Chapter – 4

Analyzing State of Affairs of Panipat Textile Cluster

4.1 INTRODUCTION

Panipat city is famous in India as “City of Weaver”. It is today globally recognized for its beautiful and jubilant handloom made-ups, blankets and other upholstery. There is hardly any other city of this small size in India that has such a big textile manufacturer base. Panipat houses an industry where one can witness a wide range of handloom textiles, whether for a five star hotel or for a poor man’s cottage. The Industry comprises of several segments i.e. handloom, woolen carpets, shoddy yarn spinning, open end cotton yarn spinning, power-loom industry, wet processing and woolen yarn hosiery industry. All of these together makes a business of around Rs. 7000 corers and provide employment to more than two Lacs people. It is the largest centre in the country for producing low priced blankets and in fact is a very old supplier of barrack blankets to the armed forces. Panipat town has got the distinction of having maximum number of shoddy spinning units at one particular place not only in the country, but in the world. The town is also famous for manufacturing of textile machinery. It is a major centre as far as export is concerned. It has established its name in the International market. There are many units, which are exporting wide range of handloom products such as Durries, mats, Table Covers, Bed Sheets, Curtain’s and Carpets etc. to various developed countries like USA, UK, USSR, EU, Swaziland, Canada, Japan, Germany and Australia etc.

Literature reviewed on Indian Textile Industry as a whole and Panipat Textile Cluster particularly in chapter two claims that India is the world’s third largest producer of cotton and second largest producer of yarn and textiles. Despite that Bhushi & Pharsiyawar (2004) asserts that growth of the textile industry has been stunted by technological obsolescence, fragmented structure, low productivity and low end quality products. The structure of the industry is varied and deep-rooted and its reformation is daunting task. Stagnation in demand, inability to expand, inadequate working capital, increased cost of input, with highly contaminated cotton has deepened the crises. Hence,
Indian textiles are getting squeezed out of the global scene. So, there is an obvious requirement to examine the present state of affairs of Panipat textile cluster.

Here, in this chapter, the study has been alienated into three sections. The first part of this chapter takes secondary data collected from different sources, the second part analyzed results from the survey of structured questionnaire describing present state of affairs of enterprises of Panipat textile region, and in third section of the chapter, concluding remarks are presented.

4.2 INDUSTRIAL SCENARIO OF PANIPAT

Table - 4.1 provides year wise trend of micro, small and medium enterprises (MSMES) units registered in Panipat region. This table is quite revealing in several ways. First, it shows the number of unit registered, employment, and investment made over a period of 1985 to 2012. Secondly, it presents annual growth, and compound annual growth rate (CAGR) of unit registered, employment generated, and investment made in SMES of Panipat textile cluster. For the purpose of annual compound growth rate the total periods (1985 to 2012) is estranged into three parts as from 1985 to 1990, from 1991 to 2000, and from 2001 to 2012.

Table - 4.1 brings out that the number of units registered in Panipat textile cluster was not consistence over a period of time. In the early of the first phase (1985), there were 384 enterprises increases to 664 in 1986 and then decreases to 551 at the end of the phase with an annual compound growth rate of just 6.20 percent.

On the other hand, the employment provided by these registered units during the phase was also not encouraging, reflects negative annual compound growth rate of 3.58 percent during the period. But investment made in respective years’ in registered firms was phenomenal with an annual Compound growth rate of 13.67 percent.

Recession in the economy was also reflects by Panipat textile cluster as there were 659 units registered in 1991 drastically decreases to 60 up to 1999 with high negative annual compound growth rate of 13.78 percent. Moreover, the employment provided during 1991-2000 was not encouraging with an annual compound growth rate of just 0.24 percent. Consequently, there was less investment attracted by cluster with negative annual compound growth rate of 2.51 percent.
### Table No. 4.1  
Year Wise Trend of Micro, Small and Medium Enterprises (MSMES) Units Registered in Panipat Region.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Registered Units</th>
<th>Employment Annual Growth (Nos.)</th>
<th>Investment Annual Growth (Lacs Rs.)</th>
<th>Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984-85</td>
<td>384</td>
<td>-</td>
<td>1955</td>
<td>-</td>
</tr>
<tr>
<td>1985-86</td>
<td>664</td>
<td>72.92%</td>
<td>1410</td>
<td>-27.88%</td>
</tr>
<tr>
<td>1986-87</td>
<td>660</td>
<td>-0.60%</td>
<td>1440</td>
<td>2.13%</td>
</tr>
<tr>
<td>1987-88</td>
<td>538</td>
<td>-18.48%</td>
<td>1620</td>
<td>12.50%</td>
</tr>
<tr>
<td>1988-89</td>
<td>536</td>
<td>-0.37%</td>
<td>1645</td>
<td>1.54%</td>
</tr>
<tr>
<td>1989-90</td>
<td>551</td>
<td>2.80%</td>
<td>1570</td>
<td>-4.56%</td>
</tr>
<tr>
<td>1990-91</td>
<td>659</td>
<td>19.60%</td>
<td>1020</td>
<td>-35.03%</td>
</tr>
<tr>
<td>1991-92</td>
<td>681</td>
<td>3.34%</td>
<td>1420</td>
<td>39.22%</td>
</tr>
<tr>
<td>1992-93</td>
<td>670</td>
<td>-1.62%</td>
<td>1285</td>
<td>-9.51%</td>
</tr>
<tr>
<td>1993-94</td>
<td>654</td>
<td>-2.39%</td>
<td>1350</td>
<td>5.06%</td>
</tr>
<tr>
<td>1994-95</td>
<td>674</td>
<td>3.06%</td>
<td>1360</td>
<td>0.74%</td>
</tr>
<tr>
<td>1995-96</td>
<td>338</td>
<td>-49.85%</td>
<td>1638</td>
<td>20.44%</td>
</tr>
<tr>
<td>1996-97</td>
<td>367</td>
<td>8.58%</td>
<td>1718</td>
<td>4.88%</td>
</tr>
<tr>
<td>1997-98</td>
<td>249</td>
<td>-32.15%</td>
<td>1812</td>
<td>5.47%</td>
</tr>
<tr>
<td>1998-99</td>
<td>60</td>
<td>-75.90%</td>
<td>302</td>
<td>-83.33%</td>
</tr>
<tr>
<td>1999-00</td>
<td>149</td>
<td>148.33%</td>
<td>1045</td>
<td>246.03%</td>
</tr>
<tr>
<td>2000-01</td>
<td>118</td>
<td>19.60%</td>
<td>524</td>
<td>-49.86%</td>
</tr>
<tr>
<td>2001-02</td>
<td>69</td>
<td>-41.53%</td>
<td>345</td>
<td>-34.16%</td>
</tr>
<tr>
<td>2002-03</td>
<td>6</td>
<td>-91.30%</td>
<td>120</td>
<td>-65.22%</td>
</tr>
<tr>
<td>2003-04</td>
<td>11</td>
<td>83.33%</td>
<td>92</td>
<td>-23.33%</td>
</tr>
<tr>
<td>2004-05</td>
<td>18</td>
<td>63.64%</td>
<td>220</td>
<td>139.13%</td>
</tr>
<tr>
<td>2005-06</td>
<td>40</td>
<td>122.22%</td>
<td>824</td>
<td>274.55%</td>
</tr>
<tr>
<td>2006-07</td>
<td>75</td>
<td>87.50%</td>
<td>1906</td>
<td>131.31%</td>
</tr>
<tr>
<td>2007-08</td>
<td>108</td>
<td>44.00%</td>
<td>2439</td>
<td>27.96%</td>
</tr>
<tr>
<td>2008-09</td>
<td>147</td>
<td>36.11%</td>
<td>3059</td>
<td>25.42%</td>
</tr>
<tr>
<td>2009-10</td>
<td>252</td>
<td>71.43%</td>
<td>4005</td>
<td>30.93%</td>
</tr>
<tr>
<td>2010-11</td>
<td>278</td>
<td>10.32%</td>
<td>5332</td>
<td>33.13%</td>
</tr>
<tr>
<td>2011-12*</td>
<td>332</td>
<td>19.42%</td>
<td>4885</td>
<td>-8.38%</td>
</tr>
</tbody>
</table>

