Analysis of the data collected from Marketing Managers –
Data is collected from the marketing managers of the selected dairy units by using a structured questionnaire. Five point likert scale was used. The ratings are given as follows.
Strongly Agree – 1
Agree – 2
Neutral – 3
Disagree – 4
Strongly Disagree – 5

45 statements were framed to collect the information regarding the various aspects of marketing viz. marketing research, consumer behavior, competition, product policy, price policy, place policy and promotion policy.
6.1 Year wise Analysis of the data collected from the Marketing Managers-

Analysis of the data collected from the marketing managers is done on the year wise basis. Analysis of each statement is as follows.

1. Preparation of periodical sales plan.

Table 6.1.1

<table>
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<th>No. of firms Agreeing with</th>
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<td>2000-2001</td>
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</tr>
<tr>
<td>2006-07</td>
<td>5 (100%)</td>
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</tr>
</tbody>
</table>

Graph 6.1.1

From table 6.1.1 it can be found that the number of firms preparing periodical i.e. monthly plan has increased from 1991-92 to 2006-07. In 1991-92, there were 3 firms preparing periodical plan and from 2002-03 onwards all selected 5 firms prepare periodical plan. Before 2001, one private dairy unit was not preparing the plan as it was a small family owned business unit. But as business expands they started preparing the sales plan.
2. Customer’s future requirements are assessed by meeting with them at least once a year.

Table 6.1.2

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</table>

Graph 6.1.2

Table 6.1.2 shows that up to 2000 – 01 the firms were not meeting with the customer as at that time these firms were production centric not the customer centric. From 2002 -03 they started considering the customer’s future requirement so that they can modify the products according to customer requirements.
3. In-house market research is conducted.

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Graph 6.1.3

From table 6.1.3 it can be interpreted that up to 1997-98 the dairy units were not doing in house market research. From 2000 – 01, 2 dairy units started in house market research. Still 3 firm use the external sources of market research. As they do not consider that market research is important to formulate the marketing strategy.
4. The firm is having R & D Department to develop the new product.

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Graph 6.1.4

Table 6.1.4 shows that from 1991 to 1995 none of the dairy unit was having research and development department to develop new product. From 1997 to 2007 only one dairy unit is having its own R & D department. The rest of the other dairy units are involved in manufacture of the products which are existing in the market.
5. End users are surveyed at least once in a year to assess the quality.

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Graph 6.1.5

From table 6.1.5 it can be interpreted that initially one dairy unit was not conducting the survey regarding quality of the product. But after 2002-03 all dairy units conducted survey of end users which helps to improve quality of the product.
6. Use of Marketing Information System (MIS).

Table 6.1.6

<table>
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Graph 6.1.6

From table 6.1.6 it can be observed that from 1991 to 2003, 75% to 80% dairy units were not using Marketing Information System (MIS). Around 20% to 25% dairy units were not knowing about the MIS. From 2004, 4 dairy units started using MIS as they understood the benefits of MIS for decision making. One dairy unit does not know any thing about MIS.
7. Data on customer satisfaction are disseminated at all levels in the dairy firm.

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Graph 6.1.7

Table 6.1.7 shows that from 1991 to 1998 dairy firms were not disseminating data on customer satisfaction at all levels of dairy units. From 2000-01, 3 dairy units started giving information at all levels. But still 2 dairy units are not disseminating information at all levels as they do not know about integrated marketing.
8. When it is find that customers are unhappy with the quality of the product, corrective action is taken immediately.

Table 6.1.8

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</table>

Graph 6.1.8

From table 6.1.8 it can be interpreted that all dairy units take corrective action when they find that customers are not satisfied with the quality of the product. At the initial years one firm has quoted the neutral reply as they were in the introductory phase.
9. Marketing department works with Production Department.

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Graph 6.1.9

Table 6.1.9 shows that all dairy units except one agree with the statement that the marketing department works with the production department. One dairy unit neither agree nor disagree because they think, there is no need of co ordination between marketing department and production department.
10. All departments get together periodically to plan a response to changes in environment.

Table 6.1.10

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Graph 6.1.10

From table 6.1.10 it can be observed that all dairy units agree with the statement that all departments get together periodically i.e. monthly to plan a response to changes in environment. It shows that they monitor environment periodically and plan to react to the environmental changes which affects on their business.
11. The activities of all the departments are well coordinated.

Table 6.1.11

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Graph 6.1.11

From table 6.1.11 it can be concluded that 75% to 80% dairy units agree with the statement, activities of all the department are well co-ordinated. One dairy unit disagreed with the statement because all the departments are working separately and they are kept isolated.
12. If a new and innovative marketing plan is suggested, it will be implemented in timely fashion.

Table 6.1.12

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Graph 6.1.12

From Table 6.1.12 it can be observed that 75% to 80% dairy firms are ready to implement a new and innovative marketing plan. It shows that they are shifting towards marketing orientation. One dairy unit disagreed with the statement because of the rigidness of their policies.

Table 6.1.13

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Graph 6.1.13

Table 6.1.13 shows that 75% to 80% dairy units agree with the statement, market segmentation motivates new product development effort in our firm. But only one dairy unit neither agreed nor disagreed as they have not segmented the market.
14. The company exports the products.

Table 6.1.14

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Graph 6.1.14

Table 6.1.14 shows that from 1991 to 98 none of the dairy unit was exporting the milk and milk products. From 2000 to 2003 only 1 (20%) dairy unit was exporting the products which has increased to 2 (40%) dairy units from 2004 to 07. It shows that majority of the dairy units have domestic sales.
15. Differentiated products are offered to the customers.

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Graph 6.1.15

From table 6.1.15 it can be observed that from 1991 to 1995 no dairy firm was offering differentiated products in terms of taste, variety, packaging, quality, price etc. to the customers. From 2000 to 2007 majority i.e. 4 (80%) of dairy units offered differentiated products. Mainly there is differentiation in the taste of the product.
16. Products are offered as per the customer demand.

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<td>2006-07</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
</tbody>
</table>

Graph 6.1.16

From Table 6.1.16 it can be concluded that from 1991 to 1995 none of the dairy units were offering variety of products as customer demand. From 2000 to 2007, 3 (60%) dairy unit offered variety of the products.
17. More emphasis is given on packaging.

Table 6.1.17

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>1 (25%)</td>
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<td>1994-95</td>
<td>1 (25%)</td>
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<td>2 (50%)</td>
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<td>1 (25%)</td>
<td>1 (25%)</td>
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<td>2000-2001</td>
<td>2 (40%)</td>
<td>1 (20%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>2002-03</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
<td>0</td>
</tr>
<tr>
<td>2004-05</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
<td>0</td>
</tr>
<tr>
<td>2006-07</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Graph 6.1.17

Table 6.1.17 shows that from 1991 to 1995 there was only 1 dairy unit, from 1997 – 2001 there were 2 dairy units and from 2002 to 2007 there were 4 dairy units which gives emphasis on packaging. 2 dairy units has neither agreed nor disagreed with the statement as they were not considering packaging as a marketing tool.
18. More emphasis is given on the marketing of milk than the milk products.

Table 6.1.18

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>3 (75%)</td>
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<td>1994-95</td>
<td>3 (75%)</td>
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<td>1997-98</td>
<td>3 (75%)</td>
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</tr>
<tr>
<td>2006-07</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
</tr>
</tbody>
</table>

Graph 6.1.18

From table 6.1.18 it can be interpreted that 75% to 80% dairy unit agree with the statement that they give more emphasis on the marketing of milk than the milk products. Only 1 dairy unit pays more attention towards marketing of milk products.
19. Competition in the dairy industry is cut throat.

Table 6.1.19

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
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<td>1 (20%)</td>
</tr>
</tbody>
</table>

Graph 6.1.19

Table 6.1.19 shows that 60% to 80% dairy units agree with the statement that there is a competition in an industry. Disagreeing dairy unit has developed a niche market for their dairy products.
20. If a major competitor were to launch a campaign targeted at customers, immediate response is given.

Table 6.1.20

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
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<tr>
<td>1991-92</td>
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<tr>
<td>1994-95</td>
<td>4 (100%)</td>
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<tr>
<td>2000-2001</td>
<td>5 (100%)</td>
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<tr>
<td>2002-03</td>
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</tr>
<tr>
<td>2006-07</td>
<td>5 (100%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Graph 6.1.20

1. From table 6.1.20 it can be observed that all the dairy units agree with the statement, if a major competitor were to launch a campaign targeted at customers, immediate response is given. This shows that all the dairy units are more concerned about the competition.
21. There are many promotion wars in the dairy industry.

Table 6.1.21

<table>
<thead>
<tr>
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</tr>
</thead>
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<tr>
<td>1994-95</td>
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<tr>
<td>1997-98</td>
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<td>4 (100%)</td>
</tr>
<tr>
<td>2000-2001</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
<tr>
<td>2002-03</td>
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<tr>
<td>2004-05</td>
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</tr>
<tr>
<td>2006-07</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
</tbody>
</table>

Graph 6.1.21

From table 6.1.21 it can be interpreted that from 1991 to 1998 there were no promotion wars i.e more advertisements, comparative advertising, sales promotion activities etc. in the industry, but after 2000-01 slowly there is increase in promotional wars which is 60% till 2006-07.
22. Price competition is intense.

Table 6.1.22

<table>
<thead>
<tr>
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<td>2002-03</td>
<td>5 (100%)</td>
<td>0</td>
</tr>
<tr>
<td>2004-05</td>
<td>5 (100%)</td>
<td>0</td>
</tr>
<tr>
<td>2006-07</td>
<td>5 (100%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Graph 6.1.22

Table 6.1.22 shows that all dairy units agree with the statement, there is intense price competition. It is observed that prices are kept similar with minimum variation to create the preference for the product.
23. It takes time to decide response to competitor’s price changes.

Table 6.1.23

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>3 (75%)</td>
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<td>1 (25%)</td>
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<tr>
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<td>0</td>
<td>1 (20%)</td>
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<tr>
<td>2004-05</td>
<td>4 (80%)</td>
<td>0</td>
<td>1 (20%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>4 (80%)</td>
<td>0</td>
<td>1 (20%)</td>
</tr>
</tbody>
</table>

Graph 6.1.23

Table 6.1.23 shows that 3 to 4 (75% to 80%) dairy units take time to decide to respond to competitor’s price changes. As it affects on the profit margin. One dairy unit neither agreed nor disagreed with the statement because they consider it depends upon the other environmental factors.
24. Price discounts & cash discounts are offered to the distributors.

Table 6.1.24

<table>
<thead>
<tr>
<th>Year</th>
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</tr>
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<td>1994-95</td>
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<tr>
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</tr>
<tr>
<td>2006-07</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
</tbody>
</table>

Graph 6.1.24

From table 6.1.24 it can be interpreted that from 1991 to 1998 none of the dairy unit was offering price discounts and cash discounts to their distributors. From 2000 to 2007, 40% firms do offer price discounts & cash discounts to the distributors, whereas 60% firms do not offer any price discount and cash discounts.
25. Product prices are competitive.

Table 6.1.25

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>4 (100%)</td>
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<td>5 (100%)</td>
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</tr>
<tr>
<td>2006-07</td>
<td>5 (100%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Graph 6.1.25

From table 6.1.25 it can be concluded that all the firms agree that the product prices are competitive i.e. there is no or minimum variation in the prices of the product.
The prices for all milk products fluctuate frequently.

Table 6.1.26

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>3 (75%)</td>
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<tr>
<td>1994-95</td>
<td>3 (75%)</td>
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<td>1997-98</td>
<td>3 (75%)</td>
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<td>2 (40%)</td>
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<tr>
<td>2004-05</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
</tbody>
</table>

Graph 6.1.26

Table 6.1.26 shows that from 1991 to 1998, 75% dairy units quoted that the prices for all milk products fluctuate frequently. From 2000 to 2007, it has been decreased to 60% which means dairy units are trying to keep the prices stable. Mainly the fluctuations are because of the changes in the raw milk prices.
27. The prices of the products are different for different customers.

Table 6.1.27

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
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<tr>
<td>1991-92</td>
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<td>1994-95</td>
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<td>2000-2001</td>
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<td>2002-03</td>
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</tr>
<tr>
<td>2006-07</td>
<td>0</td>
<td>5 (100%)</td>
</tr>
</tbody>
</table>

Graph 6.1.27

From table 6.1.27 it can be observed that all dairy units disagree with the statement that prices of the products are different for different customers. It shows that they have adopted single pricing policy.
28. The technology in dairy industry is changing rapidly.

Table 6.1.28

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
<th>Neutral</th>
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<td>1991-92</td>
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<tr>
<td>2006-07</td>
<td>4 (80%)</td>
<td>0</td>
<td>1 (20%)</td>
</tr>
</tbody>
</table>

Graph 6.1.28

Table 6.1.28 shows that all the dairy units agree with the statement that the technology in dairy industry is changing rapidly over a period of time. One dairy unit neither agreed nor disagreed as it is started in 2000 and they are mainly focusing on milk processing.
29. Technological changes provide opportunity in the dairy industry.

Table 6.1.29

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
<th>Neutral</th>
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<td>2 (40%)</td>
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</tr>
</tbody>
</table>

Graph 6.1.29

From table 6.1.29 it can be conclude that from 1991 to 1998, 50% dairy units think that technological changes provide opportunity to manufacture new and better quality products. From 2000 to 2007, 40% dairy units have quoted their response in favor of the statement, 40% are not in favor the statement. One dairy unit neither agreed nor disagreed with the statement as they are mainly processing the raw milk. The production of milk products is low.
30. The dairy unit adopts the new technology for production of milk products as soon as it comes.

Table 6.1.30

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
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</tbody>
</table>

Graph 6.1.30

Table 6.1.30 shows that 80% to 100% dairy units do not adopt the new technology for production of milk products as soon as it comes as it increases the cost of production.
31. A large number of new product ideas have been made possible through technological breakthrough in the dairy industry.

Table 6.1.31

<table>
<thead>
<tr>
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</tr>
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</tr>
<tr>
<td>2006-07</td>
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<td>2 (40%)</td>
</tr>
</tbody>
</table>

Graph 6.1.31

From table 6.2.31 it can be observed that from 1991 to 1998, 2 (50%) dairy units agree with the statement that a large number of new product ideas have been made possible through technological breakthrough in our industry which has increased to 3 (60%) dairy units from 2000 to 2007.
32. The distribution network is wide.

Table 6.1.32

<table>
<thead>
<tr>
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<td>2006-07</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
</tbody>
</table>

Graph 6.1.32

From table 6.1.32 it can be concluded that 40% to 50% dairy units have the wide distribution network over a period of time. Two dairy units sale the milk and milk products in the Maharashtra state as well as in the neighboring states i.e Karnataka and Goa. The other dairy units concentrate on the nearby regions.
33. The firm’s distribution network is widely spread throughout the Maharashtra and neighboring states.

