A STUDY ON FORECASTING THE BUDGET TO DEVELOP THE NEW PRODUCT WITH AN EXISTING ONE IN THE POULTRY INDUSTRY

Dr. C.M. SUDHA AROGYA MARY,
Assistant Professor, Department of Management Studies,
Saveetha Engineering College (Autonomous),
Affiliated to Anna University, Chennai, India
cmsudhaarogyamary@saveetha.ac.in

Dr. S. GANGADHARAN,
Associate Professor, Department of Management Studies,
Saveetha Engineering College (Autonomous),
Affiliated to Anna University, Chennai, India
Sgangadharan80@gmail.com

Dr. R. MURALI,
Associate Professor, Department of Management Studies,
St. Peter’s College of Engineering and Technology,
Affiliated to Anna University, Chennai, India
muralithireshh@gmail.com

Abstract: Poultry manufacturing was the first choice of every farmer in our country. Many companies have distributed a variety of product lines for many decades. Apart from this, companies offer different services to customers. The companies were trying to promote their product with different quality and through personal selling. Though it is having its traditional method of selling, they follow a new strategy to sell their product. According to the trend they promote their product to their target customer and try to keep their existing customer. This study mainly focused on a market research survey on "brand positioning" based on its customers. The aim is to study the awareness of the brand name to the various segments of the farmers and to expand the market for the selective companies in Poultry Manufacturing. Finally, some suggestions and recommendations are given to the companies about the new product development to capture the market share of the poultry industry.

Key words - Poultry, farmers and Market share

INTRODUCTION

In many organizations, planning and developing the new product is a dream to prepare the cost and the budget for the new product development is the main objective of the company. Once a year company plans to generate a new product in the market, makes the greatest success in the market and this success motivates the company to innovate more products in the poultry field. The main work of the financial manager is to find out the various costs incurred in the new product development and to find out the forecasting result of the product in the future market.
IMPORTANCE OF STUDY
The existing relationship value has extremely significant for any organization to expand its sales output. In the modern business world due to the development of technology, many new products are introduced in the market, and when a new product enters the market some customers will switch over to the new product. Hence, it becomes necessary for the company to develop a new product.

OBJECTIVE
1. To develop a framework or model for developing new product development.
2. To understand the present expenditure on developing the new product.
3. To analyze the variations that occurred during the previous product.
4. To analyze the Expenses.

RESEARCH METHODOLOGY
This is an exploratory research design. Exploratory research is conducted when a problem has not been clearly defined as yet, or its real scope is as yet unclear. It allows the researcher to familiarize him with the problem or concept to be studied. The results of exploratory research are not usually useful for executives by themselves, but they can provide important insight into a given situation. The secondary data are those which have already been composed by someone else from journals, magazines, books, etc. The company profile, textbooks, website, and records were used to collect the secondary data. The test used for analysis is trend analysis, correlation, and regression.

DATA ANALYSIS

<table>
<thead>
<tr>
<th>Employee</th>
<th>Value in crore</th>
<th>Deviation X</th>
<th>XY</th>
<th>X²</th>
<th>Trend value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-2016</td>
<td>498</td>
<td>-1</td>
<td>-490</td>
<td>1</td>
<td>467.1</td>
</tr>
<tr>
<td>2016-2017</td>
<td>441</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>498.4</td>
</tr>
<tr>
<td>2017-2018</td>
<td>515</td>
<td>1</td>
<td>515</td>
<td>1</td>
<td>529.7</td>
</tr>
<tr>
<td>2018-2019</td>
<td>593</td>
<td>2</td>
<td>1,186</td>
<td>4</td>
<td>561</td>
</tr>
<tr>
<td>2019-2020</td>
<td></td>
<td>0</td>
<td>321</td>
<td></td>
<td>592.3</td>
</tr>
<tr>
<td>Total</td>
<td>2492</td>
<td>0</td>
<td>321</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Equation \( y = a + b \times x \)

\[
\sum y = 2492 \\
a = \frac{\sum y}{N} = \frac{2492}{5} = 498.4 \\
b = \frac{\sum xy}{N} = \frac{321}{5} = 31.3
\]
Putting in the equation

\[ Y = a + b x \]

\[ Y = 498.4 + 31.3(-2) = 436 \]
\[ Y = 498.4 + 31.3(-1) = 467.1 \]
\[ Y = 498.4 + 31.3(0) = 498.4 \]
\[ Y = 498.4 + 31.3(1) = 529.7 \]
\[ Y = 498.4 + 31.3(2) = 561 \]

For the year 2019-2020
\[ Y = 498.4 + 31.3(3) = 592.3 \]

**Inference:** The above figure shows the employee expense which is forecasted on the basis of the previous year’s actual data with the help of trend line analysis. Every year the employee cost is increasing on a yearly basis.