**ACGR**  
-13.78%  
6.20%  
-3.58%  
13.67%

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Registered Units</th>
<th>Employment Annual Growth (Nos.)</th>
<th>Investment Annual Growth (Lacs Rs.)</th>
<th>Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-01</td>
<td>118</td>
<td>19.60%</td>
<td>524</td>
<td>-49.86%</td>
</tr>
<tr>
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<td>69</td>
<td>-41.53%</td>
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<td>-91.30%</td>
<td>120</td>
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</tr>
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<td>2003-04</td>
<td>11</td>
<td>83.33%</td>
<td>92</td>
<td>-23.33%</td>
</tr>
<tr>
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<td>18</td>
<td>63.64%</td>
<td>220</td>
<td>139.13%</td>
</tr>
<tr>
<td>2005-06</td>
<td>40</td>
<td>122.22%</td>
<td>824</td>
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</tr>
<tr>
<td>2006-07</td>
<td>75</td>
<td>87.50%</td>
<td>1906</td>
<td>131.31%</td>
</tr>
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<td>2007-08</td>
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</tr>
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<tr>
<td>2009-10</td>
<td>252</td>
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</tr>
<tr>
<td>2010-11</td>
<td>278</td>
<td>10.32%</td>
<td>5332</td>
<td>33.13%</td>
</tr>
<tr>
<td>2011-12*</td>
<td>332</td>
<td>19.42%</td>
<td>4885</td>
<td>-8.38%</td>
</tr>
</tbody>
</table>

**ACGR**  
9.0%  
20.45%  
8.27%

The time period 2000-2012 reflects an increasing trend with respectable number of units registered, employment and investment made. The annual compound growth was 9.0 percent of units registered, 20.45 percent of employment generation, and was 8.27 percent of investment made. This phenomenal increase may be due to dismantling of trade quota in 2005. The signing of GATT treaty opens a vista to the Indian textile industry and encouraged entrepreneurs to invest in the textile sector.

Figure - 4.1 deciphered the trend of units registered in Panipat textile cluster from 1985-2012. The linear trend line shows a downward slope with a negative beta coefficient 22.45, and coefficient of determination (R²) of just 0.541. Therefore, it may be observed that there was decline in the growth of cluster up to 2003 and thereafter it shows marginal rising trends in term of number of units registered. So, the policy maker should
frame a policy to encourage the entrepreneur to invest in the cluster for maintaining the momentum of growth.

**Figure - 4.1 Year-wise Units Registered in Panipat Textile Region**

Figure - 4.2 shows increasing trend in employment provided by registered units during 1985-2012 with a beta value of 72.23. This further highlights the importance of textile industry in generating employment by lesser per capita investment.

**Figure - 4.2 Year-wise Employment Provided by Registered Units**

Similarly, Figure - 4.3 deciphered increasing trend in investment made in the registered unit during the period. This significant difference in the trend pattern of number of unit registered, employment generated, and investment made as presented by Figure - 4.1, Figure - 4.2 and Figure - 4.3 respectively may because of enhanced operation due to increase in demand of textile products from Panipat region, consequently requires larger investment and labour force.
4.3 INITIAL INVESTMENT IN PLANT AND MACHINERY FOR SETTING UP UNITS IN PANIPAT TEXTILE REGION

The Panipat textile Industry has made a phenomenal growth especially in the post MFA regime. The number of textile enterprises has flourished dramatically as per Table - 4.1 [statistics was collected from MSME Development Institute, Karnal (Ministry of MSME, Government of India)]. Here, an attempt has been made to collect the data through questionnaire (Annexure 1) regarding initial investment in plant and machinery for setting textile business.

Contingency Table - 4.2 illustrates frequencies and percentages of initial investment in plant and machinery made by sample enterprises. In this cross tabulation an attempt has been made to test a hypothesis (interrelationship) whether the initial investment is independent to sectors. As can be seen from the table out of 209 sample enterprises, 13 (6 percent) enterprises made initial investment up to 15 Lakh, out of which majority of units are from processing (31.0 percent) and Powerloom (39.0 percent). Further, 37(18 percent) enterprises made investment in between 15 to 30 Lakh, 58 (28 percent) units made investment in between 30 to 50 Lakh, nearly one-third of enterprises (31.0 percent) made investment in between 50 to One Crore, and a very few (3.0 percent) units made investment above five Crore. Further, Table - 4.2 highlights the results of chi-square test (asymptotic and Montecarlo exact test). Null hypothesis have been put to test that there was significant difference in initial investment made by sectors. As contingency table don’t satisfy Cochran’s (1952) rule about small expected frequency. So, Asymptotic and Montecarlo both test (fisher exact test) have been applied. The significant difference was found as $\chi^2 (15, N = 209) = 22.62, p < 0.05$ is significant at five percent level of significance. Hence, it may infer that the requirement of investment in plant and
machinery is different across sectors, means quantum of investment in plants and machinery is not same across sectors.

Table No. 4.2  Frequencies, Percentages, and chi-square test of Initial Investment of sample Enterprises by Sectors

<table>
<thead>
<tr>
<th>Initial Investment</th>
<th>Sector</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spinning/ Yarn</td>
<td></td>
</tr>
<tr>
<td>Up to Rs.15 Lacs</td>
<td>Count</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>% within Initial Investment</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>% within Sector</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>6%</td>
</tr>
<tr>
<td>Rs. 15.01 Lacs to Rs. 30 Lacs</td>
<td>Count</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>% within Initial Investment</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>% within Sector</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>18%</td>
</tr>
<tr>
<td>Rs. 30.01 Lacs to Rs. 50 Lacs</td>
<td>Count</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>% within Initial Investment</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>% within Sector</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>28%</td>
</tr>
<tr>
<td>Rs. 50.01 Lacs to Rs.1Crore</td>
<td>Count</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>% within Initial Investment</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>% within Sector</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>31%</td>
</tr>
<tr>
<td>Rs. 1.01 Crore to Rs. 5Crore</td>
<td>Count</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>% within Initial Investment</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>% within Sector</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>14%</td>
</tr>
<tr>
<td>Above Rs. 5 Crore</td>
<td>Count</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>% within Initial Investment</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>% within Sector</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>% within Initial Investment</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>% within Sector</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>10%</td>
</tr>
</tbody>
</table>

Chi Square Test

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>33.052</td>
<td>15</td>
<td>.005</td>
<td>0.003</td>
<td>0.007</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>24.001</td>
<td>15</td>
<td>.089</td>
<td>0.081</td>
<td>0.096</td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td>22.621</td>
<td>15</td>
<td>.050</td>
<td>0.048</td>
<td>0.052</td>
</tr>
</tbody>
</table>

N of Valid Cases 209

a. 12 cells (50.0%) have expected count less than 5. The minimum expected count is .33.
b. Based on 10000 sampled tables with starting seed 1585587178.

Source: Survey
Further, Table 4.3 examines the hypothesis whether the initial investment is independent to exporting and non-exporting enterprises. As can be seen from the table, 166 (79.4%) sample enterprises exporting their products, whereas 43 (20.6 percent of 206) are selling their product domestically (non-exporting).

