Chapter-6

Some Related Issues of Fan Industry

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Chapter-6

Some Related Issues of Fan Industry

6.1: Introduction:

In chapter four we have observed that in fan trade decision makers have identified market/ competitive factor, as the most important external factor, which should be matched with marketing factor, which is the most important internal factor. In this chapter we propose to identify what is going on in practice. Motto of this study is to identify whether market leaders are following the same route of operation may be knowingly or unknowingly and failing companies are on a markedly different path. We have considered strategies of two finns only of fan trade and have done an envelope study for a critical examination of the causes behind their success / failure; one, who had created sensation from the very beginning of its entry in this product field but now, vanished from this trade as a defeated player and another one which is an age-old firm maintaining a steady position of number one in West Bengal fan market. In later part, we consider market attractiveness of fan trade by using all India production and profitability data over the years to enrich future aspirants about this product field.
6.2: Strategies behind success of market leader of West Bengal fan trade:
Polar, a brand name has turned into a generic name in West Bengal fan market.
With a sales figure of more than one lakh fans a year it is the unbeatable market
leader of West Bengal fan market over the years. In the year 1969, the Polar
group started its operation in Kolkata as a manufacturing unit of regulators, fan
blades to cater to the need of the then existing fan majors. Later, it went for
forward integration and started its own manufacturing unit successfully. It has
wide ranges of ceiling, table, wall, pedestal, personal portables and exhaust fans.

In this section we have tried to identify major strategic moves of Polar group to
acquire and retain number one slot in West Bengal.

- The critical level of segmentation leads to 'segmentation of one
customised marketing' (Peepers and Rogers, 1993). Polar fan enhanced
its sales figure over the years by identifying themselves as every man
product by offering models in all price ranges for every segment of
customers. It has models of ceiling fan 'Beta Brown and Alpha White', a
generic name in this category, in the price range Rs.1080/- for economy
segment and above Rs.1300/- 'Winaire' for premium segment.

- Marketers classify products on the basis of three characteristics namely
durability, tangibility and use (Murphy and Enis, 1986). The fans, which
were once considered, as only a scientific revolution to beat the heat is
now very much used as a part of home decoration. The colours of the
wall now decide the colour of the fan. Polar is enjoying the status of the pioneer in this segment with more than one hundred thirty colour ranges in this category.

- The reason why branded fan makers are not doing well over the years is due to pressure from unorganised sector. To cope with this situation Polar introduced Fastair and Panther, Mega White in the price range of Rs.730/- to Rs.850/-. Panther was later discontinued as a company strategy to make product portfolio slim and effective. A brand is essentially a seller’s commitments to convey a specific set of features. The best brand expresses a warranty of quality (Aaker, 1997). The strategy of Polar to introduce a branded fan at the price of non-branded category created a sensation in the market and it was a great success. A portion of market share of unorganised sector mobilised towards these low priced models with the expectation of higher quality. A chance of cannibalisation was well tackled by the company by giving these brands a low profile promotional, packaging support and a different distributor based distribution channel.

- We have already mentioned in chapter four that after economic liberalisation and abolishment of QR, fan industry has started facing a probable threat from cheap models of portable fans imported from China. Polar is very prompt in its reaction. As a successful visionary it judged the situation and restructured its strategy. In today's business
environment, companies are driven to conduct a few functions in-house and to obtain the rest from other sources through aggressive outsourcing (Insinga and Werle 2000). Before loosing its market share to foreign cheap brand it decided to follow the same route by outsourcing its complete portable range from China. It has introduced purely imported China make portable fan in its own brand name Polar Mistral in India. It is a great success. Later competitors followed the same route. Phase wise discontinuation of in-house manufacturing of portable range is next in its cards to give more concentration on ceiling fan production.

Marketers that fail to introduce new products are putting themselves at great risk. Their present offers are vulnerable to changing customer needs and test, new technologies, shortened product life cycles, and increased domestic and foreign competition (Kotler, 2000). Polar leads in colour and design as it has wide range of colours and variety of models to choose from. Phase wise discontinuation of age-old models and introduction of new models is a common practice for Polar to keep their product portfolios young and up to date. In the year 1998, 1999, 2000 it introduced Royale, Winaire, Winchester brands of ceiling fan respectively. They are successful to keep market excitement intact over the years.

