNDER MARKET BASED MEASURES: The item related to Return to Shareholders under Market Based Measures was “This organization gives dividend every year to its shareholders.” In the study the mean score of responses of managers about the statement was found to be 4.00 which were exactly equal to 4th point on Likert scale. It may, therefore, be said that the opinions of the managers about the statement “This organization gives dividend every year to its shareholders” were found to be agreed for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also reflected that that all the respondents were agreed with the statement “This organization gives dividend every year to its shareholders.” It may, therefore, be concluded that in the

sugar industry of Eastern Uttar Pradesh payments of dividend to shareholders was slightly good.

5.4.11 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO LONG-TERM SURVIVAL UNDER SURVIVAL MEASURES: The item related to Long-term Survival under Survival Based Measures was “This organization will survive a long time in future.” During the investigation of the study it was found that the mean score of the responses of managers about the statement was 4.33 which were tending to 4th point on Likert scale and reflected that the opinions of the managers about the statement “This organization will survive a long time in the future” were tending to agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also revealed that 66.7% respondents were agreed and 33.3% respondents were strongly agreed with the statement “This organization will survive a long time in the future.” It may, therefore, be concluded that long-term survival of the sugar industry of Eastern Uttar Pradesh was found to be slightly good.

5.5.0 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO ORGANIZATIONAL STRATEGIC COMPETENCE

There were 9 items related to Organizational Strategic Competence from Managers’ point of view under 2 heads Skills and Knowledge in which 4 items were under Skills and 5 items were under Knowledge. Data were analyzed with the help of descriptive statistics, frequency test and pie chart. The detailed findings and discussion related to Organizational Strategic Competence have been given below under various captions.

5.5.1 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO SKILLS UNDER ORGANIZATIONAL STRATEGIC COMPETENCE:

The first item related to Skills under Organizational Strategic Competence was “Loading and unloading skills of sugarcane of employees of this organization has improved.” During the investigation of the study it was found that the mean score of responses of managers about the statement was 3.50 which were half more than 3rd point on Likert scale and indicated that the opinions of the managers about the statement “Loading and unloading skills of sugarcane of employees of this organization has improved” were tending to moderately agree for the sugar industry

of Eastern Uttar Pradesh. Further the findings of the study also reflected that 50% respondents were neutral and 50% respondents were agreed with the statement “Loading and unloading skills of sugarcane of employees of this organization has improved.” It may, therefore, be said that in the sugar industry of Eastern Uttar Pradesh the loading and unloading skills of employees were found to be slightly under skilled.

The second item related to Skills under Organizational Strategic Competence was “Sugarcane crashing skills of employees of this organization have improved” In the study the mean score of opinions of managers about the statement was found to be 4.17 which were tending to 4th point on Likert scale and indicated that the opinions of the managers about the statement “Sugarcane crashing skills of employees of this organization has improved” were tending to agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also revealed that 83.33% of respondents were agreed and 16.67% respondents were strongly agreed with the statement “Sugarcane crashing skills of employees of this organization have improved.” It may, therefore, be said that the sugarcane crushing skills of employees of sugar industry of Eastern Uttar Pradesh were found to be slightly good.

The third item related to Skills under Organizational Strategic Competence was “Skills of managers of this organization have improved over last few years.” During the investigation of the study it was found that the mean score of opinions of managers about the statement was 4.00 which were exactly equal to 4th point on Likert scale and reflected that the opinions of the managers about the statement “Skills of managers of this organization have improved over last few years” were tending to agree for the sugar industry of Easter Uttar Pradesh. Further the findings of the study also reflected that all the respondents were agreed with the statement “Skills of managers of this organization have improved over the last few years.” It may, therefore, be concluded that the improvement in managers’ skills were found to be slightly good for the sugar industry of Eastern Uttar Pradesh.

The fourth item related to Skills under Organizational Strategic Competence was “Sugarcane harvesting skills of farmers concerning to this organization have improved.” In the study the mean score of the responses of managers about the statement was found to be 4.00 which were exactly equal to 4th point on Likert scale

and indicated that the opinions of the managers about the statement “Sugarcane harvesting skills of farmers concerning to this organization have improved” were agreed for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also revealed that all the respondents were agreed with the statement “Sugarcane harvesting skills of farmers concerning to this organization has improved” It may, therefore, be said that the sugarcane harvesting skills of farmers of sugar industry of Eastern Uttar Pradesh were found to be slightly improved.

5.5.2 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO KNOWLEDGE UNDER ORGANIZATIONAL STRATEGIC

COMPETENCE: The first item related to Knowledge under Organizational Strategic Competence was “This organization has sound knowledge of cane harvesting and supply.” During the study the mean score of opinions of managers about the statement was found to be 4.00 which were exactly equal to 4th point on Likert scale and reflected that the opinions of the managers about the statement “This organization has sound knowledge of cane harvesting and supply” were agreed for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also reflected that all the respondents were agreed with the statement “This organization has sound knowledge of cane harvesting and supply.” It may, therefore, be concluded that in the sugar industry of Eastern Uttar Pradesh sugar mills were found to have slightly good knowledge of the harvesting of sugarcane.

The second item related to Knowledge under Organizational Strategic Competence was “This organization has good knowledge of economic situations of cane supplying farmers.” In the study the mean score of opinions of managers about the statement was found to be 4.17 which were tending to 4th point on Likert scale and indicated that the opinions of the managers about the statement “This organization has good knowledge of economic situations of cane supplying farmers” were tending to agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also reflected that 83.33% respondents were agreed and 16.67% respondents were strongly agreed with the statement “This organization has good knowledge of economic situations of cane supplying farmers.” It may, therefore, be concluded the knowledge of sugar mills about economic situations of sugarcane supplying farmers were found to be slightly good for the sugar industry of Eastern Uttar Pradesh.

The third item related to Knowledge under Organizational Strategic Competence was “This organization has enhanced sugarcane crushing ability of employees.” In the investigation of the study it was found that the mean score of the responses of managers about the statement was 3.50 which were half more than 3rd point on Likert scale. It may, therefore, be concluded that the opinions of the managers about the statement “This organization has enhanced the sugarcane crushing ability of employees” were found to be moderately agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also reflected that 50% respondents were neutral and 50% respondents were agreed with the statement “This organization has enhanced the sugarcane crushing the ability of employees.” Hence, the inference could be trace that enhancement in the sugarcane crushing ability of employees was not impressive for the sugar industry of Eastern Uttar Pradesh.

The fourth item related to Knowledge under Organizational Strategic Competence was “This organization has enhanced employee’s ability for loading and unloading of sugarcane.” During the investigation of the study it was found that the mean score of the responses of managers about the statement was 3.67 which were tending to 4th point on Likert scale and indicated that the opinions of the managers about the statement “This organization has enhanced employee’s ability for loading and unloading of sugarcane” were tending to agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study reflected that 33.3% respondents were neutral 66.7% respondents were agreed with the statement “This organization has enhanced employee’s ability for loading and unloading of sugarcane.” Hence, the conclusion could be drawn that enhancement in employee’s ability for loading and unloading of sugarcane was not impressive for the sugar industry of Eastern Uttar Pradesh.

The fifth item related to Knowledge under Organizational Strategic Competence was “This organization has the ability to compete others.” In the investigation of the study the mean score of opinions of managers about the statement was found to be 4.33 which were tending to 4th point on Likert scale and indicated that the opinions of the managers about the statement “This organization has the ability to compete with others” were tending to agree for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also reflected that 66.7% respondents were agreed and 33.3% respondents were strongly agreed with the statement “This organization has the ability

to compete with others.” It may, therefore, be concluded that ability of sugar mills to compete with others was found to be slightly good for the sugar industry of Eastern Uttar Pradesh.

5.6.0 DEMOGRAPHY OF FARMERS

In this study the demography of sugarcane farmers of various districts of Eastern Uttar Pradesh were analyzed with the help of frequency test and bar chart. The detailed findings and discussions related to demography of sugarcane farmers have been below under different captions.

5.6.1 AGE OF FARMERS: During the study it was found that 21.33 % respondents were in the age of 21-30 years, 21% respondents were in the age of 31-40 years, 36.67% respondents were in the age group of 41-60 years and 21% respondents were above 60 years of age. The findings indicated that most of the farmers were mature enough and had the good knowledge and experience of agriculture especially cultivation of sugarcane. Hence they could understand the Supply Chain Management of the sugar industry.