Table 6.1.33

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>0</td>
<td>4 (100%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>0</td>
<td>4 (100%)</td>
</tr>
<tr>
<td>1997-98</td>
<td>1 (25%)</td>
<td>3 (75%)</td>
</tr>
<tr>
<td>2000-2001</td>
<td>1 (20%)</td>
<td>4 (80%)</td>
</tr>
<tr>
<td>2002-03</td>
<td>1 (20%)</td>
<td>4 (80%)</td>
</tr>
<tr>
<td>2004-05</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
</tbody>
</table>

Graph 6.1.33

From table 6.1.33 it can be observed that from 1991 to 1995 none of the dairy unit was distributing the products throughout the Maharashtra state. After 2000-01, 20% to 40% firm’s distribution network is widely spread throughout the Maharashtra as well as neighboring states. The other dairy units sale the products in some part of the Maharashtra and Karnataka state.
34. Dairy unit have the retail outlets at various places in Maharashtra

Table 6.1.34

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
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<tr>
<td>2000-2001</td>
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<td>4 (80%)</td>
</tr>
<tr>
<td>2002-03</td>
<td>1 (20%)</td>
<td>4 (80%)</td>
</tr>
<tr>
<td>2004-05</td>
<td>1 (20%)</td>
<td>4 (80%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>1 (20%)</td>
<td>4 (80%)</td>
</tr>
</tbody>
</table>

Graph 6.1.34

From table 6.1.34 it can be concluded that from 1991 to 1995 none of the dairy unit was having the retail outlets at various places in Maharashtra. From 1997 to 2007 only one dairy unit have their retail outlets in Maharashtra.
35. Retail outlets are doing well business.

Table 6.1.35

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>0</td>
<td>4 (100%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>0</td>
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</tr>
<tr>
<td>1997-98</td>
<td>1 (25%)</td>
<td>3 (75%)</td>
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<tr>
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<td>1 (20%)</td>
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</tr>
<tr>
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<td>2004-05</td>
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<td>4 (80%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>1 (20%)</td>
<td>4 (80%)</td>
</tr>
</tbody>
</table>

Graph 6.1.35

Table 6.1.35 shows that from 1997-98, one dairy unit which is having their retail outlets in Maharashtra is doing well in their retail outlet. Other dairy units do not have their retail outlets.
36. Distribution channel members sell only the firm’s products.

Table 6.1.36

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>2 (50%)</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>2 (50%)</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>1997-98</td>
<td>2 (50%)</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>2000-2001</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
<tr>
<td>2002-03</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
<tr>
<td>2004-05</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
</tbody>
</table>

Graph 6.1.36

From table 6.1.36 it can be observed that 40% to 50% dairy units agreed with the statement that their channel members sell only the firm’s products over a period of time. From 1991 to 1998, 50% to 60% dairy units disagreed with the statement.
37. The company is having their own sales force for the personal selling.

Table 6.1.37

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>2 (50%)</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>2 (50%)</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>1997-98</td>
<td>3 (75%)</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>2000-2001</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>2002-03</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>2004-05</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
</tbody>
</table>

Graph 6.1.37

Table 6.1.37 shows that 2 to 3 (50% to 60%) dairy units have their own sales force for the personal selling. 40 to 50% dairy units disagree with the statement which indicates that these dairy firms are not having their own sales force for the personal selling.
38. Training is given to the sales people.

**Table 6.1.38**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>2 (50%)</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>2 (50%)</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>1997-98</td>
<td>3 (75%)</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>2000-01</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>2002-03</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>2004-05</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
</tbody>
</table>

**Graph 6.1.38**

From table 6.1.38 it can be interpreted that from 1991 to 1995, 2 dairy units were giving training to their sales people which has increased to 3 dairy units from 1997 to 2007.
39. The company offers more incentives to the channel members to increase the sales.

Table 6.1.39

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>1 (25%)</td>
<td>3 (75%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>1 (25%)</td>
<td>3 (75%)</td>
</tr>
<tr>
<td>1997-98</td>
<td>2 (50%)</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>2000-2001</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
<tr>
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</tr>
<tr>
<td>2004-05</td>
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<td>3 (60%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>2 (40%)</td>
<td>3 (60%)</td>
</tr>
</tbody>
</table>

Graph 6.1.39

From table 6.1.39 it can be observed that from 1991 to 1995, only 1 dairy unit agree with the statement that the company offers more incentives to the channel members to increase the sales. From 1997 to 2007, 2 dairy units quoted that they agree with the statement. But majority of the dairy units disagree with the statement. It indicates that these dairy units do not offer more incentives to the channel members to increase the sales.
40. Products are advertised at national level.

Table 6.1.40

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>0</td>
<td>4 (100%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>0</td>
<td>4 (100%)</td>
</tr>
<tr>
<td>1997-98</td>
<td>0</td>
<td>4 (100%)</td>
</tr>
<tr>
<td>2000-2001</td>
<td>0</td>
<td>5 (100%)</td>
</tr>
<tr>
<td>2002-03</td>
<td>0</td>
<td>5 (100%)</td>
</tr>
<tr>
<td>2004-05</td>
<td>0</td>
<td>5 (100%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>0</td>
<td>5 (100%)</td>
</tr>
</tbody>
</table>

Graph 6.1.40

Table 6.1.40 shows that all dairy units disagree with the statement that they advertise their products at national level. From this it can be concluded that they advertise at local level.
41. The advertisement is given on continuous basis.

Table 6.1.41

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>3 (75%)</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>3 (75%)</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>1997-98</td>
<td>3 (75%)</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>2000-2001</td>
<td>3 (60%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>2002-03</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
</tr>
<tr>
<td>2004-05</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
</tr>
</tbody>
</table>

Graph 6.1.41

From table 6.1.41 it can be observed that 75% to 80% dairy units advertise their products on continuous basis over a period of time. They regularly advertise the products in the different medias. 20 to 25% firms do not advertise regularly as their advertising budget was low.
42. The firm has developed brand awareness in customer minds.

Table 6.1.42

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>3 (75%)</td>
<td>0</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>3 (75%)</td>
<td>0</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>1997-98</td>
<td>4 (100%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2000-2001</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
<td>0</td>
</tr>
<tr>
<td>2002-03</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
<td>0</td>
</tr>
<tr>
<td>2004-05</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
<td>0</td>
</tr>
<tr>
<td>2006-07</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Graph 6.1.42

From table 6.1.42 it can be observed that from 1991 to 1995, 3 dairy units agree with the statement that their firm has developed brand awareness in customer minds, 1 dairy unit was unknown about it. From 1997 to 2007, 4 dairy units agree with the statement.
43. Sales promotion schemes are employed for distributors & retailers.

Table 6.1.43

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>2 (50%)</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>1994-95</td>
<td>2 (50%)</td>
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<tr>
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<td>1 (20%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>4 (80%)</td>
<td>1 (20%)</td>
</tr>
</tbody>
</table>

Graph 6.1.43

Table 6.1.43 shows that from 1991 to 1995 two dairy units; in 1997-98 three dairy units and from 2000 to 2007, 4 dairy units agree with the statement that they employ sales promotion schemes like sales incentives, boards and banners etc. for distributors & retailers.
44. The firm is offering sales promotion schemes for the customers.

Table 6.1.44

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
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<tr>
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</tr>
<tr>
<td>1997-98</td>
<td>0</td>
<td>4 (100%)</td>
</tr>
<tr>
<td>2000-01</td>
<td>0</td>
<td>5 (100%)</td>
</tr>
<tr>
<td>2002-03</td>
<td>0</td>
<td>5 (100%)</td>
</tr>
<tr>
<td>2004-05</td>
<td>0</td>
<td>5 (100%)</td>
</tr>
<tr>
<td>2006-07</td>
<td>0</td>
<td>5 (100%)</td>
</tr>
</tbody>
</table>

Graph 6.1.44

From table 6.1.44 it can be seen that all the dairy firms did not offer sales promotion schemes for the customers over a period of time.
45. The dairy unit has developed good public relations.

Table 6.1.45

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of firms Agreeing with</th>
<th>No. of firms disagreeing with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>3 (75%)</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>1994-95</td>
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<tr>
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<tr>
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<td>4 (40%)</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>2004-05</td>
<td>5 (100%)</td>
<td>0</td>
</tr>
<tr>
<td>2006-07</td>
<td>5 (100%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Graph 6.1.45

Table 6.1.45 shows that from 1991 to 1998, three dairy units; from 2000 to 2003, 4 diary units and from 2004 to 2007, all 5 dairy units agree with the statement that they have developed good public relations.
6.2 Overall analysis of the data collected from Marketing Managers

Data was collected with the help of the questionnaire for the year as 1991-92, 1994-95, 1997-98, 2000-01, 2002-03, 2004-05, 2006-07. Therefore the results show the overall marketing performance of the dairy units from 1991 to 2006. In table 6.2 analysis of the statements is given by using Mean, Mode, Standard Deviation, Coefficient of variation, Skweness, and Z – Test.

For all the statements same null hypothesis is stated where as alternative hypotheses varies according to the mean value of the different statements.

Null Hypothesis- Ho: μ = 3

The hypotheses are tested at 5% level of significance. The critical value of Z 0.05 = 1.64
Table No. 6.2 Analysis of the data collected from marketing managers.