**Table No. 4.3** Frequencies, Percentages, and chi-square test of Initial Investment of sample Enterprises by Exporting Status

<table>
<thead>
<tr>
<th>Initial Investment</th>
<th>Export Status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exporting</td>
<td>Non-Exporting</td>
</tr>
<tr>
<td></td>
<td>Count</td>
<td>% within Initial Investment</td>
</tr>
<tr>
<td>Up to Rs.15 Lacs</td>
<td>6</td>
<td>46.20%</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>53.80%</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>100.00%</td>
</tr>
<tr>
<td>Rs. 15.01 Lacs to Rs. 30 Lacs</td>
<td>28</td>
<td>75.70%</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>24.30%</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>100.00%</td>
</tr>
<tr>
<td>Rs. 30.01 Lacs to Rs. 50 Lacs</td>
<td>49</td>
<td>84.50%</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>15.50%</td>
</tr>
<tr>
<td></td>
<td>58</td>
<td>100.00%</td>
</tr>
<tr>
<td>Rs. 50.01 Lacs to Rs. 1 Crore</td>
<td>48</td>
<td>75.00%</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>25.00%</td>
</tr>
<tr>
<td></td>
<td>64</td>
<td>100.00%</td>
</tr>
<tr>
<td>Rs. 1.01 Crore to Rs. 5 Crore</td>
<td>28</td>
<td>93.30%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6.70%</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>100.00%</td>
</tr>
<tr>
<td>Above Rs. 5 Crore</td>
<td>7</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>Total</td>
<td>166</td>
<td>79.40%</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>20.60%</td>
</tr>
</tbody>
</table>

Chi Square Test

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.164</td>
<td>5</td>
<td>0.006</td>
<td>.006</td>
<td>0.004</td>
<td>0.008</td>
</tr>
<tr>
<td>16.716</td>
<td>5</td>
<td>0.005</td>
<td>.005</td>
<td>0.004</td>
<td>0.008</td>
</tr>
<tr>
<td>14.401</td>
<td>5</td>
<td>0.009</td>
<td>.009</td>
<td>0.006</td>
<td>0.011</td>
</tr>
</tbody>
</table>

Further, 13 units (6.2 percent) made initial investment up to 15 Lakh out of which six are exporting and seven are non-exporting enterprises, 37 enterprises (17.70 percent of 166) made initial investment in between 15 Lakh to 30 Lakh out of which 28 (16.90 percent)
are exporting and nine (20.90 percent of 43) are non-exporting, 64 (30.60 percent) enterprises made initial investment in between 50 Lakh to one Crore out of which 48 (28.90 percent) are exporting their products and 16 (37.20 percent) are not exporting their products and 30 units (14.40 percent) made investment in between one Crore to five Crore out of which 28 (16.90 percent) exporting their product and two (4.7 percent) non-exporting enterprises, and only seven enterprises made investment above five Crore and these seven enterprises exporting their product. So, it is apparent from the result that there is significant difference in the initial investment made by exporting and non-exporting enterprises. Moreover, this difference further validated by chi-square results as \( \chi^2 (5, N = 209) = 14.40, p < 0.01 \) is significant at one percent. Therefore, it can be inferred that there is significant difference in the initial investment in plant and machinery of exporting and non-exporting enterprises as per survey, exporting enterprises requires larges investment in the plant and machinery as compared to non-exporting enterprises.

### 4.4 EXPORTS FROM PANIPAT TEXTILE CLUSTER

Table - 4.4 enlists the trend of export from Panipat textile cluster over a period of thirteen years. It reflects Panipat textile industry is growing in term of textile export which went up to Rs. 1200 Crore in 2002 in comparison to Rs. 680 Crore in 2000. Further, it increases to Rs. 3000 Crore in 2008 and reaches to Rs. 5020 Crore in 2012 with a phenomenal compound annual growth rate (CAGR) of 16.62 percent. The coefficient of determination (0.915) of export with time proposes that the growth prospects of export from the region are very promising.

<table>
<thead>
<tr>
<th>Year</th>
<th>Export (Crore Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2000</td>
<td>680</td>
</tr>
<tr>
<td>2000-2001</td>
<td>720</td>
</tr>
<tr>
<td>2001-2002</td>
<td>1200</td>
</tr>
<tr>
<td>2002-2003</td>
<td>1500</td>
</tr>
<tr>
<td>2003-2004</td>
<td>1600</td>
</tr>
<tr>
<td>2004-2005</td>
<td>2000</td>
</tr>
<tr>
<td>2005-2006</td>
<td>2200</td>
</tr>
<tr>
<td>2006-2007</td>
<td>2260</td>
</tr>
<tr>
<td>2007-2008</td>
<td>3000</td>
</tr>
<tr>
<td>2008-2009</td>
<td>3400</td>
</tr>
<tr>
<td>2009-2010</td>
<td>3300</td>
</tr>
<tr>
<td>2010-2011</td>
<td>3880</td>
</tr>
<tr>
<td>2011-2012</td>
<td>5020</td>
</tr>
<tr>
<td><strong>ACGR</strong></td>
<td><strong>16.62%</strong></td>
</tr>
<tr>
<td><strong>( R^2 )</strong></td>
<td><strong>0.915</strong></td>
</tr>
</tbody>
</table>

Source: District Industrial Centre (DIC), Panipat
Figure- 4 also deciphered continuous rising trends in the export from the region. Thus, statistics of export from Panipat textile cluster demonstrate the importance of the cluster in Indian economy.

![Figure - 4.4 Year-wise Export from Panipat Textile Industry](image)

The Table - 4.5 illustrates the status of export of sector wise sample enterprises. The results obtained from the survey depicts that out of sample enterprises, 171 (78.0 percent) units exports their textile products, whereas 47 (22.0 percent) are not exporting. Out of exporters, 45 (26 percent) are from spinning/Yarn, 61 (36.0 percent) are from handloom and 63 (37.0 percent) are from handloom and Powerloom.

**Table No. 4.5** Frequencies, Percentages, and Chi Square Test on Status of Export of sample Enterprises by Sectors

<table>
<thead>
<tr>
<th>Do you Export</th>
<th>Spinning/Yarn</th>
<th>Processing/Dyeing/Printing</th>
<th>Handloom</th>
<th>Powerloom</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>45</td>
<td>2</td>
<td>61</td>
<td>63</td>
<td>171</td>
</tr>
<tr>
<td>% within variable</td>
<td>26%</td>
<td>1%</td>
<td>36%</td>
<td>37%</td>
<td>100%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>65%</td>
<td>15%</td>
<td>95%</td>
<td>88%</td>
<td>78%</td>
</tr>
<tr>
<td>% of Total</td>
<td>21%</td>
<td>1%</td>
<td>28%</td>
<td>29%</td>
<td>78%</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>11</td>
<td>3</td>
<td>9</td>
<td>47</td>
</tr>
<tr>
<td>% within variable</td>
<td>51%</td>
<td>23%</td>
<td>6%</td>
<td>19%</td>
<td>100%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>35%</td>
<td>85%</td>
<td>5%</td>
<td>13%</td>
<td>22%</td>
</tr>
<tr>
<td>% of Total</td>
<td>11%</td>
<td>5%</td>
<td>1%</td>
<td>4%</td>
<td>22%</td>
</tr>
<tr>
<td>Total</td>
<td>69</td>
<td>13</td>
<td>64</td>
<td>72</td>
<td>218</td>
</tr>
<tr>
<td>% within variable</td>
<td>32%</td>
<td>6%</td>
<td>29%</td>
<td>33%</td>
<td>100%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>% of Total</td>
<td>32%</td>
<td>6%</td>
<td>29%</td>
<td>33%</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chi-square Test</th>
<th>Value</th>
<th>df</th>
<th>p-value (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>51.965*</td>
<td>3</td>
<td>.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>48.480</td>
<td>3</td>
<td>.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>19.248</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>218</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 2.80
Source: Survey
Further, Table 4.5 also presents chi-square results and found to be significant $\chi^2 (3, N = 218) = 51.97, p < 0.01$. So, it may establish that exporting and non-exporting operations are significantly different across sector.