5.6.2 SEX OF FARMERS: In this study 76% respondents were found to be male whereas only 24% respondents were females engaged in the farming of sugarcane. The findings reflected that most of the male members of the sugarcane farming families were engaged in the sugarcane farming. But during the filling of questionnaire it was noticed that village females did not want to interact and fill the questionnaire. It was also observed that male members of the rural family did not want their females to interact with the strangers. It can also be said the limitation of this study as the representation of female farmers was not up to the extent what it should have been.

5.6.3 MARITAL STATUS OF FARMERS: This study revealed that 79.00% respondents were married whereas 21.00% respondents were unmarried. The findings indicated that most of the farmers carrying overall family responsibility with sugarcane farming. It may, therefore, be said that most of the farmers were found to married and their responses about Supply Chain Management, Socio-economic

Condition of farmers of Eastern Uttar Pradesh were assumed to be mature, reliable and valid.

5.6.4 FAMILY CONCEPT OF FARMERS: During the study it was found that 64% farmers were living in the joint family concept whereas 36% respondents were living in nuclear family concept. Concept of joint family was a reality of Indian villages but the findings reflected that nuclear family concept was growing swiftly in the rural areas.

5.6.5 QUALIFICATION OF FARMERS: In the study it was found that 42.67% respondents were High school, 10.67% respondents were intermediate, 5.33% respondents were Graduate whereas 10.33% respondents were Post Graduate and 31% respondents were illiterate. Findings indicated that most of the farmers were either illiterate or educated up to the high school. The findings also revealed that more than half of the farmers were at least literate. Hence, their responses about Supply Chain Management and Socio-economic Condition were assumed to be reliable and valid.

5.6.6 FARMERS' INCOME: This study revealed that 94.67% respondent were found to have their annual income below Rs. 1,20,000 whereas only 5.33% respondents were found to have their annual income between Rs. 1,20,001-1,70,000. The findings indicated that annual income of the farmers was not satisfactory and one of the most important reasons for low annual income of the farmer was their land holding which was below one acre.

5.6.7 FARMERS' AREA FOR AGRICULTURE: In the study it was investigated that 42% respondents were found to have less than one acre land, 31.67% respondents were found to have 1-5 acres land and only 26.33% respondents were found to have 5-10 acres land for agriculture. The findings reflected that most of the farmers were found to have either less than one acre or 1-5 acres land for sugarcane cultivation it was one of most important reasons behind their low income.

5.6.8 NUMBER OF FAMILY MEMBERS EMPLOYED IN FARMING: In the study it was found that 10.33% respondents had 2 members, 26% respondents had 3 family members, 26.67% respondents had 4 family members, 10.67 had 5

family members, 5.33% respondents had 6 family members and 21% respondents had 7 family members that were employed in the sugarcane farming. The findings indicated that generally 3 to 4 members of most of the families were employed in the farming of sugarcane.

5.6.9 STATUS OF OWNERSHIP OF TRACTOR: During the study it was investigated that 22.33% farmers had their own Tractors whereas 77.67% respondents had no tractors for the farming of sugarcane. It may, therefore, be concluded that most of the farmers were not found to have their own tractors for the farming of sugarcane.

5.6.10 STATUS OF OWNERSHIP OF PMPING SET: In the study it was found that 14.33% respondents had their own pumping set for irrigation whereas 85.67% respondents had no pumping set for irrigation. The findings reflected that most of the farmers had no pumping set for irrigation and they were dependent on other pumping set owners for irrigation of sugarcane which led to untimely irrigation and low sugarcane production.

5.6.11 SUGARCANE WASTE TILL HARVESTING: Investigation of the study revealed that 6% respondents claimed less than 10% sugarcane wastage, 45.33% respondents claimed 10- 20% sugarcane wastage, 27.67% respondents claimed 21-30% sugarcane wastage, 17% claimed 31-40% sugarcane wastage and 4% respondents claimed 41-50% sugarcane wastage till harvesting. The findings of the study indicated that lump sum 15 % sugarcane found to be wasted till the harvesting which was a huge waste and was the resultants of ineffective and inefficient Supply Chain Management.

5.7.0 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO SCM FROM FARMERS' POINT OF VIEW

There were 6 items under 3 heads Flow of Material, Flow of Money and Flow of Information each having 2 items related to Supply Chain Management from farmers' point of view and data were analyzed with the help of descriptive statistics, frequency test and pie chart. The detailed findings and discussion related to SCM from farmers' point of view have been given below under captions Flow of Material, Flow of Money and Flow of Information.

5.7.1 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO FLOW OF MATERIAL: The first item related to Flow of Material was “During crushing time the flow of sugarcane remains smooth from your farm to sugar mill.” During the study mean score of farmers’ opinions about the statement was found to be 3.16 which was slightly more than 3rd point on Likert scale. The findings of the study reflected that farmers’ opinions about the statement “During crushing time the flow of sugarcane remains smooth from your farm to sugar mill” were tending to moderately agree for the sugar industry of Eastern Uttar Pradesh. Further in the findings it was also found that 5% respondents were strongly disagree, 31.7 respondents were disagree, 10.67% respondents were neutral, 47.33% respondents were agree and 5.33% respondents were strongly agree with the statement “During crushing time the flow of sugarcane remains smooth from your farm to the sugar mill.” It may, therefore, be said that more than half of the farmers were found to be either agreed or strongly agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

The second item related to Flow of Material was “There is no long waiting time for loading vehicle in your farm.” In the investigation of the study it was found that the mean score of the farmers’ opinions about the statement was 3.11 which was slightly more than 3rd point on Likert scale. The findings of the study indicated that the farmers’ opinions about the statement “There is no long waiting time for loading vehicle in your farm” were tending to moderately agree for the sugar industry. Further the investigation of the study threw the fact that 10.33% respondents were strongly disagree, 26.33% respondents were disagree, 26.33% respondents were neutral, 16.00% respondents were agree and 21.00% respondents were strongly agree with the statement “There is no long waiting time for loading vehicle in your farm.” It may, therefore, be concluded that the respondents’ opinions about the statement were found to be a mixed opinion for the sugar industry of Eastern Uttar Pradesh.

5.7.2 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO FLOW OF MONEY: The first item related to Flow of Money was “You get timely payment for your sugarcane.” During the study the mean score of opinions of farmers about the statement was found to be 2.11 which was tending to 2nd point on Likert scale and reflected that the farmers’ opinion about the statement were tending to disagree for the sugar industry. Further during the study it was also found that

31.33% respondents were strongly disagree, 37.00% respondents were disagree, 16.00% respondents were neutral, 10.33% respondents were agree and 5.33% respondents were strongly agree with the statement “You get timely payment for your sugarcane.” Hence, it may be said that the farmers believed that they were not getting timely payment for the sugarcane sold to sugar mills.

The second item related to Flow of Money was “You purchase timely inputs for sugarcane cultivation.” In the investigation of the study the mean score of opinions of farmers about the statement was found to be 3.22 which were tending to 3rd point on Likert scale and indicated that the farmers’ opinions about the statement “You purchase timely inputs for sugarcane cultivation” were tending to moderately agree for the sugar industry. Further in the investigation it was also found that 20.67% respondents were disagree, 42% respondents were neutral, 32% respondents were agree and 5.33% respondents were strongly agree with the statement “You purchase timely inputs for sugarcane cultivation.” It may, therefore, be said that most of the farmers were found to be either neutral or agree with the statement for the sugar industry of Eastern Uttar Pradesh.

5.7.3 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO FLOW OF INFORMATION: The first item related to Flow of Information was “You get right information from sugar mill regarding payment for your sugarcane.” During the study the mean score of opinions of farmers was found to be 3.22 which was slightly more than 3rd point on Likert scale and reflected that farmers’ opinions about the statement “You get right information from sugar mill regarding payment for your sugarcane” were tending to moderately agree for the sugar industry. Further in the investigation of the study it was also revealed that 10.67% respondents were strongly disagree, 25.67% respondents were disagree, 16% respondents were neutral, 26.33% respondents were agree and 21.33% respondents were strongly agree with the statement “You get right information from sugar mill regarding payment for your sugarcane.” The findings indicated that farmers’ opinions about the statement were mixed opinion for the sugar industry of Eastern Uttar Pradesh.

The second item related to Flow of Information was “You provide regular information to sugar mill regarding your yield.” In the study the mean score of the farmers’ opinions about the statement was found to be 3.47 which was slightly more than 3rd point on Likert scale. Thus, farmers’ opinions about the statement “You provide regular information to sugar mill regarding your yield” were found to be tended to moderately agree for the sugar industry. Further the investigation of the study provided that 16.00% respondents were strongly disagree, 5.33% respondents were disagree, 21.00% respondents were neutral, 31.33% respondents were agree and 26.33% respondents were strongly agree with the statement “You provide regular information to sugar mill regarding your yield.” It may, therefore be concluded that more than half of the farmers’ opinions about the statement were found to be either agreed or strongly agreed for the sugar industry of Eastern Uttar Pradesh.