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Statements</th>
<th>Mean (Xi)</th>
<th>Mode</th>
<th>S. D. (σi)</th>
<th>C.V.</th>
<th>Skweness</th>
<th>Alternative Hypotheses</th>
<th>Z Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preparation of periodical plan.</td>
<td>2</td>
<td>2</td>
<td>0.87988</td>
<td>43.99</td>
<td>1.212283</td>
<td>µ &lt; 3</td>
<td>-6.477</td>
</tr>
<tr>
<td>2</td>
<td>Customer’s future requirements are assessed by meeting with them at least once a year.</td>
<td>3.312</td>
<td>4</td>
<td>0.96511</td>
<td>29.13</td>
<td>-0.69076</td>
<td>µ &gt; 3</td>
<td>1.843</td>
</tr>
<tr>
<td>3</td>
<td>In-house market research is conducted.</td>
<td>3.625</td>
<td>4</td>
<td>1.00803</td>
<td>27.81</td>
<td>-0.76843</td>
<td>µ &gt; 3</td>
<td>3.534</td>
</tr>
<tr>
<td>4</td>
<td>The firm is having R &amp; D Department to develop the new product</td>
<td>4.031</td>
<td>4</td>
<td>0.99496</td>
<td>24.68</td>
<td>-1.09944</td>
<td>µ &gt; 3</td>
<td>5.906</td>
</tr>
<tr>
<td>5</td>
<td>End users are surveyed at least once in a year to assess the quality.</td>
<td>1.937</td>
<td>2</td>
<td>0.80070</td>
<td>41.34</td>
<td>1.322733</td>
<td>µ &lt; 3</td>
<td>-7.567</td>
</tr>
<tr>
<td>6</td>
<td>Use of Marketing Information System (MIS).</td>
<td>3.156</td>
<td>4</td>
<td>0.88388</td>
<td>28.00</td>
<td>-0.32262</td>
<td>µ &gt; 3</td>
<td>1.006</td>
</tr>
<tr>
<td>Sr.No</td>
<td>Statements</td>
<td>Mean ($\bar{X}_i$)</td>
<td>Mode</td>
<td>S. D. ($\sigma_i$)</td>
<td>C.V.</td>
<td>Skweness</td>
<td>Alternative Hypotheses H1</td>
<td>Z Test</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>------</td>
<td>-------------------</td>
<td>------</td>
<td>------------</td>
<td>--------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>7</td>
<td>Data on customer satisfaction are disseminated at all levels in the dairy firm.</td>
<td>2.969</td>
<td>4</td>
<td>0.9995</td>
<td>33.65</td>
<td>-0.3479</td>
<td>$\mu &lt; 3$</td>
<td>-0.177</td>
</tr>
<tr>
<td>8</td>
<td>When it is find that customers are unhappy with the quality of the product, corrective action is taken immediately.</td>
<td>1.656</td>
<td>2</td>
<td>0.60158</td>
<td>36.24</td>
<td>0.295417</td>
<td>$\mu &lt; 3$</td>
<td>-12.734</td>
</tr>
<tr>
<td>9</td>
<td>Marketing department works with Production Department.</td>
<td>1.687</td>
<td>1</td>
<td>0.82060</td>
<td>48.56</td>
<td>0.65674</td>
<td>$\mu &lt; 3$</td>
<td>-9.120</td>
</tr>
<tr>
<td>10</td>
<td>All departments get together periodically to plan a response to changes in the environment.</td>
<td>1.75</td>
<td>2</td>
<td>0.43994</td>
<td>25.14</td>
<td>-1.21228</td>
<td>$\mu &lt; 3$</td>
<td>-16.195</td>
</tr>
<tr>
<td>11</td>
<td>The activities of all the departments are well coordinated.</td>
<td>2.094</td>
<td>2</td>
<td>1.11758</td>
<td>53.37</td>
<td>0.840191</td>
<td>$\mu &lt; 3$</td>
<td>-4.621</td>
</tr>
<tr>
<td>12</td>
<td>If a new and innovative marketing plan is suggested, it will be implemented in timely fashion.</td>
<td>2.219</td>
<td>2</td>
<td>0.42001</td>
<td>18.92</td>
<td>1.428526</td>
<td>$\mu &lt; 3$</td>
<td>-10.599</td>
</tr>
<tr>
<td>Sr.No</td>
<td>Statements</td>
<td>Mean ((\bar{X}_i))</td>
<td>Mode</td>
<td>S. D. ((\sigma_i))</td>
<td>C.V.</td>
<td>Skweness</td>
<td>Alternative Hypotheses</td>
<td>Z Test</td>
</tr>
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</tr>
<tr>
<td>13</td>
<td>Market segmentation motivates new product development effort.</td>
<td>2.062</td>
<td>2</td>
<td>0.56440</td>
<td>27.36</td>
<td>0.026913</td>
<td>(\mu &lt; 3)</td>
<td>-9.473</td>
</tr>
<tr>
<td>14</td>
<td>The company exports the products.</td>
<td>3.844</td>
<td>4</td>
<td>1.3225</td>
<td>34.44</td>
<td>-1.3011</td>
<td>(\mu &gt; 3)</td>
<td>3.638</td>
</tr>
<tr>
<td>15</td>
<td>Differentiated products are offered to the customers.</td>
<td>3</td>
<td>2</td>
<td>1.19137</td>
<td>39.71</td>
<td>0.488362</td>
<td>(\mu \neq 3)</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>Products are offered as per the customer demand.</td>
<td>3.156</td>
<td>4</td>
<td>1.29787</td>
<td>41.07</td>
<td>-0.21404</td>
<td>(\mu &gt; 3)</td>
<td>0.685</td>
</tr>
<tr>
<td>17</td>
<td>More emphasis is given on packaging.</td>
<td>2.437</td>
<td>2</td>
<td>1.07576</td>
<td>44.09</td>
<td>0.172312</td>
<td>(\mu &lt; 3)</td>
<td>-2.983</td>
</tr>
<tr>
<td>18</td>
<td>More emphasis is given on the marketing of milk than the milk products.</td>
<td>2.062</td>
<td>1</td>
<td>1.21649</td>
<td>59.05</td>
<td>0.791129</td>
<td>(\mu &lt; 3)</td>
<td>-4.395</td>
</tr>
<tr>
<td>19</td>
<td>Competition in the dairy industry is cut throat.</td>
<td>2.156</td>
<td>2</td>
<td>1.16700</td>
<td>54.03</td>
<td>0.716342</td>
<td>(\mu &lt; 3)</td>
<td>-4.122</td>
</tr>
<tr>
<td>Sr.No</td>
<td>Statements</td>
<td>Mean ( \bar{X_i} )</td>
<td>Mode</td>
<td>S. D. ( \sigma_i )</td>
<td>C.V.</td>
<td>Skweness</td>
<td>Alternative Hypotheses</td>
<td>Z Test</td>
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</tr>
<tr>
<td>20</td>
<td>If a major competitor were to launch a campaign targeted at customers, immediate response is given.</td>
<td>1.531</td>
<td>2</td>
<td>0.50701</td>
<td>33.14</td>
<td>-0.13149</td>
<td>( \mu &lt; 3 )</td>
<td>-16.515</td>
</tr>
<tr>
<td>21</td>
<td>There are many promotion wars in the dairy industry.</td>
<td>3.344</td>
<td>4</td>
<td>1.00352</td>
<td>30.04</td>
<td>-0.97016</td>
<td>( \mu &gt; 3 )</td>
<td>1.954</td>
</tr>
<tr>
<td>22</td>
<td>Price competition is intense.</td>
<td>1.75</td>
<td>2</td>
<td>0.43994</td>
<td>25.14</td>
<td>-1.21228</td>
<td>( \mu &lt; 3 )</td>
<td>-16.195</td>
</tr>
<tr>
<td>23</td>
<td>It takes time to decide response to competitor’s price changes.</td>
<td>1.687</td>
<td>1</td>
<td>0.82060</td>
<td>48.56</td>
<td>0.65674</td>
<td>( \mu &lt; 3 )</td>
<td>-9.120</td>
</tr>
<tr>
<td>24</td>
<td>Price discounts &amp; cash discounts are offered to the distributors.</td>
<td>3.625</td>
<td>4</td>
<td>1.26363</td>
<td>34.86</td>
<td>-0.96563</td>
<td>( \mu &gt; 3 )</td>
<td>2.819</td>
</tr>
<tr>
<td>25</td>
<td>Product prices are competitive.</td>
<td>1.812</td>
<td>2</td>
<td>0.39656</td>
<td>21.90</td>
<td>-1.68113</td>
<td>( \mu &lt; 3 )</td>
<td>-17.076</td>
</tr>
<tr>
<td>26</td>
<td>The prices for all milk products fluctuate frequently.</td>
<td>2.687</td>
<td>2</td>
<td>0.96512</td>
<td>35.91</td>
<td>0.690762</td>
<td>( \mu &lt; 3 )</td>
<td>-1.848</td>
</tr>
<tr>
<td>Sr.No</td>
<td>Statements</td>
<td>Mean ($\overline{X_i}$)</td>
<td>Mode</td>
<td>S. D. ($\sigma_i$)</td>
<td>C.V.</td>
<td>Skweness</td>
<td>Alternative Hypotheses</td>
<td>Z Test</td>
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</tr>
<tr>
<td>27</td>
<td>The prices of the products are different for different customers.</td>
<td>4.562</td>
<td>5</td>
<td>0.50402</td>
<td>11.05</td>
<td>-0.26454</td>
<td>$\mu &gt; 3$</td>
<td>17.665</td>
</tr>
<tr>
<td>28</td>
<td>The technology in dairy industry is changing rapidly.</td>
<td>1.781</td>
<td>2</td>
<td>0.55267</td>
<td>31.05</td>
<td>-0.09196</td>
<td>$\mu &lt; 3$</td>
<td>-12.572</td>
</tr>
<tr>
<td>29</td>
<td>Technological changes provide opportunity in the dairy industry</td>
<td>2.937</td>
<td>4</td>
<td>1.04534</td>
<td>35.55</td>
<td>-0.23015</td>
<td>$\mu &lt; 3$</td>
<td>-.343</td>
</tr>
<tr>
<td>30</td>
<td>The dairy unit adopts the new technology for production of milk products as soon as it comes.</td>
<td>4.094</td>
<td>4</td>
<td>0.58801</td>
<td>14.38</td>
<td>-0.00694</td>
<td>$\mu &gt; 3$</td>
<td>10.605</td>
</tr>
<tr>
<td>31</td>
<td>A large number of new product ideas have been made possible through technological breakthrough in the dairy industry.</td>
<td>2.75</td>
<td>4</td>
<td>1.16397</td>
<td>42.32</td>
<td>-3.0561</td>
<td>$\mu &lt; 3$</td>
<td>-1.224</td>
</tr>
<tr>
<td>32</td>
<td>The distribution network is wide.</td>
<td>3.187</td>
<td>4</td>
<td>1.46876</td>
<td>46.04</td>
<td>-0.21533</td>
<td>$\mu &gt; 3$</td>
<td>0726</td>
</tr>
<tr>
<td>Sr.No</td>
<td>Statements</td>
<td>Mean ($\overline{X}_i$)</td>
<td>Mode</td>
<td>S. D. ($\sigma_i$)</td>
<td>C.V.</td>
<td>Skweness</td>
<td>Alternative Hypothesis</td>
<td>H1</td>
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</tr>
<tr>
<td>33</td>
<td>The firm’s distribution network is widely spread throughout the Maharashtra and neighboring states.</td>
<td>3.781</td>
<td>4</td>
<td>1.03905</td>
<td>27.49</td>
<td>-0.81899</td>
<td>$\mu &gt; 3$</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Dairy unit have the retail outlets at various places in Maharashtra.</td>
<td>4.03</td>
<td>4</td>
<td>0.9995</td>
<td>24.8</td>
<td>-1.09944</td>
<td>$\mu &gt; 3$</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Retail outlets are doing well business.</td>
<td>4.03</td>
<td>4</td>
<td>0.99949</td>
<td>24.8</td>
<td>-1.09944</td>
<td>$\mu &gt; 3$</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Distribution channel members sell only the firm’s products.</td>
<td>2.906</td>
<td>2</td>
<td>0.89296</td>
<td>30.69</td>
<td>0.192261</td>
<td>$\mu &lt; 3$</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>The company is having their own sales force for the personal selling.</td>
<td>2.469</td>
<td>2</td>
<td>1.29476</td>
<td>52.42</td>
<td>0.739089</td>
<td>$\mu &lt; 3$</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Training is given to the sales people.</td>
<td>3.156</td>
<td>2</td>
<td>1.4393</td>
<td>45.55</td>
<td>0.47056</td>
<td>$\mu &gt; 3$</td>
<td></td>
</tr>
<tr>
<td>Sr.No</td>
<td>Statements</td>
<td>Mean ($\bar{X}_i$)</td>
<td>Mode</td>
<td>S. D. ($\sigma_i$)</td>
<td>C.V.</td>
<td>Skweness</td>
<td>Alternative Hypothesis</td>
<td>Z Test</td>
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</tr>
<tr>
<td>39</td>
<td>The company offers more incentives to the channel members to increase the sales.</td>
<td>3.594</td>
<td>2</td>
<td>1.31638</td>
<td>36.67</td>
<td>-0.26223</td>
<td>$\mu &gt; 3$</td>
<td>2.572</td>
</tr>
<tr>
<td>40</td>
<td>Advertisements of products are done at national level.</td>
<td>4.344</td>
<td>5</td>
<td>0.82733</td>
<td>19.06</td>
<td>-0.74018</td>
<td>$\mu &gt; 3$</td>
<td>9.26</td>
</tr>
<tr>
<td>41</td>
<td>The advertisement is given on continuous basis.</td>
<td>2.625</td>
<td>2</td>
<td>1.12880</td>
<td>43.00</td>
<td>1.390519</td>
<td>$\mu &lt; 3$</td>
<td>-1.894</td>
</tr>
<tr>
<td>42</td>
<td>The firm has developed brand awareness in customer minds.</td>
<td>2.344</td>
<td>2</td>
<td>1.09572</td>
<td>46.82</td>
<td>1.760761</td>
<td>$\mu &lt; 3$</td>
<td>-3.412</td>
</tr>
<tr>
<td>43</td>
<td>Sales promotion schemes are employed for distributors &amp; retailers.</td>
<td>2.687</td>
<td>2</td>
<td>0.96511</td>
<td>35.88</td>
<td>0.690762</td>
<td>$\mu &lt; 3$</td>
<td>-1.849</td>
</tr>
<tr>
<td>44</td>
<td>The firm is offering sales promotion schemes for the customers.</td>
<td>4</td>
<td>4</td>
<td>0.67202</td>
<td>16.8</td>
<td>3.06</td>
<td>$\mu &gt; 3$</td>
<td>8.482</td>
</tr>
<tr>
<td>45</td>
<td>The dairy unit has developed good public relations</td>
<td>1.5</td>
<td>1</td>
<td>0.76200</td>
<td>50.08</td>
<td>1.16652</td>
<td>$\mu &lt; 3$</td>
<td>-11.22</td>
</tr>
</tbody>
</table>
Overall Coefficient of Variation –

Overall Mean = $\left| \bar{X} \right| = X_1 + X_2 + \ldots \ldots + X_{46}$

$\left| \bar{X} \right| = 2.83$

No. of respondents $[\sigma_1^2 + \sigma_2^2 + \ldots \sigma_{46}^2 + (d_1^2 + d_2^2 + \ldots + d_{46}^2)]$

Overall $\sigma^2 = \frac{[\sigma_1^2 + \sigma_2^2 + \ldots \sigma_{46}^2 + (d_1^2 + d_2^2 + \ldots + d_{46}^2)]}{\text{No. of respondents x No. of responses}}$

Overall $\sigma^2 = \frac{46.794 + 34.7868}{32 \times 46}$

Overall $\sigma^2 = 1.7735$

Overall $\sigma = \sqrt{1.7735}$

Overall $\sigma = 1.3317$

Overall $\sigma = \frac{\text{Overall }\sigma}{\left| \bar{X} \right|} \times 100$

Overall $\sigma = \frac{1.3317}{2.83} \times 100$

Overall $\sigma = 47.056$

According to Karl Pearson, ‘Coefficient of Variation is the percentage variation in mean and standard deviation being considered as the total variation in the mean’. For comparing the validity of distributions, the C. V. for each distribution is computed. The overall C. V. is also calculated. The greater C. V. than overall C. V. shows the more variability in responses. The smaller C. V. is said to be more homogeneous or uniform or less variable than others.
From table 6.2 it can be concluded that

1. The C. V. for this response is 43.99 which is smaller than overall C. V. of 47.056. This shows that there is less variability in the responses. Skweness is 1.212283 which is greater than 0. It shows that it is positively skewed. Value of Z is -6.477. Therefore null hypotheses is rejected. That means majority of the dairy units have agreed that they prepare periodical sales plan.

2. The C. V. is 29.13 which is less than overall C. V. of 47.056. From this it can be interpreted that there is less variability or the responses are homogeneous. Skweness is -0.69076 which is less than 0. It shows that it is negatively skewed. Value of Z is 1.843. Therefore alternative hypothesis is accepted. Majority of the dairy units have disagreed with the statement; they meet with the customers at least once a year to find out what products customers will need in future.

3. The C. V. is 27.81 which is less than overall C. V. of 47.056. From this it can be interpreted that there is less variability or the responses are more homogeneous. Skweness is -0.76843 which is less than 0. It shows that it is negatively skewed. Value of Z is 3.534. Therefore alternative hypothesis is accepted. Majority of the dairy units have disagreed with the statement that they do in house market research.

4. The C. V. is 24.68 which is less than overall C. V. of 47.056. From this it can be concluded that there is less variability. Skweness is -1.09944 which is less than 0. This shows that it is negatively skewed. Value of Z is 5.906. Therefore alternative hypothesis is accepted. Majority of the dairy units have disagreed with the statement that they do have R & D department to develop the new product.

5. The C. V. for this response is 41.34 which is smaller than overall C. V. of 47.056. This shows that there is less variability in the responses. Skweness is 1.32 which is greater than 0. This shows that it is positively skewed. Value
of Z is -7.567. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed that they survey end users at least once in a year to assess the quality.

6. The C. V. is 28 which is less than overall C. V. of 47.056. From this it can be interpreted that there is less variability or the responses are more homogeneous. Skweness is -0.322 which is less than 0. This shows that it is negatively skewed. Value of Z is 1.006. Therefore null hypothesis is accepted. This shows that the dairy units neither agree nor disagree about the statement that they use Marketing Information System.

7. The C. V. is 33.65 which is less than overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses. Skweness is -0.3479 which is less than 0. This shows that it is negatively skewed. Value of Z is -0.177. Therefore null hypothesis is accepted. This shows that dairy units have neither agreed nor disagreed with the statement: data on customer satisfaction are disseminated at all levels in their firms.

8. The C. V. for this response is 36.24 which is smaller than overall C. V. of 47.056. This shows that there is less variability in the responses. Skweness is 0.295 which is greater than 0. This shows that it is positively skewed. Value of Z is -12.734. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed that when they find out that customers are unhappy with the quality of their product, they take corrective action immediately.

9. The C. V. for this statement is 48.56 which is greater than overall C. V. of 47.056. This shows that there is more variability in the responses. Skweness is 0.66 which is higher than 0. This shows that it is positively skewed. Value of Z is -9.120. Therefore alternative hypothesis is accepted. Majority of the dairy units have strongly agreed that their marketing department works with production department.
10. The C. V. for this response is 25.14 which is less than overall C. V. of 47.056. This shows that there is less variability in the responses. Skweness is -1.21 which is less than 0. This shows that it is negatively skewed. Value of Z is -16.195. Therefore alternative hypothesis is accepted. Maximum number of the dairy units have agreed that all departments get together periodically to plan a response to changes in environment.

11. The C. V. for this statement is 53.37 which is greater than overall C. V. of 47.056. This shows that there is more variability in the responses. Skweness is 0.84 which is greater than 0. This shows that it is positively skewed. Value of Z is -4.621. Therefore alternative hypothesis is accepted. Majority of the dairy units have agreed that the activities of all departments are well coordinated.

12. The C. V. for this response is 18.92 which is smaller than overall C. V. of 47.056. This shows that there is consistency in the responses of respondents. Skweness is 1.428 which is greater than 0. This shows that it is positively skewed. Value of Z is -10.599. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed that if someone suggests a new marketing plan, dairy units would be able to implement it in timely fashion.

13. The C. V. for this statement is 27.36 which is lesser than overall C. V. of 47.056. This shows that responses are homogeneous in nature. Skweness is 0.027 which is higher than 0. This shows that it is positively skewed. Value of Z is -9.473. Therefore alternative hypothesis is accepted. Majority of the dairy units have agreed that market segmentation motivates new product development effort in their firm.

14. The C. V. is 34.44 which is lesser than overall C. V. of 47.056. From this it can be concluded that there is consistency in the responses of respondents. Skweness is -1.30 which is less than 0. This shows that it is negatively skewed. Value of Z is 3.638. Therefore alternative hypothesis is accepted.
Majority of the dairy units have disagreed with the statement; the company export the products.

15. The C. V. is 39.71 which is smaller than overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses of respondents. Skweness is 0.49 which is greater than 0. This shows that it is positively skewed. Value of Z is 0. Therefore null hypothesis is accepted. This shows that dairy units have neither agreed nor disagreed with the statement that they offer differentiated products to the customers.

16. The C. V. is 41.07 which is smaller than overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses of respondents. Skweness is -0.21 which is less than 0. This shows that it is negatively skewed. Value of Z is 0.685. Therefore alternative hypothesis is accepted. This shows that dairy units have neither agreed nor disagreed with the statement; they offer as many products as the customers demand.