**Table No. 4.6** Frequencies, Percentages and Chi Square Test of Export Percentage to Total Sales of Sample Enterprises by Sector

<table>
<thead>
<tr>
<th>Export Percentage to Total Sales</th>
<th>Count</th>
<th>Spinning/Yarn</th>
<th>Processing/Dyeing/Printing</th>
<th>Handloom</th>
<th>Powerloom</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>% within Export</td>
<td>50.00%</td>
<td>50.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>2.30%</td>
<td>50.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.20%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>0.60%</td>
<td>0.60%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.20%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>% within Export</td>
<td>71.40%</td>
<td>4.80%</td>
<td>14.30%</td>
<td>9.50%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>34.10%</td>
<td>50.00%</td>
<td>4.90%</td>
<td>3.20%</td>
<td>12.40%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>8.90%</td>
<td>0.60%</td>
<td>1.80%</td>
<td>1.20%</td>
<td>12.40%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>0</td>
<td>12</td>
<td>7</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>% within Export</td>
<td>32.10%</td>
<td>0.00%</td>
<td>42.90%</td>
<td>25.00%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>20.50%</td>
<td>0.00%</td>
<td>19.70%</td>
<td>11.30%</td>
<td>16.60%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>5.30%</td>
<td>0.00%</td>
<td>7.10%</td>
<td>4.10%</td>
<td>16.60%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>0</td>
<td>17</td>
<td>22</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>% within Export</td>
<td>18.80%</td>
<td>0.00%</td>
<td>35.40%</td>
<td>45.80%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>20.50%</td>
<td>0.00%</td>
<td>27.90%</td>
<td>35.50%</td>
<td>28.40%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>5.30%</td>
<td>0.00%</td>
<td>10.10%</td>
<td>13.00%</td>
<td>28.40%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>0</td>
<td>29</td>
<td>31</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>% within Export</td>
<td>14.30%</td>
<td>0.00%</td>
<td>41.40%</td>
<td>44.30%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>22.70%</td>
<td>0.00%</td>
<td>47.50%</td>
<td>50.00%</td>
<td>41.40%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>5.90%</td>
<td>0.00%</td>
<td>17.20%</td>
<td>18.30%</td>
<td>41.40%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>44</td>
<td>2</td>
<td>61</td>
<td>62</td>
<td>169</td>
<td></td>
</tr>
<tr>
<td>% within Export</td>
<td>26.00%</td>
<td>1.20%</td>
<td>36.10%</td>
<td>36.70%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>26.00%</td>
<td>1.20%</td>
<td>36.10%</td>
<td>36.70%</td>
<td>100.00%</td>
<td></td>
</tr>
</tbody>
</table>

**Chi-square Test**

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>79.024</td>
<td>12</td>
<td>0.000</td>
<td>.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>44.346</td>
<td>12</td>
<td>0.000</td>
<td>.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td>42.335</td>
<td>169</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

99% Confidence Interval

Further, an attempt has been made to collect the data regarding the percentage of export to total sales across the sectors and is presented in Table 4.6. As 48 (28.40 percent) units exports 60-80 percent of their sales, out of which 17 (27.90 percent of 61) units are of handloom and 22 (35.50 percent of 62) are of powerloom. Further, 70 (41.40 percent) units are exporting 80-100 percent of their total sales out of which 29 from handloom and 31 from powerloom. Further, chi-square result which is significant at one percent $\chi^2 (12, N = 169) = 42.33, p < 0.01$ reveals significant difference in the export across sectors.
Thus, the table reveals that handloom and Powerloom sector largely export their products.

4.5 FINANCING PATTERN (CAPITAL STRUCTURE)

The financing pattern also called as capital structure means the ratio of different kind of securities raised by an enterprise. An enterprise whose proportion of owners fund to capitalisation is small termed as highly geared enterprises, means using larger borrowed capital.

Table No. 4.7

Frequencies and Percentages of Owner’s Funds in Capital Structure of sample Enterprises by Sector

<table>
<thead>
<tr>
<th>Equity (owner’s Fund) Percentage in Capital Structure</th>
<th>Count</th>
<th>Spinning/Yarn</th>
<th>Processing/Dyeing/Printing</th>
<th>Handloom</th>
<th>Powerloom</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20 % within Equity</td>
<td>2</td>
<td>28.60%</td>
<td>14.30%</td>
<td>14.30%</td>
<td>42.90%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>3.60%</td>
<td>11.10%</td>
<td>1.90%</td>
<td>5.20%</td>
<td>4.10%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>1.20%</td>
<td>0.60%</td>
<td>0.60%</td>
<td>1.80%</td>
<td>4.10%</td>
<td></td>
</tr>
<tr>
<td>20-40 % within Equity</td>
<td>5</td>
<td>50.00%</td>
<td>10.00%</td>
<td>30.00%</td>
<td>10.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>9.10%</td>
<td>11.10%</td>
<td>5.80%</td>
<td>1.80%</td>
<td>5.80%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>2.90%</td>
<td>0.60%</td>
<td>1.80%</td>
<td>0.60%</td>
<td>5.80%</td>
<td></td>
</tr>
<tr>
<td>40-60 % within Equity</td>
<td>24</td>
<td>43.60%</td>
<td>3.60%</td>
<td>23.60%</td>
<td>29.10%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>43.60%</td>
<td>22.20%</td>
<td>25.00%</td>
<td>29.10%</td>
<td>32.20%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>14.00%</td>
<td>1.20%</td>
<td>7.60%</td>
<td>9.40%</td>
<td>32.20%</td>
<td></td>
</tr>
<tr>
<td>60-80 % within Equity</td>
<td>13</td>
<td>23.60%</td>
<td>3.60%</td>
<td>40.00%</td>
<td>32.70%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>23.60%</td>
<td>22.20%</td>
<td>42.30%</td>
<td>32.70%</td>
<td>32.20%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>7.60%</td>
<td>1.20%</td>
<td>12.90%</td>
<td>10.50%</td>
<td>32.20%</td>
<td></td>
</tr>
<tr>
<td>80-100 % within Equity</td>
<td>11</td>
<td>25.00%</td>
<td>6.80%</td>
<td>29.50%</td>
<td>38.60%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>20.00%</td>
<td>33.30%</td>
<td>25.00%</td>
<td>30.90%</td>
<td>25.70%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>6.40%</td>
<td>1.80%</td>
<td>7.60%</td>
<td>9.90%</td>
<td>25.70%</td>
<td></td>
</tr>
<tr>
<td>Total % within Equity</td>
<td>55</td>
<td>32.20%</td>
<td>5.30%</td>
<td>30.40%</td>
<td>32.20%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>32.20%</td>
<td>5.30%</td>
<td>30.40%</td>
<td>32.20%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>32.20%</td>
<td>5.30%</td>
<td>30.40%</td>
<td>32.20%</td>
<td>100.00%</td>
<td></td>
</tr>
</tbody>
</table>

Chi-Square test

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
</table>
Pearson Chi-Square | 13.097 | 12 | 0.362 | 360 | 0.347 | 0.372 |
Likelihood Ratio     | 13.105 | 12 | 0.361 | 429 | 0.416 | 0.442 |
Fisher's Exact Test  | 13.892 | 251 | 0.24 | 0.262 |

Monte Carlo Sig. (2-sided)

<table>
<thead>
<tr>
<th>99% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>N of Valid Cases</td>
</tr>
</tbody>
</table>

A 11 cells (55.0%) have expected count less than 5. The minimum expected count is .37.

b. Based on 10000 sampled tables with starting seed 2000000.

Source: Questionnaire

The enterprise whose owner fund dominates in the capital structure is termed as low geared enterprises. Various authorities have different opinions regarding the benefit of low geared and high geared enterprises. Here, in this section an attempt has been made to know about proportion of owner’s funds in capital structure of sample enterprises.

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Table 4.7 has been prepared to study sector wise owner’s fund in capital structure. The table reveals that fifty five (32.20 percent) enterprises deployed their own funds in a range of 40-60 percent in capital structure, out of this 24 (43.60 percent) are spinning/yarn enterprises. Again, in the band of 60-80 percent, total units are 56 (32.20 percent) where major contributors are handloom (40.0 percent) enterprises. 44 (25.70 percent of 171) units deployed their own (equity) funds in a range of 80-100 percent to total capital. Further, an attempt has been made to study the relationship between the owner’s fund used by different sectors and it is found insignificant association as $\chi^2 (12, N = 171) = 13.89, p > 0.05$ means there is no significant difference in the deployment of owner funds across the sectors.