5.8.0 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO SOCIO-ECONOMIC CODITION OF FARMERS

There were 10 items related to Socio-economic Condition from Farmers’ point of view under 7 heads Education, Health, Social Obligation, Social Recognition, Women Empowerment, Income and Employment in which education had 2 items, income had 3 items and other heads had single item. Data were analyzed with the help of descriptive statistics, frequency test and pie chart. The detailed findings and discussion related to Socio-economic Condition of farmers of Eastern Uttar Pradesh have been given below under different captions.

5.8.1 FINDINGS AND DISCUSSIONS OF ITEMS RELATED TO

EDUCATION: The first item related to Education was “I have more literate family members as compare to those who do not cultivate sugarcane.” In the investigation of the study the mean score of opinions of farmers about the statement was found to be 2.89 which was slightly less than 3rd point on Likert scale. It may, therefore, be said that the farmers’ opinions about the statement “I have more literate family members as compare to those who do not cultivate sugarcane” were found to be tended to moderately disagree for the sugar industry. Further in the findings it was also revealed that 37.00% respondents were disagree, 36.67% respondents were neutral and 26.33% respondents were agree with the statement “I have more literate family members as

compare to those who do not cultivate sugarcane.” It may, therefore be concluded that most of the farmers were found to be either disagreed or neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

The second item related to Education was “I am able to provide better education my children as compare to those who do not cultivate sugarcane.” In the data analysis the mean score of opinions of farmers about the statement was found to be 3.21 which was slightly more than 3rd point on Likert scale. The findings reflected that the farmers’ opinions about the statement “I am able to provide better education my children as compare to those who do not cultivate sugarcane” were tending to moderately agree for the sugar industry. Further the in the investigation of the study it was also found that 5.33% respondents were strongly disagree, 68.00% respondents were neutral, 21.33% respondents were agree and 5.33% respondents were strongly agree with the statement “I am able to provide better education for my children as compare to those who do not cultivate sugarcane.” Hence, most of the farmers were found to be either neutral or agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

5.8.2 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO

HEALTH: The item related to Health was “My family has more healthy members as compare to others.” In the study the mean score of opinions of farmers’ about the statement was found to be 3.11 which was slightly more than 3rd point on Likert scale and reflected that the farmers’ opinion about the statement “My family has more healthy members as compare to others” were tending to moderately agree for the sugar industry. Further in the investigation of the study it was also found that 10.33% respondents were disagree, 73.67% respondents were neutral, 10.67% respondents were agree and 5.33% respondents were strongly agree with the statement “My family has more healthy members as compare to others.” It may therefore, be said that most of the farmers were found to be neutral about the statement for the sugar industry of Eastern Uttar Pradesh.

5.8.3 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO

SOCIAL OBLIGATION: The item related to Social Obligation was “Our family celebrates our festivals in a good way as compare to those who do not cultivate

sugarcane.” During the study the mean score of opinions of farmers about the statement was found to be 3.58 which were tending to 4th point on Likert scale. It may, therefore be concluded that the farmers’ opinions about the statement “My family celebrate festivals in a good way as compare to those who do not cultivate sugarcane” were found to be agreed for the sugar industry. Further in the findings of the study it was also revealed that 5.33% respondents were strongly disagree, 10.67% of respondents were disagree, 31.33% respondents were neutral, 26.33% respondents were agree and 26.33% respondents were strongly agree with the statement “My family celebrate festivals in a good way as compared to those who do not cultivate sugarcane.” It may, therefore, be said that more than half of the farmers were found to be either agreed or strongly agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

5.8.4 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO SOCIAL RECOGNITION: The item related to Social Recognition was “Our family has more social recognition as compared to those who do not cultivate sugarcane.” The investigation of the study revealed that the mean score of opinions of farmers about the statement was 3.74 which were tending to 4th point on Likert scale. Thus, the farmers’ opinions about the statement “My family has more social recognition as compared to those who do not cultivate sugarcane” were found to be agreed for the sugar industry. Further the findings also proved that 10.67% respondents were disagree, 21.00% respondents were neutral, 52.33% respondents were agree and 16% respondents were strongly agree with the statement “My family has more social recognition as compared to those who do not cultivate sugarcane.” Hence, the conclusion could be drawn that more than half of the farmers were found to be agreed with the statement for the sugar industry of Eastern Uttar Pradesh.

5.8.5 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO WOMEN EMPOWERMENT: The item related to Women Empowerment was “My family has more female decision-makers as compare to those who do not cultivate sugarcane.” During the study the mean score of opinions of farmers about the statement was found to be 3 which were exactly equal to 3rd point on Likert scale. It may, therefore, be said that the farmers’ opinions about the statement “My family has more female decision-makers as compare to those who do not cultivate

sugarcane” were found to be neither agreed nor disagreed with the statement for the sugar industry. Further in the findings of the study it was also revealed that 31.67% respondents were disagree, 52.67% respondents were neutral and 15.67% respondents were strongly agree with the statement that “My family has more female decision-makers as compare to those who do not cultivate sugarcane.” Thus, most of the farmers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

5.8.6 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO INCOME: The first item related to Income was “I earn more income as compared to those who do not cultivate sugarcane.” In the investigation of the study it was found that the mean score of the opinions of farmers was 3.47 which was slightly more than 3rd point on Likert scale and indicated that the farmers’ opinions about the statement “I earn more income as compared to those who do not cultivate sugarcane” were tending to moderately agree for the sugar industry. Further in the findings of the study it was also found that 5.33% respondents were disagree, 58% respondents were neutral, 21% respondents were agree and 15.67% respondents were strongly agree with the statement “I earn more income as compare to those who do not cultivate sugarcane.” It may, therefore, be said that more than half of the farmers were found to be neutral with the statement for the sugar industry of Eastern Uttar Pradesh.

The second item related to Income was “I purchase more durable goods as compare to those who do not cultivate sugarcane.” During the study the mean score of the opinions of farmers about the statement was found to be 2.84 which was slightly less than 3rd point on Likert scale. It may, therefore, be concluded that the farmers’ opinions about the statement “I purchase more durable goods as compare to those who do not cultivate sugarcane” were found to be tended to moderately disagree for the sugar industry. Further in the findings of the study it was also revealed that 10.7% respondents were strongly disagree, 21.00% of respondents were disagree, 41.67% respondents were neutral and 26.67% respondents were agree with the statement “I purchase more durable goods as compared to those who do not cultivate sugarcane.” Conclusion could be drawn that most of the farmers were slightly disagreed the fact that they purchase more durable goods as compare to others who did not cultivate sugarcane

The third item related to Income was “Cultivation of sugarcane made me able to meet medical expenses of my family.” In the study it was found that the mean score of opinions of farmers was 3.22 which was slightly more than 3rd point on Likert scale. It may, therefore, be concluded that the farmers’ opinions about the statement “Cultivation of sugarcane made me able to meet medical expenses of my family” were found to be tended to moderately agree for the sugar industry. Further in the investigation of the study it was also found that 5.00% respondents were strongly disagree, 21.00% of respondents were disagree, 36.67% respondents were neutral, 21.33% respondents were agree and 16.00% respondents were strongly agree with the statement “Cultivation of sugarcane made me able to meet medical expenses of my family.” Hence, majority of the farmers were found to be either neutral or agreed with the statement for the sugar industry of Eastern Uttar Pradesh. Conclusion could also be trace that farmers were slightly agreed that cultivation of sugarcane made them able to meet their medical expenses.

5.8.7 FINDINGS AND DISCUSSIONS OF ITEM RELATED TO EMPLOYMENT: The item related to Employment was “Cultivation of sugarcane has increased the opportunities of employment in my area.” In the investigation of the study it was found that the mean score of opinions of farmers was 2.95 which was slightly less than 3rd point on Likert scale. It may, therefore, be said that the farmers’ opinions about the statement “Cultivation of sugarcane has increased the opportunities of employment in our area” were found to be tended to disagree for the sugar industry. Further in the findings of the study it was also revealed that 26.33% respondents were strongly disagree, 15.67% respondents were disagree, 5.33% respondents were neutral, 42.33% respondents were agree and 10.33% respondents were strongly agree with the statement “Cultivation of sugarcane has increased the opportunities for employment in my area.” Therefore, conclusion could be drawn that majority of the farmers were found to be either agreed or strongly agree with the statement for the sugar industry of Eastern Uttar Pradesh.