17. The C. V. for this statement is 44.09 which is less than overall C. V. of 47.056. This shows that responses are homogeneous in nature. Skweness is 0.17 which is greater than 0. This shows that it is positively skewed. Value of Z is -2.983. Therefore alternative hypothesis is accepted. Majority of the dairy units have agreed that their company gives more emphasis on packaging.

18. The C. V. for this response is 59.05 which is greater than overall C. V. of 47.056. This shows that there is variability in the responses in the responses of respondents. Skweness is 0.79 which is greater than 0. This shows that it is positively skewed. Value of Z is -4.395. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed that they give more emphasis on marketing of milk than milk products.

19. The C. V. for this response is 54.03 which is greater than overall C. V. of 47.056. This shows that there is more variability in the responses of
respondents. Skweness is 0.72 which is greater than 0. This shows that it is positively skewed. Value of Z is -4.122. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed that competition in the industry is cut throat.

20. The C. V. for this statement is 33.14 which is lesser than overall C. V. of 47.056. This shows that responses are homogeneous in nature. Skweness is -0.13 which is less than 0. This shows that it is negatively skewed. Value of Z is -16.515. Therefore alternative hypothesis is accepted. Majority of the dairy units has agreed that if a major competitor were to launch a campaign targeted at our customers, we would implement a response immediately.

21. The C. V. is 30.04 which is smaller than overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses of respondents. Skweness is -0.97 which is less than 0. This shows that it is negatively skewed. Value of Z is 1.954. Therefore alternative hypothesis is accepted. Majority of the dairy units has disagreed with the statement; there are many promotion wars in the dairy industry.

22. The C.V. for this response is 54.03 which is greater than overall C. V. of 47.056. This shows that there is variability in the responses of respondents. Skweness is -1.21 which is less than 0. This shows that it is negatively skewed. Value of Z is -16.195. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed that price competition is intense.

23. The C. V. for this statement is 48.56 which is higher than overall C. V. of 47.056. This shows that that there is high variability in the responses of respondents. Skweness is 0.66 which is greater than 0. This shows that it is positively skewed. Value of Z is -9.120. Therefore alternative hypothesis is accepted. Majority of the dairy units has agreed that it takes time to them to decide to respond to competitor’s price change.
24. The C.V. is 34.86 which is lower than overall C.V. of 47.056. From this it can be concluded that there is less variability in the responses of respondents. Skweness is -0.96 which is less than 0. This shows that it is negatively skewed. Value of Z is 2.819. Therefore alternative hypothesis is accepted. Majority of the dairy units has disagreed with the statement; they offer price discounts and cash discounts to the distributors.

25. The C.V. for this response is 21.90 which is less than overall C.V. of 47.056. This shows that the responses are homogeneous in nature. Skweness is -1.68 is less than 0. This shows that it is negatively skewed. Value of Z is -17.076. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed that their product prices are competitive.

26. The C.V. for this response is 35.91 which is smaller than overall C.V. of 47.056. This shows that there is consistency in the responses of respondents. Skweness is 0.69. It is greater than 0 which shows that it is positively skewed. Value of Z is -1.848. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed that the prices for all products fluctuate frequently.

27. The C. V. is 11.05 which is much lower than overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses. Skweness is -0.26 which is less than 0. This shows that it is negatively skewed. Value of Z is 17.665. Therefore alternative hypothesis is accepted. Majority of the dairy units has disagreed with the statement; the prices for the products are different for different customers.

28. The C. V. for this statement is 31.05 which is less than overall C. V. of 47.056. This shows that responses are homogeneous in nature. Skweness is -0.092 which is less than 0. This shows that it is negatively skewed. Value of Z is -12.572. Therefore alternative hypothesis is accepted. Majority of the dairy units has agreed that technology in the dairy industry is changing rapidly.
29. The C. V. is 35.55 which is less than the overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses of respondents. Skweness is -0.23 which is less than 0. This shows that it is negatively skewed. Value of Z is -0.343. Therefore alternative hypothesis is accepted. This shows that dairy units have neither agreed nor disagreed with the statement that technological changes provide big opportunity in the industry.

30. The C. V. is 14.38 which is less than overall C. V. of 47.056. From this it can be concluded that the responses are consistent. Skweness is -0.0069 which is less than 0. This shows that it is slightly negatively skewed. Value of Z is 10.605. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has disagreed with the statement; they adopt new technology as soon as it comes.

31. The C. V. is 42.32 which is smaller than overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses. Skweness is -3.056 which is less than 0. This shows that it is more negatively skewed. Value of Z is -1.224. Therefore null hypothesis is accepted. This shows that dairy units have neither agreed nor disagreed with the statement; a large number of new product ideas have been made possible through technological breakthrough.

32. The C. V. is 46.04 which is smaller than overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses. Skweness is -0.22 which is less than 0. This shows that it is negatively skewed. Value of Z is 0.726. Therefore null hypothesis is accepted. This shows that dairy units have neither agreed nor disagreed with the statement; they have the wide distribution network.

33. The C. V. is 27.49 which is less than overall C. V. of 47.056. From this it can be concluded that the responses are consistent. Skweness is -0.82 which lies between the standard areas of 1.64 to -1.64 which shows that it is almost neutral. Value of Z is 9.77. Therefore alternative hypothesis is accepted.
Maximum number of the dairy units has disagreed with the statement; the firm’s distribution network is widely spread throughout the Maharashtra as well as India.

34. The C. V. is 24.8 which is less than overall C. V. of 47.056. From this it can be concluded that the responses are consistent. Skewness is -1.099 which is less than 0. This shows that it is negatively skewed. Value of Z is 5.874. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has disagreed with the statement; their dairy unit is having retail outlets at various places in Maharashtra.

35. The C. V. is 24.8 which is less than overall C. V. of 47.056. From this it can be concluded that the responses are consistent. Skewness is -1.099 which is less than 0. This shows that it is negatively skewed. Value of Z is 5.874. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has disagreed with the statement that they are doing well in their retail outlets.

36. The C. V. for this statement is 30.69 which is less than overall C. V. of 47.056. This shows that responses are homogeneous in nature. Skweness is 0.192 which is greater than 0. This shows that it is positively skewed. Value of Z is -0.6. Therefore null hypothesis is accepted. Majority of the dairy units has agreed that the channel members sell only firm’s products.

37. The C. V. for this statement is 52.42 which is greater than overall C. V. of 47.056. This shows that there is more variability in the responses of respondents. Skweness is 0.739 which is greater than 0. This shows that it is positively skewed. Value of Z is -2.338. Therefore alternative hypothesis is accepted. Majority of the dairy units has agreed with the statement that the company is having their own sales force for the personal selling.

38. The C. V. is 45.55 which is smaller than overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses. Skweness is
0.47 which is greater than 0. This shows that it is positively skewed. Value of Z is 0.618. Therefore null hypothesis is accepted. Maximum number of the dairy units has agreed with the statement; they give training to sales people.

39. The C. V. is 36.67 which is smaller than overall C. V. of 47.056. From this it can be concluded that there is less variability. Skweness is -0.26 which is less than 0. This shows that it is negatively skewed. Value of Z is 2.572. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed with the statement; the company offers more incentives to the channel members to increase the sales.

40. The C. V. is 19.06 which is much less than overall C. V. of 47.056. From this it can be concluded that the responses are consistent. Skweness is -0.74 which is less than 0. This shows that it is negatively skewed. Value of Z is 9.26. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has disagreed with the statement; they advertise their products at national level.

41. The C. V. for this statement is 43 which is smaller than overall C. V. of 47.056. This shows that there is less variability in the responses. Skweness is 1.39 which is higher than 0. This shows that it is positively skewed. Value of Z is -1.894. Therefore alternative hypothesis is accepted. Majority of the dairy units has agreed with the statement that the advertisement of their dairy is given on continuous basis.

42. The C. V. for this statement is 46.82 which is smaller than overall C. V. of 47.056. This shows that there is less variability in the responses. Skweness is 1.76 which is higher than 0. This shows that it is positively skewed. Value of Z is -3.412. Therefore alternative hypothesis is accepted. Majority of the dairy units has agreed with the statement that the firm has developed brand awareness in customer’s mind.
43. C. V. is 35.88 which is less than that of the overall C. V. of 47.056. From this it can be concluded that there is less variability in the responses. Skweness is 0.69 which is higher than 0. This shows that it is positively skewed. Value of Z is -1.849. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed with the statement; they employ sales promotion schemes for distributors and retailers.

44. The C. V. is 16.8 which is less than overall C. V. of 47.056. From this it can be interpreted that there is less variability or the responses are more homogeneous. Skweness is 3.06 which is higher than 0. This shows that it is positively skewed. Value of Z is 8.482. Therefore alternative hypothesis is accepted. Majority of the dairy units has disagreed with the statement that they offer sales promotion schemes for the customers.

45. The C.V. for this response is 50.08 which is more than overall C.V. of 47.056. This shows that the responses are variable. Skweness is 1.67 which is higher than 0. This shows that it is positively skewed. Value of Z is -11.22. Therefore alternative hypothesis is accepted. Maximum number of the dairy units has agreed that they have developed good public relations.

From the result number 2, 3, 5, 6, 7, it can concluded that majority of the dairy units do not conduct formal market Research and do not make the use of marketing research as the important tool to plan for marketing strategies.

Result number 8, 9, 10, 11, 12 shows that mostly in all the dairy units the interrelated activities of all the departments are well coordinated. It can be said that they are implementing integrated marketing system considering customer at the centre of the organization system.

From result number 4, 13 to 18 it can be concluded that even if these dairy units do not have the R & D facility, they offer differentiated products to the customers. Maximum number of dairy units does not export the milk and milk products. Majority dairy units concentrate on marketing of milk than milk products.
From result number 19 to 23 and 25 it can be concluded that there is a intense competition in the dairy industry. Mainly the competition is price based competition. There is oligopoly competition.

Result number 24, 26 and 27 shows that there are price fluctuations. Because of the market conditions it becomes difficult to keep constant prices. They do not use price as the motivational tool for the sales.

Result number 28, 29 to 31 shows that technology in the dairy industry is changing rapidly but it is not adopted immediately because of the high investment. Technology does not enable them to develop new product.

From the result number 32 to 39 majority of the dairy units have not developed the strong distribution network to distribute the milk and milk products. Also they do not use push strategy to market the milk products.

Result number 40 to 45 shows that the dairy units are going for some promotional activities. They advertise regularly at the local or regional level. They have developed good brand image. They use sales promotion schemes for their channel members. But they do not employ sales promotion activities for customers. They have developed good public relations with the customers, media, government agencies, and other stakeholders.
6.3 Hypothesis Testing –

1) **Dairy units are doing well in the promotional strategy.**
   
   This hypothesis is tested by grouping the following statements –
   
   a. Advertisements of products are done at national level.
   b. The advertisement is given on continuous basis.
   c. The firm has developed brand awareness in customer minds.
   d. The dairy unit has developed good public relations
   e. The firm is offering sales promotion schemes for the customers.
   f. Sales promotion schemes are employed for distributors & retailers.
      
      Z test is used to test the hypotheses. Alternative hypotheses stated for all these statements were accepted. Therefore the hypotheses that **Dairy units are doing well in the promotional strategy** is accepted.

2) **The dairy units are very good in their distribution network.**
   
   This hypothesis is tested by grouping the following statements –
   
   a. The distribution network is wide.
   b. The firm’s distribution network is widely spread throughout the Maharashtra and neighboring states.
   c. Dairy units have the retail outlets at various places in Maharashtra.
   d. Retail outlets are doing well business.
   e. Distribution channel members sell only the firm’s products.
   f. The company is having their own sales force for the personal selling.
   g. Training is given to the sales people.
   h. The company offers more incentives to the channel members to increase the sales.
   i. The sales of the milk and milk products are affected by the promotional strategies of the dairy units.
      
      From the Z value of the above statements it can be concluded that the hypotheses that **the dairy units are very good in their distribution network** is rejected.
6.4 Analysis of the data collected from Assistant Marketing Manager

Data is collected from the assistant marketing managers of the selected dairy units by using a structured questionnaire. Closed ended as well as open ended questions were asked to them to collect the information.

40 questions were asked to collect the information regarding the various aspects of marketing viz. marketing research, consumer behavior, competition, product policy, price policy, place policy and promotion policy.

With the help of the questionnaire data was collected for the year as 1991-92, 1994-95, 1997-98, 2000-01, 2002-03, 2004-05, 2006-07. Therefore the results show the overall marketing performance of the dairy units from 1991 to 2006. In table 6.4 analysis of the questionnaire is given by using frequency calculation, test for proportion and Z – Test.

For all the questions same null hypothesis is stated where as alternative hypotheses varies according to the p value of the different questions.

Null Hypothesis Ho: p = 1/2
The hypotheses is tested at 5% level of significance and the critical value of Z 0.05 = 1.64
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Responses</th>
<th>No. of Respondents agreeing with</th>
<th>Total (n)</th>
<th>p = x /n</th>
<th>Alternative Hypothesis H1</th>
<th>Z Test</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes (x)</td>
<td>No (n-x)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Do you pretest any change in your marketing plan?</td>
<td>29 (90.6)</td>
<td>3 (9.4)</td>
<td>32 (100)</td>
<td>0.91</td>
<td>P&gt;1/2</td>
<td>4.59</td>
</tr>
<tr>
<td>2.</td>
<td>Do you Seek guidance from marketing experts?</td>
<td>8 (25)</td>
<td>24 (75)</td>
<td>32 (100)</td>
<td>0.25</td>
<td>P&lt;1/2</td>
<td>-2.825</td>
</tr>
<tr>
<td>3.</td>
<td>Do you have the R &amp; D Department?</td>
<td>3 (9.4)</td>
<td>29 (90.6)</td>
<td>32 (100)</td>
<td>0.094</td>
<td>P&lt;1/2</td>
<td>-4.59</td>
</tr>
<tr>
<td>4.</td>
<td>Do you conduct marketing research?</td>
<td>13 (40.6)</td>
<td>19 (59.4)</td>
<td>32 (100)</td>
<td>0.41</td>
<td>P&lt;1/2</td>
<td>-1.059</td>
</tr>
<tr>
<td>5.</td>
<td>Has your company carefully segmented the consumers that it serves?</td>
<td>28 (87.5)</td>
<td>4 (12.5)</td>
<td>32 (100)</td>
<td>0.87</td>
<td>P&gt;1/2</td>
<td>4.237</td>
</tr>
<tr>
<td>6.</td>
<td>Do you routinely measure the profitability of your key products or services in each of these consumer marketing segments?</td>
<td>28 (87.5)</td>
<td>4 (12.5)</td>
<td>32 (100)</td>
<td>0.87</td>
<td>P&gt;1/2</td>
<td>4.237</td>
</tr>
<tr>
<td>Sr. No.</td>
<td>Responses</td>
<td>No. of Respondents agreeing with Yes (x)</td>
<td>No (n-x)</td>
<td>Total (n)</td>
<td>p = x/n</td>
<td>Alternative Hypothesis</td>
<td>Z Test</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>----------</td>
<td>-----------</td>
<td>---------</td>
<td>------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>7.</td>
<td>Do you identify key buying factors in each segment?</td>
<td>28 (87.5)</td>
<td>4 (12.5)</td>
<td>32 (100)</td>
<td>0.87</td>
<td>P&gt;1/2</td>
<td>4.237</td>
</tr>
<tr>
<td>8.</td>
<td>Do you know customer’s value perception?</td>
<td>28 (87.5)</td>
<td>4 (12.5)</td>
<td>32 (100)</td>
<td>0.87</td>
<td>P&gt;1/2</td>
<td>4.237</td>
</tr>
<tr>
<td>9.</td>
<td>Are you afraid that if you quote a high price you will lose the customers?</td>
<td>11 (34.4)</td>
<td>21 (65.6)</td>
<td>32 (100)</td>
<td>0.34</td>
<td>P&lt;1/2</td>
<td>-1.77</td>
</tr>
<tr>
<td>10.</td>
<td>Is your industry growing but your market share remaining constant?</td>
<td>8 (25)</td>
<td>24 (75)</td>
<td>32 (100)</td>
<td>0.25</td>
<td>P&lt;1/2</td>
<td>-2.825</td>
</tr>
<tr>
<td>11.</td>
<td>Do you take any special efforts to market the milk products?</td>
<td>20 (62.5)</td>
<td>12 (37.5)</td>
<td>32 (100)</td>
<td>0.625</td>
<td>P&gt;1/2</td>
<td>1.413</td>
</tr>
<tr>
<td>12.</td>
<td>Are all management &amp; staff aware of what marketing is &amp; why it is necessary?</td>
<td>20 (62.5)</td>
<td>12 (37.5)</td>
<td>32 (100)</td>
<td>0.625</td>
<td>P&gt;1/2</td>
<td>1.413</td>
</tr>
<tr>
<td>13.</td>
<td>Do you provide training to your marketing people?</td>
<td>12 (37.5)</td>
<td>20 (62.5)</td>
<td>32 (100)</td>
<td>0.375</td>
<td>P&lt;1/2</td>
<td>-1.41</td>
</tr>
<tr>
<td>14.</td>
<td>Do you export your products?</td>
<td>7 (21.9)</td>
<td>25 (78.1)</td>
<td>32 (100)</td>
<td>0.22</td>
<td>P&lt;1/2</td>
<td>-3.18</td>
</tr>
</tbody>
</table>
Table 6.4 shows that

1. 90.6% respondents pretest change in their marketing plan. The sample proportion \( p \) is 0.91 and the value of \( Z \) is 4.59. Therefore reject null hypothesis Ho.