Table No. 4.8  
Frequencies, Percentages and Chi-Square Test of Owner’s Funds in Capital Structure of Sample Enterprises by Exporting Status

<table>
<thead>
<tr>
<th>Equity (owner’s Fund) Percentage in Capital Structure</th>
<th>Export</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exporting</td>
<td>Non-Exporting</td>
</tr>
<tr>
<td>0-20</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>% within Equity</td>
<td>71.40%</td>
<td>28.60%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>3.70%</td>
<td>5.60%</td>
</tr>
<tr>
<td>% of Total</td>
<td>2.90%</td>
<td>1.20%</td>
</tr>
<tr>
<td>20-40</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>% within Equity</td>
<td>90.00%</td>
<td>10.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>6.70%</td>
<td>2.80%</td>
</tr>
<tr>
<td>% of Total</td>
<td>5.30%</td>
<td>0.60%</td>
</tr>
<tr>
<td>40-60</td>
<td>44</td>
<td>11</td>
</tr>
<tr>
<td>% within Equity</td>
<td>80.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>32.60%</td>
<td>30.60%</td>
</tr>
<tr>
<td>% of Total</td>
<td>25.70%</td>
<td>6.40%</td>
</tr>
<tr>
<td>60-80</td>
<td>47</td>
<td>8</td>
</tr>
<tr>
<td>% within Equity</td>
<td>85.50%</td>
<td>14.50%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>34.80%</td>
<td>22.20%</td>
</tr>
<tr>
<td>% of Total</td>
<td>27.50%</td>
<td>4.70%</td>
</tr>
<tr>
<td>80-100</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>% within Equity</td>
<td>68.20%</td>
<td>31.80%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>22.20%</td>
<td>38.90%</td>
</tr>
<tr>
<td>% of Total</td>
<td>17.50%</td>
<td>8.20%</td>
</tr>
<tr>
<td>Total</td>
<td>135</td>
<td>36</td>
</tr>
<tr>
<td>% within Equity</td>
<td>78.90%</td>
<td>21.10%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% of Total</td>
<td>78.90%</td>
<td>21.10%</td>
</tr>
</tbody>
</table>

Chi Square Test

Monte Carlo Sig. (2-sided)  
99% Confidence Interval

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig.</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>5.479</td>
<td>4</td>
<td>0.242</td>
<td>.242</td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>5.425</td>
<td>4</td>
<td>0.246</td>
<td>.310</td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td>5.257</td>
<td>2</td>
<td>0.23</td>
<td>0.252</td>
<td></td>
</tr>
</tbody>
</table>

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.47.

b. Based on 10000 sampled tables with starting seed 562334227.

Source: Survey
Table 4.8 has been prepared to study whether exporting and non-exporting enterprises of Panipat textile cluster significantly differ using own fund’s in capital structure. The table reveals that seven (4.10 percent) enterprises deployed their own funds to capital structure up to twenty percent out of which five are exporting units and two are non-exporting units, 10 (5.80 percent) respondents deployed their own funds in a range of 20-40 percent out of which nine (6.70 percent) are exporting enterprises and one (2.80 percent) is non-exporting enterprises; 55 (32.20 percent of 171) enterprises using their own funds in a range of 40-60 percent out of which 44 (32.60 percent of 135) enterprises exporting their products and 11 (36.60 percent of 36) enterprises not exporting their product; again 55 enterprises deployed their own funds in a range of 60-80 percent out of which 47 (34.80 percent) are exporting and 22.20 percent not exporting their products. Further 44 enterprises deployed their own funds in a range of 80-100 percent out of which 30 (22.20 percent) are exporting enterprises and 14 (30.90 percent) are not exporting their product. Therefore, it can be inferred that there is no significant difference in the exports and non-exporting enterprises capital structure (owner’s fund) as enumerated by chi-square results $\chi^2 (4, N = 171) = 4.43, p > 0.05$ insignificant at five percent.

4.6 CAPACITY UTILIZATION

Capacity Utilization refers to the extent to which an enterprise actually uses its installed productive capacity. It refers to the relationship between actual output that is actually produced with the installed equipments and the potential output which could be produced with it, if capacity was fully used. Implicitly, the capacity utilization rate is also an indicator of how efficiently the factors of production are being used.

Here, in this section of the chapter, an attempt has been made to study the capacity utilization rate during last seven years by the sample enterprises. Table 4.9 demonstrates that average capacity utilization is somehow stagnant at 67 percent in 2006 and 2007; thereafter it decreases to 66 percent in 2008, 64 percent in 2009 and again decreases to 61 percent in 2010. The reason behind decrease in the installed capacity utilisation from 2007 to 2010 may due to non availability of labour after implementation of National Rural Employment Guarantee Act (NREGA) on Feb 2006 as revealed by most of respondents during data collection.
### Table No. 4.9

**Frequencies, Percentages and Chi Square Test on Capacity Utilization of sample Enterprises Sector**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>0-20</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>20-40</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>40-60</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>60-80</td>
<td>82</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>80-100</td>
<td>82</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>188</td>
<td>170</td>
<td>182</td>
<td>196</td>
<td>192</td>
<td>207</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>55</td>
<td>62</td>
<td>61</td>
<td>62</td>
<td>69</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>67%</td>
<td>67%</td>
<td>66%</td>
<td>64%</td>
<td>61%</td>
<td>63%</td>
<td>64%</td>
<td></td>
</tr>
</tbody>
</table>

**Chi-square Test**

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>p-value</td>
<td>$\chi^2$</td>
<td>p-value</td>
<td>$\chi^2$</td>
<td>p-value</td>
<td>$\chi^2$</td>
<td>p-value</td>
</tr>
<tr>
<td>29.26</td>
<td>0.004</td>
<td>21.84</td>
<td>0.039</td>
<td>9.82</td>
<td>0.632</td>
<td>22.67</td>
<td>0.031</td>
</tr>
</tbody>
</table>

* Significant at five percent

Yes = Exporter, No = Non-Exporter

Note: S/Y = Spinning/Yarn, P/D = Processing/Dyeing/Printing, H = Handloom, P = Powerloom
Table No. 4.10  
Frequencies, Percentages and Chi Square Test on Capacity Utilization of sample Enterprises by Exporting Status