5.9.0 OBJECTIVE WISE FINDINGS AND DISCUSSIONS

There were 3 objectives of this study each having hypotheses. Further the hypothesis related to first objective was divided in 3 sub hypotheses i.e. total 4 (1 hypothesis + 3

sub hypothesis) hypotheses were to be tested under first objective. Similarly hypothesis related to second objective was dissolved into 2 sub hypotheses i.e. total 3 (1 hypothesis + 2 sub hypothesis) hypotheses were to be tested under second objective. And finally the hypothesis related to third objective was dissolve into 7 sub hypotheses i.e. total 8 (1 hypothesis + 7 sub hypothesis) hypotheses were to be tested under the third objective. Correlation and Regression technique were opted for hypotheses testing. A detailed findings and discussions have been given below under various captions.

5.9.1.0 FINDINGS AND DISCUSSIONS RELATED TO FIRST OBJECTIVE

The first objective of the study was ‘to study the impact of determinants of Supply Chain Management on the Performance of Sugar Industry of Eastern Uttar Pradesh.’ There were 3 determinants (Flow of Material, Flow of Money and Flow of Information) of Supply Chain Management and 4 determinants (Accounting Measure, Operational Measures, Market Based Measures and Survival Measure) of Organizational Performance have been included for the hypothesis testing. The determinant wise findings and discussions have been given below under various captions.

5.9.1.1 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SUPPLY CHAIN MANAGEMENT AND ACCOUNTING MEASURE UNDER ORGANIZATIONAL PERFORMANCE: In the investigation of the study the correlation coefficient between Supply Chain Management and Accounting Measure was found to be 0.974. It may, therefore be concluded that there was a high positive correlation between Supply Chain Management and Accounting Measures under Organizational Performance. Further the findings of the study also reflected that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Accounting Measures under Organizational Performance on Supply Chain Management was $Y (\text{AM under OP}) = - 0.764 + (1.116) (\text{SCM})$. It may, therefore be said that there was a significant impact of Supply Chain Management on Accounting Measures under Organizational Performance of sugar

industry and a unit increase in the parameters of Supply Chain Management would lead to 1.116 units increase in the Accounting Measures under the Organizational Performance provided other variables remained constant. The other point was also to be noted that the negative value of constant indicated that to get positive performance in Accounting Measures organisation would have to work hard on Supply Chain Management.

5.9.1.2 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SUPPLY CHAIN MANAGEMENT AND OPERATIONAL MEASURE UNDER ORGANIZATIONAL PERFORMANCE: During the investigation of the study it was found that the correlation coefficient between Supply Chain Management and Operational Measures was 0.948. It may, therefore, be concluded that there was a high positive correlation between Supply Chain Management and Operational Measures under the Organizational Performance parameter of sugar industry of Eastern Uttar Pradesh. Further the findings of the study also revealed that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Operational Measure under the Organizational Performance on Supply Chain Management was $Y \text{ (OM under OP)} = 0.696 + (0.864) \text{ (SCM)}$. It may, therefore, be said that there was a significant impact of Supply Chain Management on Operational Measures under Organizational Performance of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.864 units increase in the Operational Measures under Organizational Performance of the sugar industry provided other variables remained constant.

5.9.1.3 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SUPPLY CHAIN MANAGEMENT AND MARKET BASED MEASURE UNDER ORGANIZATIONAL PERFORMANCE: In the investigation of the study the Correlation coefficient between Supply Chain Management and Market based Measures was found to be 0.532. It may, therefore, be said that there was a moderate positive correlation between Supply Chain Management and Market based Measures under Organizational Performance parameter of sugar industry of Eastern Uttar Pradesh.

Further in the findings of the study it was also found that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Market based Measures under Organizational Performance on Supply Chain Management was $Y (\text{MBM under OP}) = 2.090 + (0.616) (\text{SCM})$. It may, therefore be said that there was a significant impact of Supply Chain Management on Market Based Measures under Organizational Performance of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.616 units increase in the Market Based Measures under Organizational Performance provided other variables remained constant.

5.9.1.4 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SUPPLY CHAIN MANAGEMENT AND SURVIVAL MEASURE UNDER ORGANIZATIONAL PERFORMANCE: During the investigation of the study the correlation coefficient between Supply Chain Management and Survival Measures was found to be 0.647. It may, therefore, be concluded that there was a moderate positive correlation between Supply Chain Management and Survival Measures under Organizational Performance parameter of sugar industry of Eastern Uttar Pradesh. Further in the findings of the study it was also revealed that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Survival Measure under the Organizational Performance on Supply Chain Management was $Y (\text{SM under OP}) = 1.625 + (0.729) (\text{SCM})$. It may, therefore be said that there was a significant impact of Supply Chain Management on Survival Measures under the Organizational Performance of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.729 units increase in the Survival Measures under the Organizational Performance provided other variables remained constant.

5.9.1.5 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SUPPLY CHAIN MANAGEMENT AND ORGANIZATIONAL PERFORMANCE: In the investigation of the study it was found that the correlation coefficient between Supply Chain Management and Organizational Performance was 0.931. It may, therefore be said that there was a high

positive correlation between Supply Chain Management and Organizational Performance for the sugar industry of Eastern Uttar Pradesh. Further the findings of the study also indicated that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Organizational Performance on Supply Chain Management was $Y (OP) = 0.912 + (0.831) (SCM)$. It may, therefore be said that there was a significant impact of supply chain management on Organizational Performance of the sugar industry of Eastern Uttar Pradesh and an unit increase in the parameters of Supply Chain Management would lead to 0.831 units increase in the Organizational Performance provided other variables remained constant.

5.9.2.0 FINDINGS AND DISCUSSIONS RELATED TO SECOND OBJECTIVE

The second objective of the study was “to study the impact of the determinants of supply chain management on the organizational strategic competence of the sugar industry of eastern Uttar Pradesh.” There were 3 determinants (Flow of Material, Flow of Money and Flow of Information) of Supply Chain Management and 2 determinants (Employees’ Skills and Employees’ Knowledge) of Organizational Strategic Competence have been included for the hypothesis testing. The determinant wise findings and discussions have been given below under various captions.

5.9.2.1 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SUPPLY CHAIN MANAGEMENT AND EMPLOYEES’ SKILLS UNDER ORGANIZATIONAL STRATEGIC COMPETENCE:

In the investigation of the study the correlation coefficient between Supply Chain Management and Employees’ Skills was found to be 0.926. It may, therefore be said that there was a high positive correlation between Supply Chain Management and Employees’ Skills under Organizational Strategic Competence. Further the findings of the study also reflected that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Employees’ Skills under Organizational Strategic Competence on Supply Chain Management was $Y (Employees’ Skills under OSC) = 2.386 + (0.412) (SCM)$. It may, therefore, be said that there was a significant impact

of Supply Chain Management on the Employees' Skills under Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.412 units increase in the Employees' Skills under Organizational Strategic Competence provided other variables remained constant.

5.9.2.2 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SUPPLY CHAIN MANAGEMENT AND EMPLOYEES' KNOWLEDGE UNDER ORGANIZATIONAL STRATEGIC COMPETENCE: During the study it was found that the correlation coefficient between Supply Chain Management and Employees' Knowledge was 0.926. It may therefore be said that there was a high positive correlation between Supply Chain Management and Employees' Knowledge under Organizational Strategic Competence for the sugar industry of Eastern Uttar Pradesh. Further in the findings of the study it was also revealed that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Employees' Knowledge under Organizational Strategic Competence on Supply Chain Management was Y (Employees' Knowledge under OSC) = 2.709 + (0.329) (SCM). It may, therefore, be said that there was a significant impact of Supply Chain Management on the employees' Knowledge under Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.329 units increase in the employees' Knowledge under Organizational Strategic Competence provided other variables remained constant.

5.9.2.3 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SUPPLY CHAIN MANAGEMENT AND ORGANIZATIONAL STRATEGIC COMPETENCE: During the investigation of the study the correlation coefficient between Supply Chain Management and Organizational Strategic Competence was found to be 0.926. It may, therefore be said that there was a high positive correlation between Supply Chain Management and Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh. Further the findings of the study also indicated that the Sig. Value (p)

was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Organizational Strategic Competence on Supply Chain Management was $Y (\text{OSC}) = 2.547 + (0.371) (\text{SCM})$. It may, therefore, be concluded that there was a significant impact of Supply Chain Management on Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.371 units increase in the Organizational Strategic Competence provided other variables remained constant.