2. 75% respondents did not take guidance from marketing experts. The sample proportion \( p \) is 0.25 and the value of \( Z \) is -2.825. Therefore reject null hypothesis Ho.

3. 90.6% respondents do not have the R & D Department to develop new products. The sample proportion \( p \) is 0.094 and the value of \( Z \) is -4.59. Therefore reject null hypothesis Ho.

4. 59.4% respondents do not conduct marketing research. The sample proportion \( p \) is 0.41 and the value of \( Z \) is -1.059. Therefore accept null hypothesis Ho.

5. 87.5% respondents have segmented the market that it serves. The sample proportion \( p \) is 0.87 and the value of \( Z \) is 4.237. Therefore reject null hypothesis Ho.

6. 87.5% respondents have quoted that they routinely measure the profitability of their key products or services in each of these consumer marketing segments. The sample proportion \( p \) is 0.87 and the value of \( Z \) is 4.237. Therefore reject null hypothesis Ho.

7. 87.5% respondents have quoted that they identify key buying factors in each segment. The sample proportion \( p \) is 0.87 and the value of \( Z \) is 4.237. Therefore reject null hypothesis Ho.

8. 87.5% respondents have mentioned that they know customer’s value perception. The sample proportion \( p \) is 0.87 and the value of \( Z \) is 4.237. Therefore reject null hypothesis Ho.
9. 65.6% respondents have given the negative response to the statement that if they quote a high price they will lose the customers. The sample proportion p is 0.34 and the value of Z is -1.77. Therefore reject null hypothesis Ho.

10. 75% respondents are disagreed with the statement that dairy industry is growing but their market share remaining constant. The sample proportion p is 0.25 and the value of Z is -2.825. Therefore reject null hypothesis Ho.

11. 62.5% respondents take special efforts to market the milk products. The sample proportion p is 0.625 and the value of Z is 1.413. Therefore accept null hypothesis Ho.

12. 62.5% respondents agree with the statement that all management & staff are aware of what marketing is & why it is necessary. The sample proportion p is 0.625 and the value of Z is 1.413. Therefore accept null hypothesis Ho.

13. 62.5% respondents disagree with the statement that they provide training to their marketing people. The sample proportion p is 0.625 and the value of Z is 1.413. Therefore accept null hypothesis Ho.

14. 78.1% respondents do not export their products. The sample proportion p is 0.22 and the value of Z is -3.18. Therefore reject null hypothesis Ho.

From this it can be concluded that majority of the respondents have given positive response to the 8 marketing related statement which they are implementing or following for their dairy units.
For the following statements all (100%) respondents have mentioned the positive response.

a. Do you prepare sales plan?
b. Do you forecast your sales?
c. Do you prepare your sales target periodically?
d. Do you achieve your sales goals?
e. Do you have complete information on your cost?
f. Do you respond to customer complaints / suggestions?
g. Do you have FPO Certification for the Product?
h. Does your products are branded?
i. Is your pricing strategy & decision aimed at getting larger volumes but other elements of marketing unsupportive of this goal?
j. Do you know what your competitors’ pricing strategies are?
k. Is the impact of environmental trends (demographic, competitive, and governmental) on your business carefully gauged?
l. Do you go for wholesale market?

This shows that all dairy units support to the above marketing related statements.
6.5 Analysis of the data collected from Assistant Marketing Managers by using frequency method.

Some of the information collected from the assistant managers is analysed by calculating the frequencies and interpreted with the help of percentage.

1. Type of packing material used.

Table 6.5.1

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polythene bags</td>
<td>10</td>
<td>31.3</td>
</tr>
<tr>
<td>Glass bottles</td>
<td>2</td>
<td>6.3</td>
</tr>
<tr>
<td>Polythene bags + Glass bottles+ cups</td>
<td>6</td>
<td>18.8</td>
</tr>
<tr>
<td>Polythene bags + cups</td>
<td>14</td>
<td>43.8</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100</td>
</tr>
</tbody>
</table>

Graph 6.5.1

Table 6.5.1 shows that 43.8% respondents use polythene bags and cups for packaging. 31% respondents use polythene bags for packing. Mainly these two are most preferred packing material as it is most convenient to use.
2. Product having more sales.

Table 6.5.2

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>17</td>
<td>53.1</td>
</tr>
<tr>
<td>Milk + Shrikhand</td>
<td>12</td>
<td>37.5</td>
</tr>
<tr>
<td>Milk+ Shrikhand+SMP</td>
<td>3</td>
<td>9.4</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Graph 6.5.2

From table 6.5.2 it can be concluded that milk is having more sales i.e. 53.1%. Milk and shrikhand combinely constitute 37.5% contribution in total sales.
3. Method of product costing used.

Table 6.5.3

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost calculation+ Prices fixed by the Govt.</td>
<td>12</td>
<td>37.5</td>
</tr>
<tr>
<td>Cost calculation+ Prices fixed by the Govt. + Competitive pricing</td>
<td>20</td>
<td>62.5</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 6.5.3 shows that 63% dairy units consider cost calculation, price levels given by government and competitor’s prices while deciding the prices of the products. 37% dairy units consider cost calculation and competitor’s prices at the time of deciding the prices of the product.
4. Channel selected for distribution of the product.

Table 6.5.4

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer to consumer</td>
<td>2</td>
<td>6.3</td>
</tr>
<tr>
<td>Manufacturer to distributor to retailer to consumer</td>
<td>7</td>
<td>21.9</td>
</tr>
<tr>
<td>Manufacturer to retailer to consumer</td>
<td>11</td>
<td>34.4</td>
</tr>
<tr>
<td>Manufacturer to distributor to consumer+</td>
<td>7</td>
<td>21.9</td>
</tr>
<tr>
<td>Manufacture to distributor to retailor to consumer</td>
<td>7</td>
<td>21.9</td>
</tr>
<tr>
<td>Manufacturer to distributor to retailer to consumer+ Manufacturer to consumer</td>
<td>5</td>
<td>15.6</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Graph 6.5.4
From Table 6.5.4 it can be observed that 34.4% respondents use ‘manufacturer to retailer to consumer’ distribution channel. 21.9% respondents use ‘manufacturer to distributor to retailer to consumer’ channel. 21.9% respondents use ‘manufacturer to distributor to consumer and manufacture to distributor to retailer to consumer’ channel combine. 15.6% respondents use ‘manufacturer to distributor to retailer to consumer; Manufacturer to retailer to consumer and manufacturer to consumer’ channel for distribution of the products.

5. Sales promotional techniques used for channel members.

Table 6.5.5

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timely delivery</td>
<td>20</td>
<td>62.5</td>
</tr>
<tr>
<td>Timely delivery+ Marketing Assistance</td>
<td>12</td>
<td>37.5</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Graph 6.5.5

Table 6.5.5 shows that 62.5% respondents use timely delivery as sales promotional tool for channel members. Only 37.5% respondents provide marketing assistance along with timely delivery of products.
6. Sales promotional tools used for customers.

Table 6.5.6

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>High quality</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>High quality+ Prompt delivery</td>
<td>22</td>
<td>68.8</td>
</tr>
<tr>
<td>High quality+ Prompt delivery+ Attractive packaging</td>
<td>6</td>
<td>18.8</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Graph 6.5.6

From table 6.5.6 it can be interpreted that 68.8% respondents use high quality products and prompt delivery of the products as a sales promotion for consumers. 19% respondents quoted that the use high quality products, prompt delivery of the products and attractive packaging as a sales promotion for consumers.
7. Advertising Type.

**Table 6.5.7**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>13</td>
<td>40.6</td>
</tr>
<tr>
<td>District</td>
<td>10</td>
<td>31.3</td>
</tr>
<tr>
<td>Regional</td>
<td>9</td>
<td>28.1</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Graph 6.5.7

Table 6.5.7 shows that 41%, 31% and 28% respondents advertise their products at local level, district level and regional level respectively.
8. Strategies adopted to face the competition.

Table 6.5.8

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement in quality</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>Prompt delivery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement in quality+ Prompt delivery</td>
<td>14</td>
<td>43.8</td>
</tr>
<tr>
<td>Improvement in quality+ Prompt delivery+ Effective advertisement</td>
<td>7</td>
<td>21.9</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

From table 6.5.8 it can be observed that 43.8% respondents focus on improvement in their product quality and prompt delivery as a strategy against the competitors. 22% respondents focus on prompt delivery and another 22% respondent’s use quality improvement, prompt delivery and effective advertisement as a strategy to beat competitors.

**Table 6.5.9**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>High competition</td>
<td>18</td>
<td>56.3</td>
</tr>
<tr>
<td>Short shelf life of the product</td>
<td>10</td>
<td>31.3</td>
</tr>
<tr>
<td>Short shelf life of the product+ High competition+ changing customer expectation</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 6.5.9 shows that according to 56.3% respondents’ competition is the major marketing problem where as 31.3% respondents quoted that short shelf life is the major marketing problem for them. 13% respondents mentioned that short shelf life of the product, competition and changing customer expectation are the marketing problems for them.
10. Size of the market.

Table 6.5.10

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>District</td>
<td>12</td>
<td>37.5</td>
</tr>
<tr>
<td>Regional</td>
<td>7</td>
<td>21.9</td>
</tr>
<tr>
<td>National</td>
<td>9</td>
<td>28.1</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Graph 6.5.10

Table 6.5.10 shows that majority of the respondents’ i.e. 37.5% sale their products at district level. 21.9% and 28.1% respondents quoted that they sale the products at regional and national level respectively.
11. Marketing control methods used.

Table 6.5.11

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Audit</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>Marketing cost analysis</td>
<td>16</td>
<td>50.0</td>
</tr>
<tr>
<td>Market share analysis</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>Marketing cost analysis+ Market share analysis</td>
<td>2</td>
<td>6.3</td>
</tr>
<tr>
<td>Integrated marketing control &amp; financial control</td>
<td>6</td>
<td>18.8</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Graph 6.5.11

From table 6.5.11 it can be concluded that 50%, 18.8%, 12.5% and 12.5% respondents use marketing cost analysis, integrated marketing control and financial control, marketing audit and market share analysis as the marketing control method respectively.
12. Type of the competition –

Table 6.5.12

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Responses</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Monopoly</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Oligopoly</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Monopolistic</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Perfect competition</td>
<td>0</td>
</tr>
</tbody>
</table>

Graph 6.5.12

Table 6.5.12 shows that all (100%) dairy units agree that there is the oligopoly competition in the dairy industry.

6.6 Analysis of the data collected from Customers –

Information regarding the customer preference for milk and milk products from 1991 to 2006 was collected from the 700 customers. Analysis of the data collected from the customers is done by using frequency and percentage method. Z test is employed for testing hypothesis.
### 6.6.1 Consumption of milk and milk products over a period of time