<table>
<thead>
<tr>
<th>Year</th>
<th>Capacity</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>0-20</td>
<td>Yes</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>2 (1.1%)</td>
<td>2 (1.1%)</td>
<td>1 (0.5%)</td>
<td>1 (0.5%)</td>
<td>0 (0.0%)</td>
<td>1 (0.8%)</td>
<td>3 (1.4%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0.7%</td>
<td>2.5%</td>
<td>0.7%</td>
<td>2.5%</td>
<td>0.0%</td>
<td>2.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>20-40</td>
<td>Yes</td>
<td>5 (2.7%)</td>
<td>5 (2.6%)</td>
<td>8 (4.1%)</td>
<td>10 (4.9%)</td>
<td>19 (9.2%)</td>
<td>5 (2.4%)</td>
<td>5 (2.4%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2.0%</td>
<td>5.0%</td>
<td>2.0%</td>
<td>4.9%</td>
<td>4.5%</td>
<td>2.4%</td>
<td>5.0%</td>
</tr>
<tr>
<td>40-60</td>
<td>Yes</td>
<td>48 (25.5%)</td>
<td>47 (24.5%)</td>
<td>48 (24.5%)</td>
<td>63 (30.7%)</td>
<td>82 (39.6%)</td>
<td>85 (40.9%)</td>
<td>67 (32.2%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2.0%</td>
<td>5.0%</td>
<td>2.0%</td>
<td>4.9%</td>
<td>4.5%</td>
<td>2.4%</td>
<td>5.0%</td>
</tr>
<tr>
<td>60-80</td>
<td>Yes</td>
<td>95 (50.5%)</td>
<td>108 (56.3%)</td>
<td>108 (55.1%)</td>
<td>102 (49.8%)</td>
<td>82 (39.6%)</td>
<td>93 (44.7%)</td>
<td>112 (53.8%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>79 (16)</td>
<td>86 (22)</td>
<td>90 (22)</td>
<td>80 (22)</td>
<td>65 (17)</td>
<td>75 (18)</td>
<td>90 (22)</td>
</tr>
<tr>
<td>80-100</td>
<td>Yes</td>
<td>38 (20.2%)</td>
<td>30 (15.6%)</td>
<td>31 (15.8%)</td>
<td>29 (14.1%)</td>
<td>29 (11.6%)</td>
<td>24 (11.5%)</td>
<td>21 (10.1%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2.0%</td>
<td>5.0%</td>
<td>2.0%</td>
<td>4.9%</td>
<td>4.5%</td>
<td>2.4%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Yes</td>
<td>188 (100.0%)</td>
<td>192 (100.0%)</td>
<td>196 (100.0%)</td>
<td>205 (100.0%)</td>
<td>207 (100.0%)</td>
<td>208 (100.0%)</td>
<td>208 (100.0%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Average

<table>
<thead>
<tr>
<th>Year</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006*</td>
<td>67%</td>
<td>67%</td>
<td>66%</td>
<td>64%</td>
<td>61%</td>
<td>63%</td>
<td>64%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>9.93</td>
<td>0.042</td>
<td>4.25</td>
<td>0.374</td>
<td>9.99</td>
<td>0.041</td>
<td>9.33</td>
<td>0.041</td>
<td>4.11</td>
<td>0.250</td>
</tr>
<tr>
<td>2008*</td>
<td>9.93</td>
<td>0.042</td>
<td>4.25</td>
<td>0.374</td>
<td>9.99</td>
<td>0.041</td>
<td>9.33</td>
<td>0.041</td>
<td>4.11</td>
<td>0.250</td>
</tr>
<tr>
<td>2009*</td>
<td>9.93</td>
<td>0.042</td>
<td>4.25</td>
<td>0.374</td>
<td>9.99</td>
<td>0.041</td>
<td>9.33</td>
<td>0.041</td>
<td>4.11</td>
<td>0.250</td>
</tr>
<tr>
<td>2010</td>
<td>9.93</td>
<td>0.042</td>
<td>4.25</td>
<td>0.374</td>
<td>9.99</td>
<td>0.041</td>
<td>9.33</td>
<td>0.041</td>
<td>4.11</td>
<td>0.250</td>
</tr>
<tr>
<td>2011*</td>
<td>9.93</td>
<td>0.042</td>
<td>4.25</td>
<td>0.374</td>
<td>9.99</td>
<td>0.041</td>
<td>9.33</td>
<td>0.041</td>
<td>4.11</td>
<td>0.250</td>
</tr>
<tr>
<td>2012</td>
<td>9.93</td>
<td>0.042</td>
<td>4.25</td>
<td>0.374</td>
<td>9.99</td>
<td>0.041</td>
<td>9.33</td>
<td>0.041</td>
<td>4.11</td>
<td>0.250</td>
</tr>
</tbody>
</table>

* Significant at five percent
Yes = Exporter, No = Non-Exporter
Source: Survey
Note: S/Y = Spinning/Yarn, P/D = Processing/Dyeing/Printing, H = Handloom, P = Powerloom
Thereafter, there was a slight increase to 63 percent in 2011 which reaches up to 64 percent in 2012. It may conclude that the average capacity utilization of Panipat textile cluster shows decreasing trend over the period of last seven years.

An attempt has been made to test a hypothesis, whether the capacity utilization of sample enterprises was significantly different across sectors during last the seven years. The lower part of the Table 4.9 presents that during 2006, 2007, 2009, 2010, and 2012 capacity utilisation of sample respondents were significantly different across sectors as chi-square is significant at five percent (p < 0.01) whereas, during 2008 and 2011, chi-square (p > 0.05) is insignificant. Therefore, it can be inferred that capacity utilisation of sectors was different during study period as majority of years (five out of seven) having significant chi-square value further, results deciphered that spinning/yarn and powerloom sector utilise better installed capacity in comparison to others.

Further, in Table 4.10 an attempt has been made to test a hypothesis, whether, the capacity utilization of sample enterprises was significantly different across exporting status (exporter and non-exporters). Table reveals that the chi-square \( \chi^2 = 9.93 \) is significant (p < 0.01) in 2006, in 2008 \( \chi^2 = 9.99, p < 0.05 \), in 2009 \( \chi^2 = 9.93, p < 0.05 \) and in 2011 \( \chi^2 =14.73, p < 0.01 \) whereas the chi-square value is insignificant in 2007, 2010 and 2012. Therefore, it can be inferred that capacity utilization of exporting and non-exporting enterprises was significantly different during study period as majority of years (four) having significant chi-square value and the contingency table 4.10 reveals that exporting enterprises utilized better capacity in comparison to enterprises selling their product domestically.
4.7 COOPERATION/COLLABORATION AMONG THE FIRMS

Cooperation/Collaboration brings synergic effect for enhancing productivity, competitiveness, and efficient utilization of available resources. Here, Table - 4.11 presents the survey results regarding inter-dependency of firms in Panipat textile cluster and also summarizes frequency, percentage and chi-square test results of sector wise sample units.

In this question researcher asked from the entrepreneur regarding the dependency on another firms in the cluster on five point Likert scale. Seventy eight respondents (35.8 percent) say a lot dependency, thirty Seven (33.50 percent) respondents say somewhat and only three (1.40 percent) respondents say none at all. Thus, the results show higher degree of cooperation/collaboration among the sample enterprises of Panipat textile cluster. Further, spinning and Powerloom enterprises heavily depend on cooperation/collaboration of other firms in the cluster.

Table No. 4.11  Frequencies, Percentages, and Chi-square Test of manufacturing units depends on Cooperation/Collaborations of firm in the cluster by Sector

<table>
<thead>
<tr>
<th>Units depends on Cooperation/ Collaborations of other firm in the cluster</th>
<th>Spinning/Yarn</th>
<th>Processing/Dyeing/ Printing</th>
<th>Handloom</th>
<th>Powerloom</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot</td>
<td>Count</td>
<td>19</td>
<td>3</td>
<td>22</td>
<td>34</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>24.40%</td>
<td>3.80%</td>
<td>28.20%</td>
<td>43.60%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>27.50%</td>
<td>23.10%</td>
<td>34.40%</td>
<td>47.20%</td>
<td>35.80%</td>
</tr>
<tr>
<td>% of Total</td>
<td>8.70%</td>
<td>1.40%</td>
<td>10.10%</td>
<td>15.60%</td>
<td>35.80%</td>
</tr>
<tr>
<td>Somewhat</td>
<td>Count</td>
<td>32</td>
<td>3</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>43.80%</td>
<td>4.10%</td>
<td>26.00%</td>
<td>26.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>46.40%</td>
<td>23.10%</td>
<td>29.70%</td>
<td>26.40%</td>
<td>33.50%</td>
</tr>
<tr>
<td>% of Total</td>
<td>14.70%</td>
<td>1.40%</td>
<td>8.70%</td>
<td>8.70%</td>
<td>33.50%</td>
</tr>
<tr>
<td>Little</td>
<td>Count</td>
<td>11</td>
<td>2</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>31.40%</td>
<td>5.70%</td>
<td>34.30%</td>
<td>28.60%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>15.90%</td>
<td>15.40%</td>
<td>18.80%</td>
<td>13.90%</td>
<td>16.10%</td>
</tr>
<tr>
<td>% of Total</td>
<td>5.00%</td>
<td>0.90%</td>
<td>5.50%</td>
<td>4.60%</td>
<td>16.10%</td>
</tr>
<tr>
<td>Only a little</td>
<td>Count</td>
<td>7</td>
<td>5</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>24.10%</td>
<td>17.20%</td>
<td>34.50%</td>
<td>24.10%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>10.10%</td>
<td>38.50%</td>
<td>15.60%</td>
<td>9.70%</td>
<td>13.30%</td>
</tr>
<tr>
<td>% of Total</td>
<td>3.20%</td>
<td>2.30%</td>
<td>4.60%</td>
<td>3.20%</td>
<td>13.30%</td>
</tr>
<tr>
<td>None at all</td>
<td>Count</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>0.00%</td>
<td>0.00%</td>
<td>33.30%</td>
<td>66.70%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.60%</td>
<td>2.80%</td>
<td>1.40%</td>
</tr>
<tr>
<td>% of Total</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.50%</td>
<td>0.90%</td>
<td>1.40%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>69</td>
<td>13</td>
<td>64</td>
<td>72</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>31.70%</td>
<td>6.00%</td>
<td>29.40%</td>
<td>33.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Sector</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% of Total</td>
<td>31.70%</td>
<td>6.00%</td>
<td>29.40%</td>
<td>33.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Chi-Square Test