5.9.3.0 FINDINGS AND DISCUSSIONS RELATED TO THIRD OBJECTIVE

The third objective of the study was “to study the impact of the determinants of Supply Chain Management of Sugar Industry on the Socio-economic Condition of the farmers of Eastern Uttar Pradesh.” There were 3 determinants (Flow of Material, Flow of Money and Flow of Information) of Supply Chain Management and 7 determinants (Education, Health, Social Obligation, Social Recognition, Women Empowerment, Income, Employment) of Socio-economic Condition have been included for the hypothesis testing. The determinant wise findings and discussions have been given below under various captions.

5.9.3.1 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SCM AND EDUCATION UNDER SOCIO-ECONOMIC CONDITION:

In the investigation of the study the correlation coefficient between Supply Chain Management and Education under Socio-economic Condition was found to be 0.571. It may, therefore, be concluded that Supply Chain Management of sugar industry was found to have moderate positive correlation with Education under Socio-economic Condition of the farmers of Eastern Uttar Pradesh. Further in the findings of the study it was also found that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Education under Socio-economic Condition on Supply Chain Management was $Y (\text{Education under SEC}) = 1.522 + (0.502) (\text{SCM})$. It may, therefore be concluded that there was a significant impact of Supply Chain Management of sugar industry on Education under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply

Chain Management would lead to 0.502 units increase in the Education under Socio-economic Condition of farmers provided other variables remained constant.

5.9.3.2 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SCM AND HEALTH UNDER SOCIO-ECONOMIC CONDITION: During the investigation of the study the correlation coefficient between Supply Chain Management and Farmers' Health was found to be 0.123. It may, therefore, be concluded that Supply Chain Management of sugar industry was found to have very low positive correlation with Health under Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further in the findings of the study it was found that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Farmers' Health under Socio-economic Condition on Supply Chain Management was Y (Health under SEC) = 2.786 + (0.106) (SCM). It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Health under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.106 units increase in the Farmers' Health under Socio-economic Condition provided other variables remained constant.

5.9.3.3 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SCM AND SOCIAL OBLIGATION UNDER SOCIO-ECONOMIC CONDITION: During the study the correlation coefficient between Supply Chain Management and Social Obligation was found to be 0.408. It may, therefore, be said that Supply Chain Management of sugar industry was found to have moderate positive correlation with Social Obligation under Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further in the investigation of the study it was also found that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Social Obligation under Socio-economic Condition on Supply Chain Management was Y (Social Obligation under SEC) = 1.655 + (0.631) (SCM). It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Social Obligation under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would

lead to 0.631 units increase in the Farmers' Social Obligation under Socio-economic Condition provided other variables remained constant.

5.9.3.4 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SCM AND SOCIAL RECOGNITION UNDER SOCIO-ECONOMIC CONDITION: During the investigation of the study it was found that the correlation coefficient between Supply Chain Management and Social Recognition was 0.353. It may, therefore, be concluded that Supply Chain Management of sugar industry was found to have low positive correlation with Social Recognition under Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further in the findings of the study it was also found that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Social Recognition under Socio-economic Condition on Supply Chain Management was $Y (\text{Social Recognition under SEC}) = 2.439 + (0.408) (\text{SCM})$. It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Social Recognition under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.408 units increase in the Farmers' Social Recognition under Socio-economic Condition provided other variables remained constant.

5.9.3.5 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SCM AND WOMEN EMPOWERMENT UNDER SOCIO-ECONOMIC CONDITION: In the investigation of the study the correlation coefficient between Supply Chain Management and Women Empowerment was found to be -0.009. It may, therefore, be said that Supply Chain Management of sugar industry was found to have very low negative correlation with Women Empowerment under Socio-economic Condition of farmers of Eastern Uttar Pradesh. From Table 4.94 (c) it was evident that the value of R^2 was 0.010 which means it explained only 1.0 % of the variance and indicated that the model was not good enough to be selected. Further from Table 4.94 (d) Sig. Value p was 0.087 which was not significant as it was greater than 0.05. It may, therefore, be concluded that there was no significant impact of Supply Chain Management of sugar industry

on Women Empowerment under Socio-economic Condition of farmers of Eastern Uttar Pradesh.

5.9.3.6 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SCM AND FARMERS' INCOME UNDER SOCIO-ECONOMIC CONDITION: During the investigation of the study it was found that the correlation coefficient between Supply Chain Management and Farmers' Income was 0.588. It may, therefore be concluded that there was a moderate positive correlation between Supply Chain Management of sugar industry and Income under Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further in the findings of the study it was also reflected that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Income under Socio-economic Condition on Supply Chain Management was Y (Farmers' Income under SEC) = 1.661 + (0.498) (SCM). It may, therefore be said that there was a significant impact of Supply Chain Management of sugar industry on Income under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.498 units increase in the Farmers' Income under Socio-economic Condition provided other variables remained constant.

5.9.3.7 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SCM AND FARMERS' EMPOWERMENT UNDER SOCIO-ECONOMIC CONDITION: In the study it was found that the correlation coefficient between Supply Chain Management and Farmers' Employment was 0.339. It may, therefore, be concluded that there was a low positive correlation between Supply Chain Management of sugar industry and Employment under the Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further in the findings of the study it was also revealed that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Farmer' Employment under Socio-economic Condition on Supply Chain Management was Y (Farmers' Employment under SEC) = 0.947 + (0.656) (SCM). It may, therefore be concluded that there was a significant impact of Supply Chain Management of sugar industry on Employment under Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply

Chain Management would lead to 0.656 units increase in the Farmers' Employment under Socio-economic Condition provided other variables remained constant.

5.9.3.8 FINDINGS AND DISCUSSIONS RELATED TO DETERMINANTS OF SCM AND SOCIO-ECONOMIC CONDITION:

In the study it was found that the correlation coefficient between Supply Chain Management of sugar industry and Socio-economic Condition of farmers was 0.674. It may, therefore, be concluded that there was a high positive correlation between Supply Chain Management of sugar industry and Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further in the findings of the study it was also revealed that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Socio-economic Condition on Supply Chain Management was $Y (SEC) = 1.930 + (0.417) (SCM)$. It may, therefore be concluded that there was a significant impact of Supply Chain Management of sugar industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the parameters of Supply Chain Management would lead to 0.656 units increase in the Socio-economic Condition of farmers provided other variables remained constant.

CHAPTER VI

CONCLUSION AND IMPLICATION OF THE STUDY

6.1.0 CONCLUSION

This study was related to Supply Chain Management in Agriculture. The basic focus of the study was to study the impact of Supply Chain Management on Organizational Performance, Organizational Strategic Competence of agriculture based industrial organizations and Socio-economic Condition of farmers of the area in which the organizations were being operated their business. To serve the purpose sugar industry of Eastern Uttar Pradesh was chosen for the study. For the study 3 objectives were constituted covering Supply Chain Management, Organizational Performance, Organizational Strategic Competence and Socio-economic Condition. Tool and sampling for the data collection were Questionnaire and judgmental sampling respectively. Data were analyzed with the help of Descriptive Statistics, Correlation and Regression using software SPSS. The conclusive findings and discussions have been given in upcoming paragraphs.

In the investigation of demography of Managers of sugar industry of Eastern Uttar Pradesh during the study following facts came out which have been concluded under this paragraph. All the levels of managers i.e. lower level, middle level and top level managers were included in the study but half of the managers were from middle level management. The managers were well experienced and mature enough to put reliable and valid opinion related to Supply Chain Management, Organizational Performance and Organizational Strategic Competence of sugar industry. One astonishing fact about the management of sugar industry of Eastern Uttar Pradesh was that all the responding managers were found to be males which reflected that there were either no female managers or their representation was negligible in the industry. All the managers were found to be married and living in the joint family concept which indicated that they were carrying both the family and the professional and responsibilities that helped to get experienced and mature response with respect to Chain Management, Organizational Performance and Organizational Strategic

Competence of sugar industry. During the study it was found that most of the responding managers were well qualified which led to reliable and valid responses from them. In the investigation of the study it was also found that half of the managers were getting their salary above Rs. 65000 per month. Another fact that came out in the study was that around 10% sugarcane was found to be wasted during the processing in the sugar mills.