Table 6.6.1 Consumption of milk and milk products over a period of time

<table>
<thead>
<tr>
<th>Year</th>
<th>Preference for brands</th>
<th>Milk</th>
<th>Curd</th>
<th>Ghee</th>
<th>Khoa</th>
<th>Shrikhand</th>
<th>Paneer</th>
<th>Cheese</th>
<th>Lassi</th>
<th>Chakka</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>Gavali-a</td>
<td>304</td>
<td>74</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(43.5)</td>
<td>(10.6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Packaged(branded)-b</td>
<td>143</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>33</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(20.4)</td>
<td></td>
<td></td>
<td></td>
<td>(4.7)</td>
<td></td>
<td></td>
<td></td>
<td>(2.8)</td>
</tr>
<tr>
<td></td>
<td>Packaged(unbranded)-c</td>
<td>0</td>
<td>0</td>
<td>56</td>
<td>0</td>
<td>700</td>
<td>0</td>
<td>0</td>
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<td>219</td>
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<td></td>
<td></td>
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<td></td>
<td>(100)</td>
<td></td>
<td></td>
<td></td>
<td>(31.2)</td>
</tr>
<tr>
<td></td>
<td>Home made-d</td>
<td>253</td>
<td>644</td>
<td>0</td>
<td>0</td>
<td>667</td>
<td>0</td>
<td>0</td>
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<td></td>
<td>(36.1)</td>
<td>(92)</td>
<td></td>
<td></td>
<td>(95.3)</td>
<td></td>
<td></td>
<td>(100)</td>
<td>(66)</td>
</tr>
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<td>Total</td>
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<td>700</td>
<td>0</td>
<td>0</td>
<td>215</td>
<td>700</td>
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<td>(100)</td>
<td>(700)</td>
<td>(100)</td>
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<td></td>
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<td>(100)</td>
</tr>
<tr>
<td>1995</td>
<td>Gavali-a</td>
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<td>132</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
</tr>
<tr>
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<td>Packaged(branded)-b</td>
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<td>38</td>
<td>62</td>
<td>78</td>
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<td>0</td>
<td>0</td>
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<td>(6.4)</td>
</tr>
<tr>
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<td>Packaged(unbranded)-c</td>
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<td>0</td>
<td>0</td>
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<td>(91.2)</td>
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<td></td>
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<td>(21.3)</td>
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<td>Home made-d</td>
<td>171</td>
<td>514</td>
<td>590</td>
<td>622</td>
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<td>0</td>
<td>0</td>
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<td></td>
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<td>0</td>
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<td>(100)</td>
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<td></td>
<td>(100)</td>
<td>(100)</td>
</tr>
<tr>
<td>Year</td>
<td>Preference for brands</td>
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<td>Curd</td>
<td>Ghee</td>
<td>Khao</td>
<td>Shrikhand</td>
<td>Paneer</td>
<td>Cheese</td>
<td>Lassi</td>
<td>Chakka</td>
</tr>
<tr>
<td>------</td>
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<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-----------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>2000</td>
<td>Gavali-a</td>
<td>325</td>
<td>164</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Packaged(branded)-b</td>
<td>332</td>
<td>85</td>
<td>92</td>
<td>103</td>
<td>214</td>
<td>89</td>
<td>94</td>
<td>53</td>
<td>76</td>
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<td>(12.2)</td>
<td>(13.2)</td>
<td>(14.7)</td>
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<td>(100)</td>
<td>(10.1)</td>
<td>(10.9)</td>
</tr>
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<td>Packaged(unbranded)-c</td>
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<td>597</td>
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<td>53</td>
<td>0</td>
<td>252</td>
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<td>(16)</td>
<td>(85.3)</td>
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<td>(24.3)</td>
<td></td>
<td>(47.6)</td>
<td>(58)</td>
</tr>
<tr>
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<td>Home made-d</td>
<td>43</td>
<td>423</td>
<td>496</td>
<td>0</td>
<td>486</td>
<td>76</td>
<td>0</td>
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<td>(42.3)</td>
<td>(31.1)</td>
</tr>
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<td>Total</td>
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<td>700</td>
<td>700</td>
<td>700</td>
<td>218</td>
<td>94</td>
<td>529</td>
<td>700</td>
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<td>(100)</td>
<td>(100)</td>
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<td>(100)</td>
<td>(100)</td>
<td>(100)</td>
<td>(100)</td>
<td>(100)</td>
</tr>
<tr>
<td>2006</td>
<td>Gavali-a</td>
<td>291</td>
<td>161</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
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<td>(41.6)</td>
<td>(23)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Packaged(branded)-b</td>
<td>391</td>
<td>134</td>
<td>159</td>
<td>223</td>
<td>523</td>
<td>199</td>
<td>235</td>
<td>196</td>
<td>142</td>
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<td>(22.7)</td>
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<td>(74.7)</td>
<td>(46.1)</td>
<td>(100)</td>
<td>(28)</td>
<td>(20.3)</td>
</tr>
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<td>Packaged(unbranded)-c</td>
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<td>51</td>
<td>173</td>
<td>477</td>
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<td>162</td>
<td>0</td>
<td>318</td>
<td>409</td>
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<td>(24.7)</td>
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<td>(37.5)</td>
<td></td>
<td>(45.4)</td>
<td>(58.4)</td>
</tr>
<tr>
<td></td>
<td>Home made-d</td>
<td>18</td>
<td>354</td>
<td>368</td>
<td>0</td>
<td>177</td>
<td>71</td>
<td>0</td>
<td>186</td>
<td>149</td>
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<td></td>
<td>(2.5)</td>
<td>(50.6)</td>
<td>(52.6)</td>
<td></td>
<td>(25.3)</td>
<td>(16.4)</td>
<td></td>
<td>(26.6)</td>
<td>(21.3)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>700</td>
<td>700</td>
<td>700</td>
<td>700</td>
<td>432</td>
<td>235</td>
<td>700</td>
<td>700</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(100)</td>
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<td>(100)</td>
<td>(100)</td>
<td>(100)</td>
<td>(100)</td>
<td>(100)</td>
<td>(100)</td>
</tr>
</tbody>
</table>

(Figures in bracket are in percent)
Table 6.6.1 shows the preference for the different products as follows –

i) Milk – In 1991, 43.5% respondents used to purchase milk from Gavali (milkmen), 20.4% respondents were using packaged (branded) milk. 36.1% respondents were having their own cattle (cows and buffalos). In 1995, 48.3% respondents made their purchases of milk from Gavali, 27.3% used packaged (branded) milk and 24.4% from the house cattle. In 2000, 46.4% respondents purchased milk from Gavali, 47.4% respondents used packaged (branded) milk and 6.2% from house cattle. In 2006, 41.6% respondents were purchasing milk from Gavali, 55.9% respondents purchased branded packaged milk. From this it can be concluded that preference for packaged (branded) milk has been increased over a period of time.
ii) Dahi – 10.6%, 18.8%, 23.4% and 23% respondents purchased dahi (curd) from milkmaid in 1991, 1995, 2000 and 2006 respectively. 7.7%, 12.2% and 19.1% respondents used packaged (branded) curd in 1995, 2000 and 2006 respectively. 4% and 7.3% respondents purchased packaged (unbranded) curd in 2000 and 2006 respectively. 89.4%, 73.4%, 60.4% and 50.6% respondents used home made curd in 1991, 1995, 2000 and 2006 respectively. This shows that number of respondents using home made curd has decreased from 1991 to 2006. Whereas number of respondents purchasing packaged (both branded and unbranded) has increased over a period of time.

iii) Ghee – 92%, 84.3%, 70.8% and 52.6% respondents used home made ghee in 1991, 1995, 2000 and 2006 respectively. 8%, 10.3%, 16% and 24.7% respondents purchased unbranded packaged ghee in 1991, 1995, 2000 and 2006 respectively. 5.4%, 13.2%, 22.7% respondents purchased branded packaged ghee in 1995, 2000 and 2006 respectively. From this it can be observed that preference for branded as well as unbranded packaged ghee has increased over a period of time.

iv) Khoa – 100%, 91.2%, 85.3% and 68.1% respondents purchased unbranded packaged khoa in 1991, 1995, 2000 and 2006 respectively. 8.8%, 14.7%, and 31.9% respondents preferred branded packaged khoa in 1995, 2000 and 2006 respectively. This shows that demand for the branded packaged khoa has been increased over a period of time.

v) Shrikhand – 95.3%, 88.8%, 69.9% and 25.3% respondents quoted that they used home made shrikhand in 1991, 1995, 2000 and 2005 respectively. 4.7%, 11.2%, 30.1% and 74.7% respondents purchased packaged (branded) shrikhand during 1991, 1995, 2000 and 2006 respectively. From this it can be concluded that preference for packaged (branded) shrikhand has increased over a period of time.

vi) Paneer – 40.8%, and 46.1% respondents purchased branded packaged paneer during 2000 and 2006 respectively. 24.3% and 37.5% respondents used unbranded packaged paneer in 2000 and 2006. 34.9% and 16.4%
respondents prepared paneer at home during 2000 and 2006 respectively. It shows that no respondent has used paneer up to 1995. Preference for packaged (branded as well as unbranded) paneer shows increasing demand.

vii) Cheese – 100% respondents purchased branded packaged cheese during 2000 and 2006. Number of respondents using packaged (branded) cheese has increased during the period.

viii) Lassi – 100%, 78.7%, 42.3% and 26.6% respondents used home made lassi in the year 1991, 1995, 2000 and 2006 respectively. 21.3, 47.6% and 45.4% respondents purchased packaged (unbranded) lassi during 1995, 2000 and 2006 respectively. 10.1% and 28% respondents purchased packaged (branded) lassi in 2000 and 2006 respectively. This shows that demand for packaged (branded) lassi has increased.

ix) Chakka – 66%, 52.2%, 31.1% and 21.3% respondents used to prepare chakka at home in the year 1991, 1995, 2000 and 2006 respectively. 31.2%, 41.4%, 58% and 58.4% respondents used packaged (unbranded) chakka during 1991, 1995, 2000 and 2006 respectively. 2.8%, 6.4%, 10.9% and 20.3% respondents purchased branded packaged chakka in 1991, 1995, 2000 and 2006 respectively. This shows that preference for packaged (branded and unbranded) chakka has increased over a period of time.
6.6.2 Reasons for change in Purchase decision of milk and milk products

Table 6.6.2 Reasons for change in Purchase decision of milk and milk products

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Responses</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dissatisfaction from old products</td>
<td>23 (3.3)</td>
</tr>
<tr>
<td>2</td>
<td>Marketing</td>
<td>677 (96.7)</td>
</tr>
</tbody>
</table>

(Figures in bracket indicate percent)

Graph 6.6.2

Hypothesis – Ho: \( p = \frac{1}{2} \)

\[ \text{H1: } p > \frac{1}{2} \]

\[ P = \frac{677}{700} = 0.96714 \]

\[ Z_o = \frac{(p - 0.5) \sqrt{700}}{0.5} \]

\[ = \frac{0.96714 - 0.5}{0.5} \sqrt{700} = 24.7 \]

As \( Z_o \) is much higher than table value, null hypothesis Ho is rejected. Alternative hypothesis H1 is accepted. So the change in customer purchase decision is due to marketing related factors such as advertisement, availability, variety, quality and price.
6.6.3 Place for Product Purchase

Table 6.6.3 Place for Product Purchase

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Responses</th>
<th>No. of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kirana Shop</td>
<td>241</td>
<td>34.5</td>
</tr>
<tr>
<td>2</td>
<td>Milk Shoppee</td>
<td>72</td>
<td>10.3</td>
</tr>
<tr>
<td>3</td>
<td>Company retail Outlet</td>
<td>160</td>
<td>22.8</td>
</tr>
<tr>
<td>4</td>
<td>Bakery/ Sweet Mart</td>
<td>227</td>
<td>32.4</td>
</tr>
</tbody>
</table>

Graph 6.6.3

Majority customers i.e. 34.4 % purchase milk and milk products from Grossary shop.
32.4 % customers make their purchases from bakery or sweet mart.
22.8 % customers purchase milk and milk products from company retail outlet.
10.3 % customers make purchases from milk shoppee.
Therefore it can be inferred that majority of the customers prefer grossary shop and bakery / sweet mart for purchase of milk and milk products.
6.6.4 Information Source

Table 7.5.4 Information Source

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Responses</th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Advertisement</td>
<td>571</td>
</tr>
<tr>
<td>2</td>
<td>Friends, family members and relatives</td>
<td>246</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>817</td>
</tr>
</tbody>
</table>

Graph 6.6.4

Table 6.6.4 shows that 571 respondents get information about various milk and milk products from advertisement. 246 respondents get information from friends, family members and relatives.
Pearson Coefficient of Correlation –

Coefficient of correlation is calculated to find out the relationship between the demographic characters of the respondents and the reason for change.

6.6.5 Coefficient of Correlation between Age and Reasons for change in purchases

Table 6.6.5 Age and Reasons for change in purchases

<table>
<thead>
<tr>
<th>Age</th>
<th>Dissatisfaction from old products</th>
<th>Availability + Advertisement</th>
<th>Availability + Advertisement + Variety</th>
<th>Availability + Advertisement + Variety + Quality</th>
<th>Availability + Advertisement + Variety + Quality + Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>0</td>
<td>2</td>
<td>9</td>
<td>21</td>
<td>1</td>
<td>33</td>
</tr>
<tr>
<td>31-40</td>
<td>4</td>
<td>17</td>
<td>59</td>
<td>89</td>
<td>9</td>
<td>178</td>
</tr>
<tr>
<td>41-50</td>
<td>12</td>
<td>24</td>
<td>95</td>
<td>137</td>
<td>12</td>
<td>280</td>
</tr>
<tr>
<td>51-60</td>
<td>4</td>
<td>9</td>
<td>60</td>
<td>76</td>
<td>7</td>
<td>156</td>
</tr>
<tr>
<td>Above 61</td>
<td>3</td>
<td>6</td>
<td>19</td>
<td>24</td>
<td>1</td>
<td>53</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>58</td>
<td>242</td>
<td>347</td>
<td>30</td>
<td>700</td>
</tr>
</tbody>
</table>

Pearson Correlation Coefficient –
-0.057
It shows that there is poor correlation between age and reason for change in purchase of milk and milk products.
### 6.6.6 Coefficient of Correlation between Educational Qualification and Reasons for change in purchases

#### Table 6.6.6 Educational Qualification and Reasons for change in purchases

<table>
<thead>
<tr>
<th>Educational Qualification</th>
<th>Reasons for change in purchases</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Availability+</td>
<td></td>
</tr>
<tr>
<td>Dissatisfaction of old product</td>
<td>Advertisement+</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variety+</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quality+</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduates up to 12th</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>136</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>364</td>
</tr>
<tr>
<td>Graduates</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>84</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>255</td>
</tr>
<tr>
<td>Post Graduates</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>Post PG</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>242</td>
<td>347</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>700</td>
</tr>
</tbody>
</table>

Pearson Correlation Coefficient – 0.058

It shows that there is a poor correlation coefficient between educational qualification and reason for change in purchase of milk and milk products.
6.6.7 Coefficient of Correlation between Occupation and Reasons for change in purchases

Table 6.6.7 Occupation and Reasons for change in purchases

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Self Employed</th>
<th>Service</th>
<th>Professionals</th>
<th>Housewife</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissatisfaction from old products</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>Availability+ Advertisement</td>
<td>13</td>
<td>20</td>
<td>4</td>
<td>21</td>
<td>58</td>
</tr>
<tr>
<td>Availability+ Advertisement</td>
<td>67</td>
<td>78</td>
<td>19</td>
<td>78</td>
<td>242</td>
</tr>
<tr>
<td>Availability+ Advertisement+ Variety+ Quality+ Price</td>
<td>79</td>
<td>108</td>
<td>44</td>
<td>116</td>
<td>347</td>
</tr>
<tr>
<td>Availability+ Advertisement+ Variety+ Quality+ Price</td>
<td>11</td>
<td>10</td>
<td>2</td>
<td>7</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>179</td>
<td>220</td>
<td>71</td>
<td>230</td>
<td>700</td>
</tr>
</tbody>
</table>

Pearson Correlation Coefficient – 0.022

It shows that there is a poor correlation coefficient between occupation and reason for change in purchase of milk and milk products.
### 6.6.8 Coefficient of Correlation between Monthly Family Income and Reasons for change in purchases

Table 6.6.8 Monthly Family Income and Reasons for change in purchases

<table>
<thead>
<tr>
<th>Monthly Family Income</th>
<th>Reasons for change in purchases</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dissatisfaction from old products</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability+ Advertisement+ Variety+ Quality+</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability+ Advertisement+ Variety+ Quality+ Price</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability+ Advertisement+ Variety+ Quality+ increase in income+ price</td>
<td></td>
</tr>
<tr>
<td>upto 10000</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>10001-20000</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>20001-30000</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Above 30001</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23</strong></td>
<td><strong>58</strong></td>
</tr>
</tbody>
</table>

Pearson Correlation Coefficient –
-0.032

It shows that there is a poor correlation coefficient between educational qualification and reason for change in purchase of milk and milk products
Chi Square Test –
Chi square test is calculated to study the relationship between the demographic characters of the respondents and the reason for change in purchase decision independently.