**Rent & maintenance**

<table>
<thead>
<tr>
<th>Year</th>
<th>Value in crore</th>
<th>Deviation X</th>
<th>XY</th>
<th>X²</th>
<th>Trend value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>22</td>
<td>-2</td>
<td>-44</td>
<td>4</td>
<td>20.2</td>
</tr>
<tr>
<td>2015-2016</td>
<td>23</td>
<td>-1</td>
<td>-23</td>
<td>1</td>
<td>24.8</td>
</tr>
<tr>
<td>2016-2017</td>
<td>28</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>29.4</td>
</tr>
<tr>
<td>2017-2018</td>
<td>35</td>
<td>1</td>
<td>35</td>
<td>1</td>
<td>34</td>
</tr>
<tr>
<td>2018-2019</td>
<td>39</td>
<td>2</td>
<td>78</td>
<td>4</td>
<td>38.6</td>
</tr>
<tr>
<td>2019-2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>43.2</td>
</tr>
<tr>
<td>Total</td>
<td><strong>147</strong></td>
<td>0</td>
<td><strong>46</strong></td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**Equation:** \( y = a + b x \)

\[ \sum y = 147 \]
\[ a = \frac{147}{\sum x^2} = \frac{147}{10} = 29.4 \]
Putting in the equation

\[ Y = a + bx \]

\[ Y = 29.4 + 4.6(-2) = 20.2 \]
\[ Y = 29.4 + 4.6(-1) = 24.8 \]
\[ Y = 29.4 + 4.6(0) = 29.4 \]
\[ Y = 29.4 + 4.6(1) = 34 \]
\[ Y = 29.4 + 4.6(2) = 38.6 \]

For the year 2019-2020

\[ Y = 29.4 + 4.6(3) = 43.2 \]

**Inference:** In the above figure the expense of rent & maintenance is forecasted for the next year there is an increase in the expenses which is shown with help of trend line.

**Rate & taxes**

<table>
<thead>
<tr>
<th>Year</th>
<th>value in crore</th>
<th>Deviation X</th>
<th>XY</th>
<th>X²</th>
<th>Trend value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>3253</td>
<td>-2</td>
<td>-6506</td>
<td>4</td>
<td>4312.32</td>
</tr>
<tr>
<td>2015-2016</td>
<td>9354</td>
<td>-1</td>
<td>-9354</td>
<td>1</td>
<td>4851.36</td>
</tr>
<tr>
<td>2016-2017</td>
<td>5409</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5390.4</td>
</tr>
<tr>
<td>2017-2018</td>
<td>4140</td>
<td>1</td>
<td>4140</td>
<td>1</td>
<td>5929.44</td>
</tr>
<tr>
<td>2018-2019</td>
<td>4796</td>
<td>2</td>
<td>9592</td>
<td>4</td>
<td>6468.48</td>
</tr>
<tr>
<td>2019-2020</td>
<td>7007.52</td>
<td>0</td>
<td>-2128</td>
<td>10</td>
<td>7007.52</td>
</tr>
</tbody>
</table>

**Equation**

\[ y = a + bx \]

\[ \sum y = 26,952 \]
Putting in the equation
\[ Y = a + b \times X \]
\[ Y = 5,390.4 + 539.04 \times (-2) = 4312.32 \]
\[ Y = 5,390.4 + 539.04 \times (-1) = 4851.36 \]
\[ Y = 5,390.4 + 539.04 \times 0 = 5390.4 \]
\[ Y = 5,390.4 + 539.04 \times 1 = 5929.44 \]
\[ Y = 5,390.4 + 539.04 \times 2 = 6468.48 \]
\[ Y = 5,390.4 + 539.04 \times 3 = 7007.52 \]

For the year 2019-2020
\[ Y = 5,390.4 + 539.04 \times 3 = 7007.52 \]

**Inference:** The above figure shows the rate & taxes which are forecasted on the basis of the previous year’s actual data with the help of trend line analysis. This figure shows the increase in rates and taxes with the help of the trend line.