In the investigation of the study regarding Supply Chain Management from Managers' point of view following facts were revealed which have been concluded under this paragraph. The Managers' opinions about most of the items related to the determinants of Supply Chain Management were found to be tended to 4th point on Likert scale i.e. most of the managers were only agree but not strongly agree that their organization had good and efficient Supply Chain Management. Thus, in sugar industry of Eastern Uttar Pradesh Supply Chain Management as per the Managers' point of view was slightly good but it was not very impressive. In nut sell it could be concluded that the sugar industry of Eastern Uttar Pradesh was suffering from a well-knit supply chain and its negative impacts were reflected on Organizational Performance and Organizational Strategic Competence of the sugar industry as well as on Socio- economic Condition of the farmers cultivating the sugarcane for the sugar industry.

In the investigation of the Organizational Performance from Managers point of view during the study following facts were come out which have been concluded under this paragraph. The Managers' opinions about most of the items related to the determinants of Organizational Performance were found to be tended to 4th point on Likert scale which indicated that most of the managers of sugar industry were only agree but not strongly agree with high Organizational Performance. Hence, the conclusion could be fetched that the performance of the sugar industry of Eastern Uttar Pradesh was not at par the expectations and it was the reflection of negative impact of not having the effective and efficient Supply Chain Management of the sugar industry.

During the investigation of the study regarding Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh from Managers' point of view following facts were revealed which have been concluded under this paragraph. The opinions of

most of the managers about most of the items related to the determinants of Organizational Strategic Competence were found to be tended to 4th point on Likert scale which shown that most of the managers of sugar industry were only agree but they were not strongly agree with the fact the their organizations had excellent Organizational Strategic Competence. Thus the conclusion could be drawn that the Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh was not excellent and it was the reflection of negative impact of not having the effective and efficient Supply Chain Management of the sugar industry. In nut sell the Organizational strategic Competence of sugar industry was not most compatible.

In the investigation of demography of the Farmers during the study following results and facts reflected which have been concluded under this paragraph. Most of the farmers were mature enough and had the good knowledge of agriculture and sugarcane farming. In the study most of the sugarcane cultivators were found to be males and the involvements of females were only around one fourth of males in the farming of sugarcane. One of the most important facts regarding the female farmers was also come out that they hesitated to interact with the investigators and most of the males did not wanted their female to interact with strangers. Most of the farmers were found to be married and nuclear family concept was growing in villages. The education level of farmers was low and it was found that most of the farmers were either illiterate or educated up to the high school. The economic condition of the most of the farmers was not satisfactory due to low annual income and land holding below one acre for sugarcane farming. Generally 3-4 members of most of the families were found to be engaged in the farming of sugarcane and most of the farmers did not have their own tractors and pumping set which were obstacles for effective and efficient farming of sugarcane. In the investigation of the study it was also found that around 10-20 % sugarcane was found to be wasted till harvesting in the fields of the farmers of Eastern Uttar Pradesh which was a major loss of sugarcane not only for farmers but also for the sugar industry and whole nation.

The study of Supply Chain Management from Farmers' point of view revealed following facts which have been concluded under this paragraph. The farmers' opinions about most of the items related to the determinants of Supply Chain Management were found to be either neutral or moderately agree. Thus Supply Chain Management of sugar industry of Eastern Uttar Pradesh as per the Farmers' point of

view was not very impressive and its negative impacts reflected on the Socio-economic Condition of the farmers who cultivated the sugarcane for the sugar industry.

In the investigation of Socio-economic Condition of farmers of Eastern Uttar following facts were come out which have been concluded under this paragraph. The farmers' opinions about most of the items related to the determinants of Socio-economic Condition were found to be tended to moderately agree. Hence the Socio-economic Condition of the sugarcane farmers of Eastern Uttar Pradesh was not satisfactory. It was the reflection of negative impact of ineffective and inefficient Supply chain Management of sugar industry of Eastern Uttar Pradesh.

First Objective of the study was “to study the impact of determinants of Supply Chain Management on the Organizational Performance of sugar industry of Eastern Uttar Pradesh.” Thus the data were analyzed with the help of correlation and regression and the findings have been concluded in this paragraph. In the investigation of the study it was found that the correlation coefficient between Supply Chain Management and Organizational Performance was 0.931. It may, therefore be said that there was a high positive correlation between Supply Chain Management and Organizational Performance for the sugar industry of Eastern Uttar Pradesh. Further in the findings of the study it was also found that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Organizational Performance on Supply Chain Management was $Y (OP) = 0.912 + (0.831) (SCM)$. It may, therefore be said that there was a significant impact of determinants of supply chain management on Organizational Performance of the sugar industry of Eastern Uttar Pradesh and a unit increase in the determinants of Supply Chain Management would lead to 0.677 units increase in the Organizational Performance provided other variables are constant.

The second objective of the study was “to study the impact of determinants of Supply Chain Management on Organizational Strategic Competence of sugarcane industry of Eastern Uttar Pradesh.” Thus the data were analyzed with the help of correlation and regression and the findings have been concluded in this paragraph. During the investigation of the study the correlation coefficient between Supply Chain Management and Organizational Strategic Competence was found to be 0.926. It may,

therefore be said that there was a high positive correlation between Supply Chain Management and Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh. Further in the findings of the study it was also revealed that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Organizational Strategic Competence on Supply Chain Management was $Y (OSC) = 2.547 + (0.371) (SCM)$. It may, therefore, be concluded that there was a significant impact of determinants of Supply Chain Management on Organizational Strategic Competence of sugar industry of Eastern Uttar Pradesh and a unit increase in the determinants of Supply Chain Management would lead to 0.371 units increase in the Organizational Strategic Competence provided other variables remained constant.

The third objective of the study was “to study the impact of the determinants of Supply Chain Management on Socio-economic Condition of the farmers of Eastern Uttar Pradesh.” Thus the data were analyzed with the help of correlation and regression and the findings have been concluded in this paragraph. In the investigation of the study it was found that the correlation coefficient between Supply Chain Management of sugar industry and Socio-economic Condition of farmers was 0.674. It may, therefore, be concluded that there was a high positive correlation between Supply Chain Management of sugar industry and Socio-economic Condition of farmers of Eastern Uttar Pradesh. Further in the findings of the study it was also found that the Sig. Value (p) was 0.000 which was significant at 0.05 significance level as it was less than 0.05 and the regression equation of Socio-economic Condition on Supply Chain Management was $Y (SEC) = 1.930 + (0.417) (SCM)$. It may, therefore be concluded that there was a significant impact of determinants of Supply Chain Management of sugar industry on Socio-economic Condition of farmers of Eastern Uttar Pradesh and a unit increase in the determinants of Supply Chain Management would lead to 0.656 units increase in the Socio-economic Condition of farmers provided other variables remained constant.

6.2.0 IMPLICATION OF THE STUDY

The problems and prospects of “Supply Chain Management in Agriculture: A Case Study of Eastern U.P. With Special Reference to Sugar Industry” are basically related to the implementation of Supply Chain Management in the arena of agriculture

and agriculture based industry and to study the impact of SCM on Organizational Performance, Organizational Strategic Competence and Socio-economic Condition of farmers. Sugar industry of Eastern Uttar Pradesh was included in this study. The implications of the study are most important for sugar industry, society and Government which have been discussed below under various captions.

6.2.1 IMPLICATION TO SUGAR INDUSTRY: During the investigation of study it was found that sugar industry was facing the issue of well-knit supply chain and ineffective and inefficient Supply Chain Management whose negative impacts were reflected on Organizational Performance, Organizational Strategic Competence and Socio-economic condition of farmers. The study describes that if sugar industries develop a well-knit supply chain then, it will definitely improve the performance and strategic competence of sugar industries

6.2.2 IMPLICATION TO SOCIETY: The investigation of the study reflected that the Supply Chain Management has a significant impact on Socio-economic Condition of farmers. In the study it was also found that around 15-20% sugarcane was wasted till harvesting in the field of farmers and almost 5-10% sugarcane was wasted during the processing in the sugar mills. It means around 30% sugarcane is wasted without giving any economic value and this loss is a huge loss for the farmers, sugar industry and ultimately for the whole society. Application of Supply Chain Management and developing a well-knit supply chain in the field of agriculture and agriculture based industry will definitely help in minimizing this huge loss of sugarcane and maximizing the profits for sugar industry and farmers. In the process it will also help the farmers to get more income and employment opportunities in their own areas and ultimately it will help the whole society in form of assistance to the economy especially rural economy.