6.6.9 Correlation between Age and Reasons for change in purchases
A: Age
B: Reason for change
Hypothesis –
Ho: A and B are independent
H1: A and B are dependent

Table 6.6.9 Age and Reasons for change in purchases

<table>
<thead>
<tr>
<th>Age</th>
<th>Dissatisfaction from old product</th>
<th>Availability</th>
<th>Advertisement</th>
<th>Variety</th>
<th>Quality</th>
<th>Price</th>
<th>Increase in income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-40</td>
<td>4 (6.84)</td>
<td>207 (201.4)</td>
<td>207 (201.4)</td>
<td>188</td>
<td>188</td>
<td>120</td>
<td>10 (8.9)</td>
<td>924</td>
</tr>
<tr>
<td>41-50</td>
<td>12 (8.86)</td>
<td>268 (260.9)</td>
<td>268 (260.9)</td>
<td>244</td>
<td>244</td>
<td>149</td>
<td>12 (11.56)</td>
<td>1197</td>
</tr>
<tr>
<td>Above 51</td>
<td>7 (7.294)</td>
<td>202 (214.7)</td>
<td>202 (214.7)</td>
<td>229</td>
<td>229</td>
<td>108</td>
<td>8 (9.51)</td>
<td>985</td>
</tr>
</tbody>
</table>
| Total     | 23                              | 677          | 677            | 661     | 661     | 377   | 30                | 3106  | (Figures in bracket shows expected cell frequencies)

Oij – Observed cell frequencies
Eij – Expected cell frequencies under Ho

Where,

\[
Eij = \frac{(Ai) \times (Bj)}{N}
\]

Under Ho,

\[
\chi^2 = \sum \sum \frac{(Oij - Eij)^2}{Eij}
\]
\( \chi^2 = 11.9148 \)

At 5\% level of significance the critical value is \( \chi^2_{0.05}(12) = 21.026 \)
\( \chi^2 < 21.026, \)
Therefore accept Ho
i.e. A and B are independent
There is no significant correlation between age and reason for change in purchase.

6.6.10 Correlation between Educational Qualification and Reasons for change in purchases
A: Educational Qualification
B: Reason for change
Hypothesis –
Ho: A and B are independent
H1: A and B are dependent

Table 6.6.10 Educational Qualification and Reasons for change in purchases

<table>
<thead>
<tr>
<th>Educational Qualification</th>
<th>Dissatisfaction from old products</th>
<th>Availability</th>
<th>Advertisement</th>
<th>Variety</th>
<th>Quality</th>
<th>Price</th>
<th>Increase in income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 12th</td>
<td>15 (11.92)</td>
<td>359 (355.9)</td>
<td>359 (355.9)</td>
<td>321 (320.61)</td>
<td>321 (320.61)</td>
<td>185 (195.32)</td>
<td>16 (15.54)</td>
<td>1576</td>
</tr>
<tr>
<td>Graduate</td>
<td>5 (8.35)</td>
<td>250 (249.33)</td>
<td>250 (249.33)</td>
<td>224 (224.65)</td>
<td>224 (224.65)</td>
<td>140 (136.82)</td>
<td>11 (1.89)</td>
<td>1104</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>3 (2.74)</td>
<td>78 (81.75)</td>
<td>78 (81.75)</td>
<td>74 (73.66)</td>
<td>74 (73.66)</td>
<td>52 (44.86)</td>
<td>3 (3.57)</td>
<td>362</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>687</td>
<td>687</td>
<td>619</td>
<td>619</td>
<td>377</td>
<td>30</td>
<td>3042</td>
</tr>
</tbody>
</table>

(Figures in bracket shows expected cell frequencies)

Oij – Observed cell frequencies
Eij – Expected cell frequencies under Ho
Where,

\[ E_{ij} = \frac{(A_i)(B_j)}{N} \]

Under Ho,

\[ \chi^2 = \sum \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \]

At 5% level of significance the critical value is \( \chi^2_{0.05}(12) = 21.026 \)

\[ \chi^2 < 21.026, \]

Therefore accept Ho

i.e. A and B are independent

There is no significant correlation between educational qualification and reason for change in purchase.

6.6.11 Correlation between Occupation and Reasons for change in purchases

A: Occupation
B: Reason for change

Hypothesis –

Ho: A and B are independent
H1: A and B are dependent
Table 6.6.11 Occupation and Reasons for change in purchases

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Reasons for change in purchases</th>
<th>Dissatisfaction from old products</th>
<th>Availability</th>
<th>Advertisement</th>
<th>Variety</th>
<th>Quality</th>
<th>Price</th>
<th>Increase in income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Employed</td>
<td></td>
<td>9 (5.813)</td>
<td>170 (171.15)</td>
<td>170 (171.15)</td>
<td>157 (156.49)</td>
<td>157 (156.49)</td>
<td>90 (95.31)</td>
<td>90 (95.31)</td>
<td>764</td>
</tr>
<tr>
<td>Service</td>
<td></td>
<td>4 (7.28)</td>
<td>216 (214.17)</td>
<td>216 (214.17)</td>
<td>196 (195.82)</td>
<td>196 (195.82)</td>
<td>118 (119.26)</td>
<td>10 (9.5)</td>
<td>956</td>
</tr>
<tr>
<td>Professionals</td>
<td></td>
<td>2 (2.42)</td>
<td>69 (71.24)</td>
<td>69 (71.24)</td>
<td>65 (65.14)</td>
<td>65 (65.14)</td>
<td>46 (39.67)</td>
<td>2 (3.16)</td>
<td>318</td>
</tr>
<tr>
<td>Housewife</td>
<td></td>
<td>8 (7.49)</td>
<td>222 (220.44)</td>
<td>222 (220.44)</td>
<td>201 (201.55)</td>
<td>201 (201.55)</td>
<td>123 (122.75)</td>
<td>7 (9.75)</td>
<td>984</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>23</td>
<td>677</td>
<td>677</td>
<td>619</td>
<td>619</td>
<td>377</td>
<td>30</td>
<td>3022</td>
</tr>
</tbody>
</table>

(Figures in bracket shows expected cell frequencies)

\[ \chi^2 = \sum \sum \left( \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \right) \]

\( \chi^2 = 6.5865 \)

At 5% level of significance the critical value is \( \chi^2_{0.05} (18) = 28.869 \)

\( \chi^2 < 28.869, \)

Therefore accept Ho
i.e. A and B are independent
There is no significant correlation between educational qualification and reason for change in purchase.

6.6.12 Correlation between Family Income and Reasons for change in purchases

A: Family Income
B: Reason for change

Hypothesis –

Ho: A and B are independent
H1: A and B are dependent

Table 6.6.12 Family Income and Reasons for change in purchases

<table>
<thead>
<tr>
<th>Reasons for change in purchases</th>
<th>Dissatisfaction from old product</th>
<th>Availability</th>
<th>Advertisement</th>
<th>Variety</th>
<th>Quality</th>
<th>Price</th>
<th>Increase in income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month ly Family Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upto 10000</td>
<td>3 (4.22)</td>
<td>122 (124.1)</td>
<td>122 (124.1)</td>
<td>115 (113.6)</td>
<td>115 (113.5)</td>
<td>71 (69.1)</td>
<td>6 (5.5)</td>
<td>554</td>
</tr>
<tr>
<td>10001-20000</td>
<td>8 (10.36)</td>
<td>311 (304.9)</td>
<td>311 (304.9)</td>
<td>279 (278.8)</td>
<td>279 (278.8)</td>
<td>161 (169.8)</td>
<td>12 (13.5)</td>
<td>1361</td>
</tr>
<tr>
<td>20001-30000</td>
<td>5 (4.64)</td>
<td>137 (136.4)</td>
<td>137 (136.4)</td>
<td>123 (124.7)</td>
<td>123 (124.7)</td>
<td>77 (75.9)</td>
<td>7 (6.05)</td>
<td>609</td>
</tr>
<tr>
<td>Above 30001</td>
<td>7 (3.79)</td>
<td>107 (111.6)</td>
<td>107 (111.6)</td>
<td>102 (102.1)</td>
<td>102 (102.1)</td>
<td>68 (62.1)</td>
<td>5 (4.94)</td>
<td>498</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>677</td>
<td>677</td>
<td>619</td>
<td>619</td>
<td>377</td>
<td>30</td>
<td>3022</td>
</tr>
</tbody>
</table>

(Figures in bracket shows expected cell frequencies)

Oij – Observed cell frequencies
Eij – Expected cell frequencies under Ho

Where,

\[
E_{ij} = \frac{(A_i)(B_j)}{N}
\]

Under Ho,
\[ \chi^2 = \sum \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \]

\[ \chi^2 = 5.85972 \]

At 5% level of significance the critical value is \( \chi^2_{0.05} (18) = 28.869 \)

\[ \chi^2 < 28.869, \]

Therefore accept Ho
i.e. A and B are independent

There is no significant correlation between Family Income and reason for change in purchase.

From Pearson Coefficient of Correlation it is found that there is a poor correlation between demographic profile of the customers and reason for change in purchase decision. Therefore to verify the correlation Chi Square test is used. From Chi Square test it is clearly observed that there is no correlation between demographic characteristics of the customers and the reason for change in purchase decision. Therefore it can be concluded that there is no correlation between demographic characteristics of the customers viz. age, educational qualification, occupation, family income and reason for change in purchase decision.
6.7 Organisation’s Sales and Promotional Expenditure Relationship

6.7.1 Kolhapur Zilla Sahakari Dudh Utpadak Sangh Ltd. (Gokul)

Annual sales and promotional expenditure of Kolhapur Zilla Sahakari Dudh Utpadak Sangh Ltd. From 1991 to 2009 are given as below.

Table 6.7.1 Sales and Promotional Expenditure Relationship

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Total sales (Lac lits..)</th>
<th>Promotional expenditure (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1991-92</td>
<td>988</td>
<td>1,200,000</td>
</tr>
<tr>
<td>2</td>
<td>1992-93</td>
<td>1246</td>
<td>1,550,000</td>
</tr>
<tr>
<td>3</td>
<td>1993-94</td>
<td>1297</td>
<td>1,600,000</td>
</tr>
<tr>
<td>4</td>
<td>1994-95</td>
<td>1353</td>
<td>1,750,000</td>
</tr>
<tr>
<td>5</td>
<td>1995-96</td>
<td>1373</td>
<td>2,010,000</td>
</tr>
<tr>
<td>6</td>
<td>1996-97</td>
<td>1410.5</td>
<td>2,200,000</td>
</tr>
<tr>
<td>7</td>
<td>1997-98</td>
<td>1540.5</td>
<td>2,450,000</td>
</tr>
<tr>
<td>8</td>
<td>1998-99</td>
<td>1612.26</td>
<td>2,720,000</td>
</tr>
<tr>
<td>9</td>
<td>1999-00</td>
<td>1593.29</td>
<td>3,230,000</td>
</tr>
<tr>
<td>10</td>
<td>2000-01</td>
<td>1637.08</td>
<td>3,300,000</td>
</tr>
<tr>
<td>11</td>
<td>2001-02</td>
<td>1618.11</td>
<td>4,050,000</td>
</tr>
<tr>
<td>12</td>
<td>2002-03</td>
<td>1727.22</td>
<td>4,150,000</td>
</tr>
<tr>
<td>13</td>
<td>2003-04</td>
<td>1837.62</td>
<td>4,000,000</td>
</tr>
<tr>
<td>14</td>
<td>2004-05</td>
<td>1858.22</td>
<td>5,010,000</td>
</tr>
<tr>
<td>15</td>
<td>2005-06</td>
<td>1907.42</td>
<td>5,150,000</td>
</tr>
<tr>
<td>16</td>
<td>2006-07</td>
<td>2112.6</td>
<td>5,550,000</td>
</tr>
<tr>
<td>17</td>
<td>2007-08</td>
<td>2193.54</td>
<td>5,809,560</td>
</tr>
<tr>
<td>18</td>
<td>2008-09</td>
<td>2313.12</td>
<td>6,000,000</td>
</tr>
</tbody>
</table>

Coefficient of Correlation (1991-92 to 2006-07)

Coefficient of Correlation between Sales & promotional expenditure: 0.95138254
Coefficient of Correlation between Sales & Year: 0.97397207
Coefficient of Correlation between Year & promotional expenditure: 0.986223957

246
From table 6.7.1 it can be observed that total sales turnover of the Gokul shows the increasing trend from 1991 to 2009. Also the promotional expenditure has increased over a period of time. Coefficient of correlation between sales and promotional expenditure, year and sales, year and promotional expenditure are high. From this it can be concluded that there is a positive correlation between promotional expenditure and sales over a period of time.
6.7.2 Warana Sahkari Dudh Utpadak Prakriya Sangh Ltd; Warana Nagar
Annual sales and promotional expenditure of Warana Sahkari Dudh Utpadak Prakriya Sangh Ltd. from 1991 to 2009 are given as below.

**Table 6.7.2 Sales and Promotional Expenditure Relationship**

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Year</th>
<th>Total Sales (Lacs lit.)</th>
<th>Promotional expenditure (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1991-92</td>
<td>660.9</td>
<td>3,330,000</td>
</tr>
<tr>
<td>2</td>
<td>1992-93</td>
<td>530.85</td>
<td>3,600,000</td>
</tr>
<tr>
<td>3</td>
<td>1993-94</td>
<td>522.1</td>
<td>3,750,000</td>
</tr>
<tr>
<td>4</td>
<td>1994-95</td>
<td>523.52</td>
<td>3,900,000</td>
</tr>
<tr>
<td>5</td>
<td>1995-96</td>
<td>547.75</td>
<td>4,010,000</td>
</tr>
<tr>
<td>6</td>
<td>1996-97</td>
<td>620.522</td>
<td>4,070,000</td>
</tr>
<tr>
<td>7</td>
<td>1997-98</td>
<td>633.462</td>
<td>4,300,000</td>
</tr>
<tr>
<td>8</td>
<td>1998-99</td>
<td>671.032</td>
<td>4,700,000</td>
</tr>
<tr>
<td>9</td>
<td>1999-2000</td>
<td>758.324</td>
<td>5,100,000</td>
</tr>
<tr>
<td>10</td>
<td>2000-01</td>
<td>728.31</td>
<td>5,800,000</td>
</tr>
<tr>
<td>11</td>
<td>2001-02</td>
<td>810.14</td>
<td>6,420,000</td>
</tr>
<tr>
<td>12</td>
<td>2002-03</td>
<td>872.56</td>
<td>8,170,000</td>
</tr>
<tr>
<td>13</td>
<td>2003-04</td>
<td>853.17</td>
<td>9,630,000</td>
</tr>
<tr>
<td>14</td>
<td>2004-05</td>
<td>843.32</td>
<td>11,000,000</td>
</tr>
<tr>
<td>15</td>
<td>2005-06</td>
<td>878.52</td>
<td>11,350,000</td>
</tr>
<tr>
<td>16</td>
<td>2006-07</td>
<td>998.97</td>
<td>12,000,000</td>
</tr>
<tr>
<td>17</td>
<td>2007-08</td>
<td>1183.68</td>
<td>13,000,000</td>
</tr>
<tr>
<td>18</td>
<td>2008-09</td>
<td>1086.55</td>
<td>14,100,000</td>
</tr>
</tbody>
</table>

**Coefficient of Correlation (1991-92 to 2006-07)**

- Coefficient of Correlation between Sales & promotional expenditure: 0.899119966
- Coefficient of Correlation between Sales & Year: 0.922156086
- Coefficient of Correlation between Year & promotional expenditure: 0.929758978
From table 6.7.2 it can be interpreted that total sales of Warana has increased from 1991 to 2009 with some exceptional years. Promotional expenditure has also considerably increased over a period of time. Coefficient of correlation between sales and promotional expenditure, year and sales, year and promotional expenditure are high. From this it can be found that there is relationship between promotional expenditure and sales turnover from 1991 to 2009.
6.7.3 **Shri Hanuman Sahakari Dudh Vyavasaik and Krushipurak Sewa Sanstha Ltd., Yalgud, Kolhapur**

Annual sales and promotional expenditure of Shri Hanuman Sahakari Dudh Vyavasaik and Krushipurak Sewa Sanstha Ltd., Yalgud from 1991 to 2009 are given as below.