Guarantee is most effective when the product’s quality is superior to the competition. The firm can gain by guaranteeing superior performance
knowing that competitors cannot match its guarantee (Ettore, 1994, Henkoff, 1994). Ceiling fans of Polar group are backed by seven years complete guarantee. This intelligent strategy of brand support gives this brand a distinct image in the mind of the customer. We have already seen in chapter three that customers of West Bengal market give high degree of importance to product durability and after sales service. In this area, Polar enjoys a remarkable advantage due to it’s strong after sales service and product quality.

> Polar believes in innovativeness regarding its brand positioning through its advertisement. Previous researchers propagate that a good advertisement normally focuses on core selling proposition namely desirability, exclusiveness, and believability (Maloney, 1961; Dik, 1969). In recent past Polar’s aviskar, choice polar jaisa, and winners under one-roof ranges of advertisement showed an incremental increase, in its sales volume.

> Sales promotion works best when they attract competitors’ customers to try a superior product (Abraham and Lodish, 1990; Totten and Block, 1994). Polar may be identified as a pioneer in terms of floating innovative sales promotion schemes. Its various sales promotion schemes namely sure win, sona kitna sona hai, free umbrella with every purchase, free watch with every purchase, scratch and win etc. created a fabulous sensation in the market and later copied by other players.
Polar believes in maintaining personal one to one relation with their channel members. Intermediaries can aim for an association based on cooperation, partnership, or distribution programming. Most marketers see the main challenge as attainment of intermediary’s cooperation (Rosenbloom, 1995; Stren and El-Ansary, 1996). Polar treat their channel partners as their family members. Sales people are encouraged to give top priority to personal level intimate relation with channel members. Regular visit by top managers to all dealers irrespective of their business volume is a part of their strategy. In this way they create a not easy to break entry barrier of competitive products in the counter of their channel partners.

We have seen in chapter three that location of dealer also plays an important role in purchase decision-making. It depends on proximity of location, reputation of shop and familiarity with the dealer. Over the years Polar has developed a complete distribution network throughout West Bengal. Area-wise it has connected every corner of this market through their dealer-development cell. Every dealer has a direct access to branch office and corporate head office in Kolkata.

Due to its after sales service and seven years guarantee it has also a good hold in institutional sales market of West Bengal. A major portion of its yearly sales come through bulk purchasers, DGS&D, CSD operation. It
is maintaining a separate institutional sales division operating from head office to give more thrust on this prospective sector.

In chapter four we have seen that according to the decision makers of fan trade, market/ competitive and marketing are the most important external and internal factor for strategy formulation. According to them, firm should give top priority on factor matching of these two factors for strategy formulation. But, they are also of the view that a few other environmental factors play some significant role in strategic planning. Degree of importance may be different.

At the time of searching success secrets of successful marketer in West Bengal fan trade one can observe the reflection of our findings of previous chapter. One can see that other factors namely corporate personnel, supplier, production, R&D has been playing an important role behind this success of Polar in following ways.

- Polar believes to maintain a family bondage with their employees also. Most of the middle and senior level managers have passed a decade in this organisation. In this way they normally enjoy a high level of team spirit.
- The company follow the policy of sub contracting the suppliers of the parts for its manufacturing and restricts itself to the assembly of these
parts. The factory operation is fairly automated and uses modern
technology with strong quality control procedure.

- Polar has invested substantial amount of money and talent in R&D of new generation fans. It has a fully equipped R&D division with state of the art technology. A strong market information system enables this division to read the mind of the consumers and to meet their expectation.

- The company has a centralised human resource division for all its group companies. This division cater to the customised need of human resource requirement of various divisions with proper coordination with divisional heads. In this way they are enjoying a centrally controlled HR cell with a flexibility of need based HR planning.

6.3: Strategic faults behind failure of a potential brand of West Bengal fan trade:

In this section we have considered causes behind failures of once potential now nowhere fan brand in respect of West Bengal fan market. Our task is to identify whether the firm did mistake in strategy formulation because of giving less stress on factor matching.