6.2.3 IMPLICATION TO THE GOVERNMENT: The implication of the study to the government is very important as from last few decades a number of cases of suicides committed by farmers due to debts have been observed despite of utmost effort Government to help the farmers. Since last few years the Indian National Congress, a leading political party of India, has continuously been raising the issues of farmers declaring in his manifesto to waive off the debts of the farmers. And present ruling part, BJP, has also contended to double the farmers' income to help

them. In nut sell the issues of farmers' income and employment is a national issue of India which must have to be addressed. Application of Supply Chain Management and developing a well-knit supply chain in the arena of agriculture and agriculture based industry will definitely help Government to address this national issue.

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APPENDIX-I

QUESTIONNAIRE

On

“Supply Chain Management from Managers’ point of view, Organizational Performance and Organizational Strategic Competence”

Dear Sir/Madam,

I, Asim Kumar Rajbhar, am pursuing my Ph.D. from Babasaheb Bhimrao Ambedkar University (A Central University) in the Department of Rural Management of the university on the topic “Supply Chain Management in Agriculture: A case Study of Eastern U.P. With Special Reference to Sugar Industry” under the supervision of Prof. Kushendra Mishra. The intend of the study is to measure and know that impact of the determinants of Supply Chain Management on the Organizational Performance and Organizational Strategic Competence of sugar industry and the Socio-economic Condition of the farmers of Eastern Uttar Pradesh.

I will be grateful to you for sparing and devoting your valuable time to reply this questionnaire. Please be assured that the information provided by you in this questionnaire will be kept confidential and will not be used for any other purpose than my research work.

Regards,

Asim Rajbhar

Email:

Mob:

SECTION: 1

(QUESTIONS RELATED TO MANAGERS' DEMOGRAPHY)

Please tick (✓) at appropriate option in your response.

1.1 Designation.

- (a) Supervisor (b) Manager (c) Senior Manager

1.2 Age.

- (a) 21 to 30 Years (b) 31 to 40 Years (c) 41 to 60 Years

- (d) Above 60 years

1.3 Gender.

- (a) Male (b) Female

1.4 Marital status.

- (a) Married (b) Unmarried (c) Divorced

1.5 Family Type.

- (a) Nuclear (b) Joint

1.6 Qualification.

- (a) High school (b) Intermediate (c) Graduation (d)
Post Graduation

1.7 Monthly salary (Rs).

- (a) Below 25,000 (b) 25,001-35,000 (c) 35,001-45,000

- (d) 45,001-55,000 (e) 55,001-65,000 (f) Above 65,000

1.8 Percentage of sugarcane waste during the processing in the sugar mills.

- (a) Below 10% (b) 10-20 % (c) 21-30 % (d) 31-40%

- (e) 41-50 % (f) above 50%

SECTION: 2

Kindly rate your opinion ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) with 3 (Neutral).

Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)

S.N.	Statement for Sugar Mill Managers for Independent Variable (Supply Chain Management)	SD	D	N	A	SA
2.1	This organization has efficient flow of sugarcane from farmers to the sugar mill.	1	2	3	4	5
2.2	This organization has efficient flow of work in progress between various production sub-systems.	1	2	3	4	5
2.3	This organization has efficient flow of finished goods (sugar) from mill to ultimate user.	1	2	3	4	5
2.4	This organization maintains inventory that meets demand and minimizes cost.	1	2	3	4	5
2.5	This organization has Flexibility to meet unforeseen requirements of demand and supply.	1	2	3	4	5
2.6	This organization has efficient flow of cash from end user to sugar mill.	1	2	3	4	5
2.7	This organization has efficient flow of cash from sugar mill to farmers.	1	2	3	4	5
2.8	This organization has efficient forward flow of information.	1	2	3	4	5
2.9	In this organization Supply Chain related information is available as and when required.	1	2	3	4	5
2.10	This organization has efficient backward flow of information.	1	2	3	4	5
2.11	The Supply Chain activities are well coordinated and integrated in this organization.	1	2	3	4	5

SECTION: 3

Kindly rate your opinion ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) with 3 (Neutral).

Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)

S.N.	Statement for Sugar Mill Managers for Dependent Variable (Organizational Performance)	SD	D	N	A	SA
3.1	This organization has good Return on Assets.	1	2	3	4	5
3.2	This organization has good Return on Equity.	1	2	3	4	5
3.3	This organization has profit margin on Sales.	1	2	3	4	5
3.4	This organization has good Return on Investment.	1	2	3	4	5
3.5	This organization is earning good Net Income in comparison to industry standard.	1	2	3	4	5

3.6	Sales of this organization have increased over years.	1	2	3	4	5
3.7	Number of employees of this organization has increased over years.	1	2	3	4	5
3.8	Debt on equity of organization has decreased over years.	1	2	3	4	5
3.9	Debt on Total Assets of organization has decreased over years.	1	2	3	4	5
3.10	This organization has adequate cash at hand for its operating cycle.	1	2	3	4	5
3.11	This organization has few short term loans.	1	2	3	4	5
3.12	This organization has adequate cash flow.	1	2	3	4	5
3.13	This organization has minimized crushing time of sugarcane.	1	2	3	4	5
3.14	This organization has reduced production cycle of sugar.	1	2	3	4	5
3.15	This organization has increased production of sugar.	1	2	3	4	5
3.16	This organization makes timely payment to farmers.	1	2	3	4	5
3.17	This organization has reduced cost of production of sugar.	1	2	3	4	5
3.18	This organization has smooth flow of sugarcane during crushing time.	1	2	3	4	5
3.19	This organization has good relationship with farmers.	1	2	3	4	5
3.20	This organization gives dividend every year to its shareholders.	1	2	3	4	5
3.21	This organization will survive long time in future.	1	2	3	4	5
	Statement for Sugar Mill Managers for Dependent Variable (Organizational Strategic Competence)	SD	D	N	A	SA
3.22	Loading and unloading skills of sugarcane of employees of this organization has improved.	1	2	3	4	5
3.23	Sugarcane crashing skills of employees of this organization has improved.	1	2	3	4	5
3.24	Skills of managers of this organization have improved over last few years.	1	2	3	4	5
3.25	Sugarcane harvesting skills of farmers concerning to this organization has improved.	1	2	3	4	5
3.26	This organization has sound knowledge of cane harvesting and supply.	1	2	3	4	5
3.27	This organization has good knowledge of economic situations of cane supplying farmers.	1	2	3	4	5
3.28	This organization has enhanced sugarcane crushing ability of employees.	1	2	3	4	5
3.29	This organization has enhanced employee's ability for loading and unloading of sugarcane.	1	2	3	4	5
3.30	This organization has ability to compete others.	1	2	3	4	5

Other Remark.....

Date:

Mob:

Place:

Signature

APPENDIX-II (द्वितीय परिशिष्ट)

QUESTIONNAIRE

On

“Supply Chain Management form farmers point of view and Socio-economic Condition of farmers”

Dear Sir/Madam,

I, Asim Kumar Rajbhar, am pursuing my Ph.D. from Babasaheb Bhimrao Ambedkar University (A Central University) in the Department of Rural Management of the university on the topic “Supply Chain Management in Agriculture: A case Study of Eastern U.P. With Special Reference to Sugar Industry” under the supervision of Prof. Kushendra Mishra. The intend of the study is to measure and know that impact of the determinants of Supply Chain Management on the Organizational Performance and Organizational Strategic Competence of sugar industry and the Socio-economic Condition of the farmers of Eastern Uttar Pradesh.

I will be grateful to you for sparing and devoting your valuable time to reply this questionnaire. Please be assured that the information provided by you in this questionnaire will be kept confidential and will not be used for any other purpose than my research work.