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig.</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>20.103</td>
<td>12</td>
<td>0.065</td>
<td>0.059</td>
<td>0.065</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>18.199</td>
<td>12</td>
<td>0.066</td>
<td>0.105</td>
<td>0.122</td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td>17.912</td>
<td>12</td>
<td>0.066</td>
<td>0.069</td>
<td>0.083</td>
</tr>
</tbody>
</table>

99% Confidence Interval

a. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 1.8.
b. Based on 10000 sampled tables with starting seed 2000000.
Moreover, an attempt has been made to study the association of the opinion regarding cooperation/collaboration to sectors. On the application of chi-square test, it is found insignificant. $\chi^2 (12, N = 218) = 17.91, p > 0.05$ association regarding opinion across sectors. So, it can be concluded that there is no significant difference in the opinion regarding the cooperation and collaboration among different sectors.

**Table No. 4.12** Frequencies, Percentages, and Chi-square Test of manufacturing units depends on Cooperation/Collaborations of other firm in the cluster by Exporting Status

<table>
<thead>
<tr>
<th>Units depends on Cooperation/ Collaborations of other firm in the cluster</th>
<th>Export</th>
<th>Non-Exporting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Exporting</td>
<td>Non-Exporting</td>
</tr>
<tr>
<td>A lot</td>
<td></td>
<td>61</td>
<td>17</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>78.20%</td>
<td>21.80%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>35.70%</td>
<td>36.20%</td>
<td>35.80%</td>
</tr>
<tr>
<td>% of Total</td>
<td>28.00%</td>
<td>7.80%</td>
<td>35.80%</td>
</tr>
<tr>
<td>Somewhat</td>
<td>Count</td>
<td>58</td>
<td>15</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>79.50%</td>
<td>20.50%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>33.90%</td>
<td>31.90%</td>
<td>33.50%</td>
</tr>
<tr>
<td>% of Total</td>
<td>26.60%</td>
<td>6.90%</td>
<td>33.50%</td>
</tr>
<tr>
<td>Little</td>
<td>Count</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>77.10%</td>
<td>22.90%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>15.80%</td>
<td>17.00%</td>
<td>16.10%</td>
</tr>
<tr>
<td>% of Total</td>
<td>12.40%</td>
<td>3.70%</td>
<td>16.10%</td>
</tr>
<tr>
<td>Only a little</td>
<td>Count</td>
<td>23</td>
<td>6</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>79.30%</td>
<td>20.70%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>13.50%</td>
<td>12.80%</td>
<td>13.30%</td>
</tr>
<tr>
<td>% of Total</td>
<td>10.60%</td>
<td>6.90%</td>
<td>13.30%</td>
</tr>
<tr>
<td>None at all</td>
<td>Count</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>66.70%</td>
<td>33.30%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>1.20%</td>
<td>2.10%</td>
<td>1.40%</td>
</tr>
<tr>
<td>% of Total</td>
<td>0.90%</td>
<td>0.50%</td>
<td>1.40%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>171</td>
<td>47</td>
</tr>
<tr>
<td>% within Cooperation</td>
<td>78.40%</td>
<td>21.60%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% of Total</td>
<td>78.40%</td>
<td>21.60%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chi Square Test</th>
<th>Value</th>
<th>d f</th>
<th>Asymp. Sig.(2-sided)</th>
<th>Sig. Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.340</td>
<td>4</td>
<td>.997</td>
<td>.999</td>
<td>.999</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>0.316</td>
<td>4</td>
<td>.999</td>
<td>.997</td>
<td>.997</td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td>0.832</td>
<td>218</td>
<td>.974</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>218</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 6.*

Table 4.12 demonstrates frequencies, percentages and chi-square results on the opinion of cooperation/collaboration of firms in textile clusters by exporting status. As 78 (35.8) enterprises opines that a lot depends on cooperation/collaboration of other firms in the cluster out of which 61 (35.7 percent) of exporting enterprises and 17 (36.20 percent) non-exporting enterprises, further 73 (33.5 percent) enterprises opines somewhat dependency out of which 58 (33.9 percent) are exporters and 15 (31.90 percent) are non-exporters. So, if we accumulate the opinions of Likert scale 186 (85.3 percent) sample
enterprises agreed on the opinion whereas 31 (14.7 percent) sample enterprises disagreed. Further, chi-square results which is insignificant at five percent as $\chi^2 (4, N = 218) = 0.832, p > 0.05$ reveals no significant difference in the opinion of exporting and non-exporting sample enterprises regarding dependency of cooperation/collaboration among the firms in the textile cluster.

### 4.8 REASONS FOR BEING IN THE BUSINESS

Here, an attempt has been made to study the main reasons/motive of starting textile business. For that question has been designed to probe out the main reasons behind starting the textile business.

#### Table No. 4.13 Frequencies and Percentages of Reason for being in Business by Sector

<table>
<thead>
<tr>
<th>Reason for being in Business</th>
<th>Sector</th>
<th>Count</th>
<th>Spinning/Yarn</th>
<th>Processing/Dyeing/Printing</th>
<th>Handloom</th>
<th>Powerloom</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Promoter's knowledge/Training in the field</strong></td>
<td>Count</td>
<td>35</td>
<td>8</td>
<td>4</td>
<td>13</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>22.90%</td>
<td>11.40%</td>
<td>28.60%</td>
<td>37.10%</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>11.60%</td>
<td>30.80%</td>
<td>15.60%</td>
<td>18.10%</td>
<td>16.10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>3.70%</td>
<td>1.80%</td>
<td>4.60%</td>
<td>6.00%</td>
<td>16.10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Family Business</strong></td>
<td>Count</td>
<td>31</td>
<td>3</td>
<td>28</td>
<td>3</td>
<td>28</td>
<td>91</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>35.20%</td>
<td>3.30%</td>
<td>30.80%</td>
<td>30.80%</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>46.40%</td>
<td>23.10%</td>
<td>43.80%</td>
<td>38.90%</td>
<td>41.70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>14.70%</td>
<td>1.40%</td>
<td>12.80%</td>
<td>12.80%</td>
<td>41.70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Growing demand of the product</strong></td>
<td>Count</td>
<td>28</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>53.60%</td>
<td>17.90%</td>
<td>7.10%</td>
<td>21.40%</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>21.70%</td>
<td>38.50%</td>
<td>3.10%</td>
<td>8.30%</td>
<td>12.80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>6.90%</td>
<td>2.30%</td>
<td>0.90%</td>
<td>2.80%</td>
<td>12.80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Good margins</strong></td>
<td>Count</td>
<td>14</td>
<td>8</td>
<td>1</td>
<td>18</td>
<td>23</td>
<td>50</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>42.90%</td>
<td>0.00%</td>
<td>42.90%</td>
<td>14.30%</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>8.70%</td>
<td>0.00%</td>
<td>9.40%</td>
<td>2.80%</td>
<td>6.40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>2.80%</td>
<td>0.00%</td>
<td>2.80%</td>
<td>0.90%</td>
<td>6.40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Factors endowments</strong></td>
<td>Count</td>
<td>218</td>
<td>69</td>
<td>13</td>
<td>64</td>
<td>72</td>
<td>218</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>16.00%</td>
<td>2.00%</td>
<td>36.00%</td>
<td>46.00%</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Sector</td>
<td>11.60%</td>
<td>7.70%</td>
<td>28.10%</td>
<td>31.90%</td>
<td>22.90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>3.70%</td>
<td>0.50%</td>
<td>8.30%</td>
<td>10.60%</td>
<td>22.90%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Monte Carlo Sig. (2-sided)