**Table 6.7.3 Sales and Promotional Expenditure Relationship**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Total Sales (Lit)</th>
<th>Promotional Expenditure (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1991-92</td>
<td>1094090</td>
<td>34,861</td>
</tr>
<tr>
<td>2</td>
<td>1992-93</td>
<td>1361906</td>
<td>61,954</td>
</tr>
<tr>
<td>3</td>
<td>1993-94</td>
<td>1833089</td>
<td>163810</td>
</tr>
<tr>
<td>4</td>
<td>1994-95</td>
<td>1714564</td>
<td>147294</td>
</tr>
<tr>
<td>5</td>
<td>1995-96</td>
<td>1715916</td>
<td>243070</td>
</tr>
<tr>
<td>6</td>
<td>1996-97</td>
<td>3055361</td>
<td>273368</td>
</tr>
<tr>
<td>7</td>
<td>1997-98</td>
<td>4582066</td>
<td>217630</td>
</tr>
<tr>
<td>8</td>
<td>1998-99</td>
<td>4561919</td>
<td>240626</td>
</tr>
<tr>
<td>9</td>
<td>1999-2000</td>
<td>4830473</td>
<td>189134</td>
</tr>
<tr>
<td>10</td>
<td>2000-01</td>
<td>2929294</td>
<td>210748</td>
</tr>
<tr>
<td>11</td>
<td>2001-02</td>
<td>1813107</td>
<td>238375</td>
</tr>
<tr>
<td>12</td>
<td>2002-03</td>
<td>1698942</td>
<td>242394</td>
</tr>
<tr>
<td>13</td>
<td>2003-04</td>
<td>2066418</td>
<td>269045</td>
</tr>
<tr>
<td>14</td>
<td>2004-05</td>
<td>2130389</td>
<td>353917</td>
</tr>
<tr>
<td>15</td>
<td>2005-06</td>
<td>2268190</td>
<td>223309</td>
</tr>
<tr>
<td>16</td>
<td>2006-07</td>
<td>2283730</td>
<td>221068</td>
</tr>
<tr>
<td>17</td>
<td>2007-08</td>
<td>2078971</td>
<td>146539</td>
</tr>
<tr>
<td>18</td>
<td>2008-09</td>
<td>2036672</td>
<td>303734</td>
</tr>
</tbody>
</table>

**Coefficient of Correlation (1991-92 to 2006-07)**

- Coefficient of Correlation between Sales & promotional expenditure: 0.292153732
- Coefficient of Correlation between Sales & Year: 0.148198997
- Coefficient of Correlation between Year & promotional expenditure: 0.701548803
Graph 6.7.3 Sales and Promotional Expenditure Relationship

Table 6.7.3 shows that sales turnover of Yalgud has increased from 1991 to 1994 and then it decreased from 1994 to 1996. Again it increased from 1996 to 2000. From 2000 sales turnover starts declining and then it fluctuates further for the following years. Promotional expenditure has increased from 1991 to 2005 with some fluctuations then it decreased from 2005 to 2008 and again increased in 2008-09. Coefficient of correlation between sales and promotional expenditure, year and sales, year and promotional expenditure are positive. From this it can be concluded that there is relationship between sales and promotional expenditure.
6.7.4 Bharat Dairy-
Annual sales and promotional expenditure of Bharat Dairy from 1991 to 2009 are given as below.

Table 6.7.4 Sales and Promotional Expenditure Relationship

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Sales (in Rs. crores)</th>
<th>Promotional Expenditure (in Rs. crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>1.75</td>
<td>0.11</td>
</tr>
<tr>
<td>1992-93</td>
<td>2.5</td>
<td>0.15</td>
</tr>
<tr>
<td>1993-94</td>
<td>3.5</td>
<td>0.21</td>
</tr>
<tr>
<td>1994-95</td>
<td>4</td>
<td>0.24</td>
</tr>
<tr>
<td>1995-96</td>
<td>5</td>
<td>0.3</td>
</tr>
<tr>
<td>1996-97</td>
<td>5.6</td>
<td>0.34</td>
</tr>
<tr>
<td>1997-98</td>
<td>6.6</td>
<td>0.4</td>
</tr>
<tr>
<td>1998-99</td>
<td>7.2</td>
<td>0.43</td>
</tr>
<tr>
<td>1999-2000</td>
<td>8.5</td>
<td>0.51</td>
</tr>
<tr>
<td>2000-01</td>
<td>9</td>
<td>0.54</td>
</tr>
<tr>
<td>2001-02</td>
<td>10.5</td>
<td>0.63</td>
</tr>
<tr>
<td>2002-03</td>
<td>12</td>
<td>0.72</td>
</tr>
<tr>
<td>2003-04</td>
<td>13</td>
<td>0.78</td>
</tr>
<tr>
<td>2004-05</td>
<td>16</td>
<td>0.96</td>
</tr>
<tr>
<td>2005-06</td>
<td>18</td>
<td>1.1</td>
</tr>
<tr>
<td>2006-07</td>
<td>25</td>
<td>1.5</td>
</tr>
<tr>
<td>2007-08</td>
<td>35</td>
<td>2.1</td>
</tr>
<tr>
<td>2008-09</td>
<td>42</td>
<td>2.5</td>
</tr>
<tr>
<td>2009-10</td>
<td>50</td>
<td>3</td>
</tr>
</tbody>
</table>

Coefficient of Correlation (1991-92 to 2006-07)

Coefficient of Correlation between Sales & promotional expenditure 0.999912836
Coefficient of Correlation between Sales & Year 0.942545628
Coefficient of Correlation between Year & promotional expenditure 0.942281354
Table 6.7.4 shows that the sales turnover of Bharat Dairy has increased continuously over a period of time. Promotional expenditure has also shown increasing trend from 1991 to 2009. Coefficient of correlation between sales and promotional expenditure, year and sales, year and promotional expenditure are high. From this it can be concluded that there is a positive relationship between sales and promotional expenditure.
6.7.5 Sahyadri Dudh Utpadak Sangh Ltd; Shinoli, Chandgad

Annual sales and promotional expenditure of Sahyadri Dudh Utpadak Sangh Ltd. from 1991 to 2009 are given as below.

Table 6.7.5 Sales and Promotional Expenditure Relationship

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Total Sales (Rs)</th>
<th>Promotional Expenditure (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2001-02</td>
<td>23614922</td>
<td>77,985</td>
</tr>
<tr>
<td>2</td>
<td>2002-03</td>
<td>65575618</td>
<td>73,436</td>
</tr>
<tr>
<td>3</td>
<td>2003-04</td>
<td>98711239</td>
<td>88,925</td>
</tr>
<tr>
<td>4</td>
<td>2004-05</td>
<td>103935045</td>
<td>25,841</td>
</tr>
<tr>
<td>5</td>
<td>2005-06</td>
<td>104807853</td>
<td>90,753</td>
</tr>
<tr>
<td>6</td>
<td>2006-07</td>
<td>108377770</td>
<td>91,308</td>
</tr>
<tr>
<td>7</td>
<td>2007-08</td>
<td>122681615</td>
<td>19,712</td>
</tr>
<tr>
<td>8</td>
<td>2008-09</td>
<td>135713072</td>
<td>17,190</td>
</tr>
</tbody>
</table>

Coefficient of Correlation (2001-02 to 2006-07)

- Coefficient of Correlation between Sales & promotional expenditure: -0.047837106
- Coefficient of Correlation between Sales & Year: 0.871164928
- Coefficient of Correlation between Year & promotional expenditure: 0.118427367
From table 6.7.5 it can be observed that sales of the Sahyadri has shown increasing trend from 2001 to 2009. In initial period from 2000 to 2004 Sahyadri dairy has promoted the products with the affordable promotional budget but it decreased in 2004- 05, 2007- 08 and 2008- 09. Coefficient of correlation between sales and promotional expenditure is negative, year and sales, year and promotional expenditure are positive. From this it can be concluded that there is no significant relationship between sales and promotional expenditure.
6.7.6 Coefficient of correlation between total sales and promotional expenditure of co operative dairy units. (1991-92 to 2006-07)

Coefficient of correlation between total sales and promotional expenditure of co operative dairy units is given below.

**Table 6.7.6 Coefficient of correlation between total sales and promotional expenditure of co operative dairy units.**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Total sales (Lacks Lit.)</th>
<th>Promotional expenditure (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1991-92</td>
<td>1659.8</td>
<td>4,564,861</td>
</tr>
<tr>
<td>2</td>
<td>1992-93</td>
<td>1790.47</td>
<td>5,211,954</td>
</tr>
<tr>
<td>3</td>
<td>1993-94</td>
<td>1837.43</td>
<td>5,513,810</td>
</tr>
<tr>
<td>4</td>
<td>1994-95</td>
<td>1893.67</td>
<td>5,797,294</td>
</tr>
<tr>
<td>5</td>
<td>1995-96</td>
<td>1937.95</td>
<td>6,263,070</td>
</tr>
<tr>
<td>6</td>
<td>1996-97</td>
<td>2061.05</td>
<td>6,543,368</td>
</tr>
<tr>
<td>7</td>
<td>1997-98</td>
<td>2219.78</td>
<td>6,967,630</td>
</tr>
<tr>
<td>8</td>
<td>1998-99</td>
<td>2328.91</td>
<td>7,660,626</td>
</tr>
<tr>
<td>9</td>
<td>1999-00</td>
<td>2399.91</td>
<td>8,519,134</td>
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<tr>
<td>10</td>
<td>2000-01</td>
<td>2394.61</td>
<td>9,310,748</td>
</tr>
<tr>
<td>11</td>
<td>2001-02</td>
<td>2446.38</td>
<td>10,708,375</td>
</tr>
<tr>
<td>12</td>
<td>2002-03</td>
<td>2616.78</td>
<td>12,562,394</td>
</tr>
<tr>
<td>13</td>
<td>2003-04</td>
<td>2711.45</td>
<td>13,899,045</td>
</tr>
<tr>
<td>14</td>
<td>2004-05</td>
<td>2722.84</td>
<td>16,363,917</td>
</tr>
<tr>
<td>15</td>
<td>2005-06</td>
<td>2808.62</td>
<td>16,723,309</td>
</tr>
<tr>
<td>16</td>
<td>2006-07</td>
<td>3134.41</td>
<td>17,771,068</td>
</tr>
<tr>
<td>17</td>
<td>2007-08</td>
<td>3398.01</td>
<td>18,956,099</td>
</tr>
<tr>
<td>18</td>
<td>2008-09</td>
<td>3420.04</td>
<td>20,403,734</td>
</tr>
</tbody>
</table>

Coefficient of Correlation between Sales & promotional expenditure 0.951862945
Coefficient of Correlation between Sales & Year 0.988225236
Coefficient of Correlation between Year & promotional expenditure 0.959572945

Coefficient of correlation between sales and promotional expenditure, year and sales, year and promotional expenditure are high.
6.7.7 Coefficient of correlation between total sales and promotional expenditure of private and public Limited dairy units. (1991-92 to 2006-07)

Coefficient of correlation between total sales and promotional expenditure of private and public limited dairy units is given as follows.

**Table 6.7.7 Coefficient of correlation between total sales and promotional expenditure of private and public limited dairy units.**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Total sales (Rs.)</th>
<th>Promotional expenditure (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1991-92</td>
<td>1.75</td>
<td>1100000</td>
</tr>
<tr>
<td>2</td>
<td>1992-93</td>
<td>2.5</td>
<td>1500000</td>
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<td>3</td>
<td>1993-94</td>
<td>3.5</td>
<td>2100000</td>
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<tr>
<td>4</td>
<td>1994-95</td>
<td>4</td>
<td>2400000</td>
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<tr>
<td>5</td>
<td>1995-96</td>
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<td>4300000</td>
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</tr>
<tr>
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<td>2001-02</td>
<td>12.9</td>
<td>6,377,985</td>
</tr>
<tr>
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<td>2002-03</td>
<td>18.5</td>
<td>7,273,436</td>
</tr>
<tr>
<td>13</td>
<td>2003-04</td>
<td>22.9</td>
<td>7,888,925</td>
</tr>
<tr>
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<td>2004-05</td>
<td>26.4</td>
<td>9,625,841</td>
</tr>
<tr>
<td>15</td>
<td>2005-06</td>
<td>28.5</td>
<td>11,090,753</td>
</tr>
<tr>
<td>16</td>
<td>2006-07</td>
<td>35.9</td>
<td>15,091,308</td>
</tr>
<tr>
<td>17</td>
<td>2007-08</td>
<td>47.3</td>
<td>21,019,712</td>
</tr>
<tr>
<td>18</td>
<td>2008-09</td>
<td>55.6</td>
<td>25,017,190</td>
</tr>
</tbody>
</table>

Coefficient of Correlation between Sales & promotional expenditure: 0.98101734
Coefficient of Correlation between Sales & Year: 0.927149425
Coefficient of Correlation between Year & promotional expenditure: 0.942665205

Coefficient of correlation between sales and promotional expenditure, year and sales, year and promotional expenditure are high.
From 6.7.6 and 6.7.7 it can be concluded that total sales turnover shows the increasing trend from 1991 to 2009. Also the promotional expenditure has increased over a period of time. Coefficient of correlation between sales and promotional expenditure, year and sales, year and promotional expenditure are high. From this it can be concluded that there is a positive correlation between promotional expenditure and sales over a period of time.

6.8 Conclusions about the Hypothesis –

1. **Dairy units are doing well in the promotional strategy.**
   Table 6.2 and result number 40 to 45 shows that the dairy units are going for some promotional activities. They advertise continuously at the local or regional level. They have developed good brand image. They use sales promotion schemes for their channel members. But they do not employ sales promotion activities for customers. They have developed good public relations with the customers, media, government agencies, and other stakeholders.

   **Therefore the hypothesis that dairy units are doing well in the promotional strategy is accepted.**

2. **The dairy units are very good in their distribution network.**
   From Table 6.2 and result number 32 to 39 majorities of the dairy units have not developed the strong distribution network to distribute the milk and milk products. Particularly they are selling the milk and milk products at nearby regions.

   **Therefore the Hypothesis that the dairy units are very good in their distribution network is rejected.**
3. **The sales of the milk and milk products are affected by the promotional strategies of the dairy units.**

   Tables 6.7.1 to 6.7.7 show that there is a positive relationship between promotional expenditure and sales turnover.

   *Therefore Hypothesis that the sales of the milk and milk products are affected by the promotional strategies of the dairy units is accepted.*

4. **There is change in customer preferences because of the marketing efforts of the dairy units.**

   Table 6.6.1 shows that customer preferences for different products have changed over a period of time from 1991 to 2006. Table 6.6.2 shows that the change in customer purchase decision is due to marketing related factors such as advertisement, availability, variety, quality and price.

   *Therefore Hypothesis that there is change in customer preferences because of the marketing efforts of the dairy units is accepted.*