Regards,

Asim Kumar Rajbhar

Email:

Mob:

गन्ने की आपूर्ति श्रृंखला प्रबन्धन व सामाजिक-आर्थिक स्थिति पर

प्रश्नावली

प्रिय महोदय / महोदया,

मैं, असीम कुमार राजभर, विषय (सप्लाय चैन मैनेजमेण्ट इन एग्रीकल्चर: ए केस स्टडी ऑफ ईस्टर्न उत्तर प्रदेश विथ स्पेशल रेफरेन्स टू सुगर इन्डस्ट्री) पर ग्रामीण प्रबन्धन विभाग, बाबा साहेब भीमराव अम्बेडकर विश्वविद्यालय, लखनऊ में प्रो० कुशेन्द्र मिश्रा के पर्यवेक्षण में शोध कार्य कर रहा हूँ। इस शोध का उद्देश्य

आपूर्ति श्रृंखला प्रबन्धन के निर्धारकों की नापना और निर्धारकों का चीनी उद्योग के संगठनात्मक प्रदर्शन, संगठनात्मक रणनीतिक क्षमता और पूर्वी उत्तर प्रदेश के किसानों की सामाजिक-आर्थिक परिस्थितियों पर प्रभाव को जानना है।

मैं इस प्रश्नावली का जवाब देने के लिए आपके मूल्यवान समय के लिए आभारी रहूंगा। कृपया आश्वस्त रहें कि इस प्रश्नावली में आपके द्वारा प्रदान की गयी जानकारी को गोपनीय रखा जायेगा और मेरे शोध कार्य के अलावा किसी अन्य उद्देश्य के लिए उपयोग नहीं किया जायेगा।

सादर

असिम कुमार राजभर

ई-मेल:

मोबाईल:

SECTION (सेक्शन): 1

(QUESTIONS RELATED TO FARMERS' DEMOGRAPHY)

(किसानों के डेमोग्राफी से संबंधित प्रश्न)

Please tick (√) at appropriate option in your response. (कृपया अपने उत्तर में उचित विकल्प पर सही (√) का निशान लगाएं।)

1.1 Age. (आयु)

- (a) 21 to 30 Years (वर्ष) (b) 31 to 40 Years (वर्ष) (c) 41 to 60 Years (वर्ष)

(d) Above 60 years. (60 वर्ष से अधिक)

1.2 Gender. (लिंग)

- (a) Male (पुरुष) (b) Female (महिला)

1.3 Marital status. (वैवाहिक स्थिति)

- (a) Married (विवाहित) (b) Unmarried (अविवाहित)

1.4 Family Type. (परिवार का प्रकार)

- (a) Nuclear (एकल) (b) Joint (संयुक्त)

1.5 Qualification. (योग्यता)

- (a) High school (हाईस्कूल) (b) Intermediate (इण्टरमीडिएट)
(c) Graduation (स्नातक) (d) Post Graduation (स्नातकोत्तर) (e) Illiterate (निरक्षर)

1.6 Monthly Income (in Rs). (मासिक आय "रूपये में")

- (a) Below 25,000 (25,000 से नीचे) (b) 25,001-35,000 (c) 35,001-45,000
(d) 45,001-55,000 (e) 55,001-65,000 (f) Above 65,000 (65000 से ऊपर)

1.7 Area for Agriculture. (कृषि के लिए भूमि)

- (a) Below 1 acre (01 एकड़ से कम) (b) 1 acre to 5 acres (01 एकड़ से 05 एकड़)
(c) 5 acres to 10 acres (05 एकड़ से 10 एकड़) (d) Above 10 acres (10 एकड़ से ऊपर)

1.8 Total no of family members employed in the farming. (खेती में नियोजित परिवार के सदस्यों की कुल संख्या)

.....

1.9 I have my own tractor for farming. (मेरे पास खेती के लिए मेरा खुद का ट्रैक्टर है)

- (a) Yes (हाँ) (b) No (नहीं)

1.10 I have my own tubal for water supply. (मेरे पास पानी की आपूर्ति के लिए मेरा खुद का ट्यूबेल है)

- (a) Yes (हाँ) (b) No (नहीं)

1.11 Percentage of sugarcane waste till harvesting in your farm. (आप के खेत कटाई होने तक कितने प्रतिशत गन्ने का नुकसान हो जाता है)

- (a) Below 10% (10 प्रतिशत) (b) 10-20 % (10-20 प्रतिशत)
(c) 21-30 % (20-30 प्रतिशत) (d) 31-40% (31-40 प्रतिशत)
(e) 41-50 % (41-50 प्रतिशत) (f) Above 50% (50 प्रतिशत से अधिक)

SECTION: 2

Kindly rate your opinion ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) with 3

(Neutral).

Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)

कृपया 3 (तटस्थ) के साथ 1 (दृढ़ता से असहमत) से 5 (दृढ़ता से सहमत) से लेकर अपनी राय को रेट करें।

दृढ़ता से असहमत (1) असहमत (2) तटस्थ (3)सहमत (4) दृढ़ता से सहमत (5)

S.N.	Statement for Farmers related to Independent Variable (Supply Chain Management) (स्वतंत्र चर— आपूर्ति श्रृंखला प्रबन्धन से संबन्धित किसानों के लिए वक्तव्य)	SD	D	N	A	SA
2.1	During crushing time the flow of sugarcane remains smooth from my farm to sugar mill. (कुचल समय के दौरान गन्ने का प्रवाह मेरे खेत से चीनी मिल तक आसानी से उपलब्ध रहता है।)	1	2	3	4	5
2.2	There is no long waiting time for loading vehicle in my farm. (मेरे खेत में गन्ना लादने वाले वाहन का लम्बा इन्तजार नहीं करना पड़ता है।)	1	2	3	4	5
2.3	I get timely payment for your sugarcane. (मैं अपने गन्ने के लिए समय पर भुगतान पाता हूँ।)	1	2	3	4	5
2.4	I purchase timely inputs for sugarcane cultivation. (मैं गन्ने की खेती के लिए समय पर बीज आदि खरीदता हूँ।)	1	2	3	4	5
2.5	I get right information from sugar mill regarding payment for my sugarcane. (मैं अपने गन्ने के भुगतान के सम्बन्ध में चीनी मिल से सही जानकारी पाता हूँ।)	1	2	3	4	5
2.6	I provide regular information to sugar mill regarding my yield. (मैं अपनी उपज के सम्बन्ध में चीनी मिल को नियमित जानकारी प्रदान करता हूँ।)	1	2	3	4	5

SECTION: 3

Kindly rate your opinion ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) with 3

(Neutral).

Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5)

कृपया 3 (तटस्थ) के साथ 1 (दृढ़ता से असहमत) से 5 (दृढ़ता से सहमत) से लेकर अपनी राय को रेट करें।

दृढ़ता से असहमत (1) असहमत (2) तटस्थ (3)सहमत (4) दृढ़ता से सहमत (5)

S.N.	Statement for Farmers related to Dependent Variable (Socio-economic Conditions) (सामाजिक-आर्थिक स्थितियों के सम्बन्ध में किसानों के लिए वक्तव्य)	SD	D	N	A	SA
3.1	I have more literate family members as compare to those who do not cultivate sugarcane. (मेरे परिवार में उन परिवारों की अपेक्षा अधिक साक्षर सदस्य हैं जो गन्ने की खेती नहीं करते हैं।)	1	2	3	4	5
3.2	I am able to provide better education my children as compare to those who do not cultivate sugarcane. (मैं उन लोगो की तुलना में अपने बच्चों को बेहतर शिक्षा प्रदान करने में सक्षम हूँ जो गन्ना की खेती नहीं करते हैं।)	1	2	3	4	5
3.3	My family has more healthy members as compare to others. (दूसरों के मुकाबले मेरे परिवार में अधिक स्वस्थ सदस्य है।)	1	2	3	4	5
3.4	My family celebrates festivals in good way as compare to those who do not cultivate sugarcane. (मेरा परिवार गन्ने की खेती नहीं करने वालों की तुलना में त्यौहारों को अच्छी तरह से मनाता है।)	1	2	3	4	5
3.5	My family has more social recognition as compare to those who do not cultivate sugarcane. हमारे परिवार की सामाजिक मान्यता उन परिवारों कि तुलना में अधिक है जो गन्ने की खेती नहीं करते हैं।	1	2	3	4	5

3.6	My family has more female decision makers as compare to those who do not cultivate sugarcane. (मेरे परिवार में निर्णय लेने वाली महिलाओं की संख्या उन परिवारों की तुलना में अधिक है जो गन्ने की खेती नहीं करते हैं।)	1	2	3	4	5
3.7	I earn more income as compare to those who do not cultivate sugarcane. (मैं उन लोगों की तुलना में अधिक आय अर्जित करता हूँ जो गन्ना की खेती नहीं करते हैं।)	1	2	3	4	5
3.8	I purchase more durable goods as compare to those who do not cultivate sugarcane. (मैं उन लोगों की तुलना में अधिक टिकाऊ सामान खरीदता हूँ जो गन्ने की खेती नहीं करते हैं।)	1	2	3	4	5
3.9	Cultivation of sugarcane made me able to meet medical expenses of my family. (गन्ने की खेती ने मुझे मेरे परिवार के चिकित्सा खर्चों को पूरा करने में सक्षम बनाया है।)	1	2	3	4	5
3.10	Cultivation of sugarcane has increased the opportunities of employment in my area. (गन्ने की खेती ने मेरे क्षेत्र में रोजगार के अवसरों में वृद्धि की है।)	1	2	3	4	5

Mob (मो.):

Place (स्थान):

Signature (हस्ताक्षर):