Super Cassette Industries Ltd., popularly known as T-series, a successful venture of cassette baron late Gulshan Kumar, entered in the fan market in the year 1997 with its ceiling fan model Concord. The MRP of the fan was near
about Rs. 1020/- at the time of launch. It was at per with same category offers of other branded players. It was a smooth launch with lots of sensation and excitement in the market. The company headhunted two top slot persons from the market leader company to strengthen its production and marketing wings. Person from the marketing wing of the market leader firm played the role of the fluitman of Hamlion and snatched nearly complete sales team of the market leader. This group well utilised their relation with the channel partners and got an easy entry in the shop counter. A high level of margin to the dealers, then famous as “one patthi -one fan” encouraged an easy push from dealers. First time movement was enough to create wrinkles in the sales chart of competitors. Market leader reacted promptly. They hired a fresh batch of qualified professionals. The new team, with a tremendous fire in their belly, did lot of marketing activities. Top management took the matter seriously. Special emphasis was given on channel partners’ relationship. Lots of advertisements, innovative sales promotion schemes were floated in the market. New product launch, territory specific attacking strategies were on the card. As a result initial interest about the Concord started decreasing within a year. Brand extension in decorative range proved no result. Slowly the brand vanished from the market within three years. Fluitman of Hamlion is now trying his luck in another company. Most of the members of his sales team returned to their old company.

We can identify the following loopholes of Super Cassette Industries Ltd.
➢ T-series was famous for its economy range of cassettes compared to the then market leader HMV. So, in the market they have an image of producer of cheap brand with low durability. Their new venture in fan trade had given them the same status as they were enjoying in cassette trade. So, a strategy to introduce a model with a price range similar to market leader created a negative effect and proved as a weak pricing strategy.

➢ Fan, as an electrical item, needs a high level of safety and security in its operation. T-series earned a bad name as a manufacturer of fake cassettes over the years. Their name was synonyms of fake cassette. Their new venture in fan trade created the same level of suspect about the durability and safety of the brand in long run.

➢ There was a huge market of low priced unbranded fan market. T-series popularised as a mass-market brand could attack this segment. But, in practice they went for a head on collision with market leader. In this way they made a major mistake in identification of market segment.

➢ T-series had no manufacturing unit in West Bengal. Total supply was made from Delhi. It increased overhead cost too much and made the product costly.

➢ Long run success of a durable product depends on after sales service. T-series in this sector showed a poor performance. It had no
full-fledged service centre of its own. Again, it could not offer company owned service centre through out West Bengal. Dealers were not feeling comfortable to push the brand.

- Initially the company offered Rs.100/- margin per fan to the dealers. But as season was going on it was not possible for them to show dealers same margin due to huge recurring expenses. This created a boomerang effect and simultaneously helped competitors to heal dealer's wound by their continuous support.

- "Free wrist watch with every fan" was a successful promotional measure by the company. But it involved a lot of investment and in this way showed a negative impact on its balance sheet.

- T-series didn't have any experience in fan trade. This unrelated diversification was a major mistake by the company.

- Sudden demise of their owner Gulshan Kumar created a major change in leadership implementation. Subsequent clash of interest among the family members disturbed the company in a major way. They lost their focus and later tried to concentrate on their core business by phased withdrawal from this unrelated business.

From the above mentioned envelope study of successful and failure brands of fan trade it may be concluded that consciously or unconsciously successful firm follow the matching process of environmental factors for effective strategic
move. Proper matching helps a firm to focus on their success factors. It helps a firm to crack competitive market share in a well-defined way within a shorter time frame. One can see that improper selection of critical environmental factors force a firm namely T-series towards unrelated strategic move. As a result, it landed up with miserable failure in the market place. So, one can draw inferences that, strategic move after proper factor matching minimises the chances of failure and in that way creates a favourable move towards success.

6.4: Industry attractiveness- a deciding factor for strategy formulation:

Formulation of strategy is the prime success factor for long run survival and incremental growth of any organisation in this competitive scenario. Turbulent and vulnerable operating environment is facing dynamic changes in regular interval. Uncertainty is the rule of the game. So strategic movement is not a task of mere intuition. It is purely a calculative complicated job for today’s business warriors. In our previous section we have seen that giving priority to customer values by accepting prompt changes in the operating policies is the factor behind a successful firm. Ansoff (1979) first propagated that marketing is an entrepreneurial function. It is the window of the firm to interact with the external environment. Strong customer focus by proper concentration on consumer behaviour is the secret of the success. Many researchers supported the need for special emphasis on consumer behaviour (FitzRoy, 1976, Lilien et al, 1999). Again Evans and Wuster, 1997; Zaltman, 1997 popularised the need for a
systemised information collection and processing system for error free strategy formulation. It is revealed that due to present competitive regime, expected result of interplay among the players of any product field depends on the degree of competition of that particular product field. So, active consideration of degree of competition at the time of strategy formulation is a must. As degree of competition varies from industry to industry, so, industry specific approach may be helpful.