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig.</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>33.412a</td>
<td>12</td>
<td>0.001</td>
<td>0.001*</td>
<td>0.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>34.566</td>
<td>12</td>
<td>0.001</td>
<td>0.001*</td>
<td>0.000</td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td>31.803</td>
<td>12</td>
<td>0.001</td>
<td>0.001*</td>
<td>0.000</td>
</tr>
</tbody>
</table>

### Source: Survey
The survey results tabulated in Table 4.13 presents that majority of respondents 91 (41.70 percent) are in the business because of family engaged in the textile business, 50 (22.90) respondents state the reason for starting the business of textile because of availability of raw material, machinery and workers in the areas, 35 and 28 sample enterprises gives attributes to chief founder has qualification in the field and product provide good margin respectively.

Moreover, an attempt also has been made to test the hypothesis that the reasons of being in business of textile are different across sectors. On the application of chi-square test at five percent level of significant, it is found that there is a significant difference of the reasons for being in business of textile as \( \chi^2 \) (12, N = 218) = 31.80, p < 0.01 indicating significant difference in the opinions across sectors. So, it may conclude that reasons for starting the business of textile in the cluster are different across sectors.

Table No. 4.14 Frequencies and Percentages of Reason for being in Business by Exporting Status

<table>
<thead>
<tr>
<th>Reason for being in Business</th>
<th>Export</th>
<th>Non-Exporting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promoter’s knowledge / Training in the field</td>
<td>35</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>77.10%</td>
<td>22.90%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>15.80%</td>
<td>17.00%</td>
<td>16.10%</td>
</tr>
<tr>
<td>% of Total</td>
<td>12.40%</td>
<td>3.70%</td>
<td>16.10%</td>
</tr>
<tr>
<td>Family Business</td>
<td>91</td>
<td>73</td>
<td>18</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>80.20%</td>
<td>19.80%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>42.70%</td>
<td>57.30%</td>
<td>41.70%</td>
</tr>
<tr>
<td>% of Total</td>
<td>33.50%</td>
<td>8.30%</td>
<td>41.70%</td>
</tr>
<tr>
<td>Growing demand of the product</td>
<td>28</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>42.90%</td>
<td>57.10%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>7.00%</td>
<td>34.00%</td>
<td>12.80%</td>
</tr>
<tr>
<td>% of Total</td>
<td>5.50%</td>
<td>7.30%</td>
<td>12.80%</td>
</tr>
<tr>
<td>good margins</td>
<td>14</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>85.70%</td>
<td>14.30%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>7.00%</td>
<td>4.30%</td>
<td>6.40%</td>
</tr>
<tr>
<td>% of Total</td>
<td>5.50%</td>
<td>0.90%</td>
<td>6.40%</td>
</tr>
<tr>
<td>Factors endowments</td>
<td>50</td>
<td>47</td>
<td>3</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>94.00%</td>
<td>6.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>27.50%</td>
<td>6.40%</td>
<td>22.90%</td>
</tr>
<tr>
<td>% of Total</td>
<td>21.60%</td>
<td>1.40%</td>
<td>22.90%</td>
</tr>
<tr>
<td>Total</td>
<td>218</td>
<td>171</td>
<td>47</td>
</tr>
<tr>
<td>% within Reason for Business</td>
<td>78.40%</td>
<td>21.60%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% within Do You Export</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% of Total</td>
<td>78.40%</td>
<td>21.60%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Chi Square Test

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig.</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>28.765</td>
<td>4</td>
<td>0.000</td>
<td>.000**</td>
<td>0.00</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>26.71</td>
<td>4</td>
<td>0.000</td>
<td>.000**</td>
<td>0.00</td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td>25.824</td>
<td>4</td>
<td>0.000</td>
<td>.000**</td>
<td>0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value</th>
<th>Asymp. Sig.</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>218</td>
<td>.000**</td>
<td>.000**</td>
<td>.000**</td>
<td>.000**</td>
</tr>
</tbody>
</table>

* a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.02.

b. Based on 10000 sampled tables with starting seed 251863758.

c. The standardized statistic is -1.846.

Source: Survey
Further, an attempt also has been made to test the hypothesis of reasons for starting textile business is different across exporting and non-exporting sample respondents. Table 4.14 presents frequencies, percentages and chi-square results of the reasons for starting textile business across exporting status. The table reveals that most of the sample enterprises (91, 41.7 percent) gives reasons that family engaged in textile business from very long time out of which 73 (42.70 percent) are exporters and 18 (38.30 percent) non-exporters; 50 respondents says availability of raw-material, machinery and worker is good in the area motivated to start textile business out of which 47 (27.5 percent) exporting units and only 3 (6.4 percent) non-exporting units. Therefore, the results of the contingency table present different reason for starting textile business across exporters and non-exporters. The results of the contingency table further validate on the application of chi-square test at 5 percent level of significance, and it is found that there is significant difference in the reasons of exporting and non-exporting sample enterprises as \( \chi^2 (4, N = 218) = 28.77, p < 0.01 \). Therefore, it may infer that reasons for starting the business given by exporting and non-exporting respondents are different.

4.9 CONCLUSION

- In the present section, it has been observed that there is an increasing trend in number of units registered, employment, and investment made in Panipat textile cluster especially after revoking trade quota in 2005.

- It may also observed that there was decline in the growth of cluster up to 2003 and thereafter it shows marginal rising trends in term of number of units registered. The significant difference in the trend pattern of number of unit registered, employment generated, and investment made may because of enhanced operation due to increase in demand of textile products from Panipat region, consequently requires larger investment and labour force.

- On the other hands, Asymptotic and Montecarlo exact (Fisher exact test) test reveals that there is significant difference across sectors as well exporting and non-exporting enterprises for the requirement of initial investment for starting textile business.

- There is phenomenal increasing trend in exports from the cluster and the coefficient of determination (\( R^2 = 0.915 \)) of export with time propose that the growth prospects of export from the cluster are very promising. Further, it may
affirm that export and not export operation significantly different across sectors; handloom and Powerloom enterprises largely export their products.

- The capital structure of Panipat textile cluster is dominated by borrowed fund and that there is no significant difference across sectors as well in the exporting and non-exporting enterprises’ capital structure.

- The average capacity utilization of Panipat textile cluster shows decreasing trend over the period of last seven years, reason behind decrease in the installed capacity utilisation may due to non availability of labour after implementation of National Rural Employment Guarantee Act (NREGA) on Feb 2006 as revealed by most of respondents during data collection. Moreover, results deciphered that exporters, spinning/yarn, and powerloom sector utilise better installed capacity as compare to other.

- The result shows higher degree of cooperation/collaboration among the sample enterprises of Panipat textile cluster and no significant difference in the opinion of classified sample enterprises regarding the cooperation/collaboration among the firms in the textile cluster.

- Majority of entrepreneurs are in the business because of family engaged in the textile business and because of availability of raw material, machinery and workers in the area.

4.10 REFERENCES