**Professional services & charges:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Value in crore</th>
<th>Deviation X</th>
<th>XY</th>
<th>X²</th>
<th>Trend value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>43</td>
<td>-2</td>
<td>-86</td>
<td>4</td>
<td>68</td>
</tr>
<tr>
<td>2015-2016</td>
<td>79</td>
<td>-1</td>
<td>-79</td>
<td>1</td>
<td>56.5</td>
</tr>
<tr>
<td>2016-2017</td>
<td>70</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td>2017-2018</td>
<td>16</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>33.5</td>
</tr>
<tr>
<td>2018-2019</td>
<td>17</td>
<td>2</td>
<td>34</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>2019-2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10.5</td>
</tr>
</tbody>
</table>
Equation \( y = a + b x \)

\[
\begin{align*}
\sum y &= 225 \\
a &= \frac{-115}{5} = 45 \\
\sum XY &= -115 \\
b &= \frac{-115}{10} = -11.5 \\
\sum X^2 &= 10
\end{align*}
\]

Putting in the equation

\[
\begin{align*}
Y &= a + b x \\
Y &= 45 + (-11.5) (-2) = 68 \\
Y &= 45 + (-11.5) (-1) = 56.5 \\
Y &= 45 + (-11.5) (0) = 45 \\
Y &= 45 + (-11.5) (1) = 33.5 \\
Y &= 45 + (-11.5) (2) = 22
\end{align*}
\]

For the year 2019-2020

\[ Y = 45 + (-11.5) (3) = 10.5 \]

**Inference:** In the above figure the expense of Professional services & charges are forecasted for the next year there is a decrease in the expanse which is shown with help of trend line.

**Financial charges:**

<table>
<thead>
<tr>
<th>Year</th>
<th>value in crore Budget value</th>
<th>Deviation X</th>
<th>XY</th>
<th>X²</th>
<th>Trend value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>2329</td>
<td>-2</td>
<td>-4658</td>
<td>4</td>
<td>2699.4</td>
</tr>
<tr>
<td>2015-2016</td>
<td>2050</td>
<td>-1</td>
<td>-2050</td>
<td>1</td>
<td>2170.6</td>
</tr>
<tr>
<td>2016-2017</td>
<td>2640</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1641.8</td>
</tr>
<tr>
<td>Year</td>
<td>Y</td>
<td>X</td>
<td>Y</td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td>-------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>2017-2018</td>
<td>960</td>
<td>1</td>
<td>960</td>
<td>1</td>
<td>1113</td>
</tr>
<tr>
<td>2018-2019</td>
<td>230</td>
<td>2</td>
<td>460</td>
<td>4</td>
<td>584.2</td>
</tr>
<tr>
<td>2019-2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>55.4</td>
</tr>
<tr>
<td>Total</td>
<td>8209</td>
<td>0</td>
<td>-5288</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Equation \( y = a + b \times x \)

\[
\sum y = 8209 \\
a = \frac{\sum y}{N} = \frac{-5288}{5} = 1641.8 \\
b = \frac{\sum XY - \bar{X}\sum Y}{\sum X^2} = \frac{-5288}{10} = -528.8
\]

Putting in the equation

\[
Y = a + b \times x \\
Y = 1641.8 + (-528.8)(-2) = 2699.4 \\
Y = 1641.8 + (-528.8)(-1) = 2170.6 \\
Y = 1641.8 + (-528.8)(0) = 1641.8 \\
Y = 1641.8 + (-528.8)(1) = 1113 \\
Y = 1641.8 + (-528.8)(2) = 584.2
\]

For the year 2019-2020

\[
Y = 1641.8 + (-528.8)(3) = 55.4
\]
The above figure shows the financial charges forecasted for the next year with the help of trend line analysis. The expense is decreasing which is shown with the help of trend line. The trend line is calculated using the equation:

\[ y = a + bx \]

where:

- \( y \) is the budget value
- \( x \) is the deviation
- \( a \) is the intercept
- \( b \) is the slope

The values for \( a \) and \( b \) are calculated as follows:

\[ a = \frac{\sum y}{N} \]
\[ b = \frac{\sum xy}{\sum x^2} \]

where:

- \( \sum y \) is the sum of all budget values
- \( \sum x \) is the sum of all deviations
- \( N \) is the total number of data points
- \( \sum xy \) is the sum of the products of each \( x \) and \( y \)
- \( \sum x^2 \) is the sum of the squares of each \( x \)

The values are:

- \( \sum y = 299 \)
- \( N = 5 \)
- \( \sum xy = 37 \)
- \( \sum x^2 = 10 \)

Therefore:

\[ a = \frac{299}{5} = 59.8 \]
\[ b = \frac{37}{10} = 3.7 \]

Putting in the equation
Y = a + b x
Y = 59.8 + 3.7 (-2) = 52.4
Y = 59.8 + 3.7 (-1) = 56.1
Y = 59.8 + 3.7 (0) = 59.8
Y = 59.8 + 3.7 (1) = 63.8
Y = 59.8 + 3.7 (2) = 67.2
For the year 2019-2020
Y = 59.8 + 3.7 (3) = 70.9

Inference: The above figure shows about the power & fuel expenses forecasted for the next year with the help of trend line analysis. The expense is increasing which is shown with the help of trend line

Correlation calculation for the budgeted expenses and the actual expenses

<table>
<thead>
<tr>
<th>year</th>
<th>x</th>
<th>y</th>
<th>d</th>
<th>d²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>58.32</td>
<td>57.37</td>
<td>0.951</td>
<td>0.904</td>
</tr>
<tr>
<td>2015-2016</td>
<td>63.17</td>
<td>63.85</td>
<td>-0.68</td>
<td>0.46</td>
</tr>
<tr>
<td>2016-2017</td>
<td>60.12</td>
<td>60.98</td>
<td>-0.87</td>
<td>0.753</td>
</tr>
<tr>
<td>2017-2018</td>
<td>73</td>
<td>71.25</td>
<td>1.757</td>
<td>3.09</td>
</tr>
<tr>
<td>2018-2019</td>
<td>83.79</td>
<td>84.37</td>
<td>0.426</td>
<td>0.181</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>5.388</td>
<td></td>
</tr>
</tbody>
</table>
\[ r = 1 - \frac{6 \sum d^2 i}{n(n^2 - 1)} \]
\[ = 1 - \frac{(6 \times 5.3884)}{5(25 - 1)} \]
\[ = 1 - 32.3304 \]
\[ = 1 - .269 \]
\[ = 0.731 \]

**Inference:**
In this research, the correlation shows the positive relationship between budget expenses and actual expenses.

**FINDINGS**
- In this research, the researcher has found out that the expenses of some cost centers are increasing every yearly vigorously.
- The trend line analysis shows that some expenses are increasing.
- In this research, the correlation shows the positive relationship between budget expenses and actual expenses.
- The yearly budget which is of twelve months is efficient but the monthly budget is more efficient than the existing one.
- It shows how the improper expenses are incurred which affect the budget.
- Financial loss through invalid or unauthorized payments including fraudulent ones will affect the budgeting process.
- Purchases fail to meet the objectives of the organization, resulting in financial loss and as well as a complication in Budgeting which in turn damage to the reputation of the company.
- Inappropriate or expensive goods are purchased, resulting in missed budgets and financial loss.
- Records of goods returned should be kept and checked to the credit notes received from suppliers for the proper track of the expenses.
- Censure or fines by the tax authorities because of wrong calculation or payments

**SUGGESTION**
- There should be a monthly cost preparation system which will be more efficient than the existing one.
- Bank settlements should be prepared at least monthly.
• All goods should be checked for quantity and quality.
• Improve Supply Chain Management by planting new techniques.
• Bulk order of raw material will reduce the cost of the product.
• Employees should be motivated inside the Organization.

CONCLUSION

It outlines in financial terms the goals and policies approved by the board. It is a method of monitoring adherence to, and deviations from plans throughout the year its preparation causes the organization to focus on planning, evaluation of programs, and accomplishment of its mission. The present study focuses on the forecast of all the expenditure which is held in an organization. This forecast is done with the help of trend line analysis. The forecast is subject to some limitations like inflation, natural calamity, etc, so we can say that there will be a probability of inaccuracy.

REFERENCES
5. Ekholm, B., Wallin, J., —Is the annual budget really dead?, European Accounting Review, 2000, 9, 519–539. 27 | P a g e