6.4.1: A measure of industry attractiveness:
Market attractiveness of any particular field depends on many interconnecting functions. Ansoff and McDonnell (1990) defined the attractiveness of an industry as the sum effect of profitability (P), growth rate (G) and turbulence prospect (O/T). To derive an overall idea on Strategic Business Area (SBA) attractiveness they proposed a combined measure of factors through weighted mean. Thus, Ansoff and McDonnell (1990) proposed:

\[ SBA\text{ attractiveness} = \alpha G + \beta P + \gamma O - \delta T \]

where weights are \( \alpha, \beta, \gamma, \delta \) in respect of G, P, O and T satisfying the condition that they are nonnegative and additively unity, i.e. \( \alpha + \beta + \gamma + \delta = 1 \). Here we may see that measurement of opportunity/threat factor is purely subjective and there is no standard measure for objective study. So in this study we have introduced the degree of competition as a deciding factor to measure industry attractiveness.
A previous work of Roy and Lahiri, (2001) to measure degree of attractiveness may be of help for fan market too.

6.4.2: A measure for the degree of competition:

In this study we have measured the degree of competition based on the concept of entropy. This concept of entropy is used in information theory. The main assumption is that in case of a likely event, information contained must be low and in case of a rare event the information contained must be on the higher side. Earlier, Shannon (1948) proposed a measure of information as $I(p)$, where $I(p)$ is the function of $p$, the probability of occurrence of the event. It can be symbolised as

$$I(p) = -\log p \quad 0 \leq p \leq 1$$

where $I(p)$ is a decreasing function of $p$ and is varying between 0 to $\infty$. This choice of the functional form is determined from the consideration that $I(p)$ is a monotonically decreasing function of $p$ with $I(p)= 0$ and $I(p_1, p_2, \ldots, p_k) = I(p_1) + I(p_2)$.

In case of $k$ exclusive and exhaustive possibilities with probabilities as $p_i$, $i=1, 2, \ldots, k$, the expected information is given by

$$EI(p_1, p_2, \ldots, p_k) = -\sum_{i=1}^{k} p_i \log p_i$$
In this way one can measure uncertainty associated with a probability distribution. In any product field if we denote number of competitors as $k$ and $\phi_i$ as the production share parameter of the $i$-th competitor then the vector $\phi=(\phi_1, \phi_2, \ldots, \phi_k)$ can be viewed as the main source of information on competitive interaction. In this study we have considered production share to identify profitability of firms. Authentic information about market share may not be available in practice. But, detail production figure is available from different source. An over the year studies of production share automatically serve the purpose of market share data. We can say that production shares of a product field can be expressed in probability values associated with different brands representing the chance that a randomly picked up product will be of a specific brand.

Degree of competition may be measured as:

$$H_k(\phi) = \sum_{i=1}^{k} \phi_i \log \phi_i$$

This measure may not lie between 0 to 1. So we consider the approach of Entropy Measure of Degree of Competition (EMDC).

Here EMDC is:

$$E_k(\phi) = 1 - \exp[\sum_{i=1}^{k} \phi_i \log \phi_i]$$
where $E_k (\phi) = 1 - \exp[-H_k (\phi)]$ and $H_k (\phi) = -\log[1 - E_k (\phi)]$. Here $E_k$ is entropy of number of players.

It can be noted that this transformation is monotonic because as $H_k (\phi)$ increases $E_k (\phi)$ increases.

6.4.3: Industry attractiveness- scenario of fan industry:
Roy and Lahiri (2001) proposed measure of industry attractiveness as:

$$IA = I_p^w I_g^w I_c^w$$

where $W_p$, $W_g$, $W_c$ are the weights of indices of profitability, growth and competition and where

$$I_p = 1 - \exp (-\text{Max} (0,P))$$

$$I_g = 1 - \exp (-\text{Max} (0,G))$$

$$I_c = E^{1-r} (1 - E)^r$$

Here $I_p$, $I_g$, $I_c$ are productivity indices, growth indices and competition indices respectively.

But this model does not properly deal with negative profitability and negative growth rate as they have truncated the value at zero level by considering $\text{Max} (0,P)$ and $\text{Max} (0,G)$. Here, zero profit and large negative profit are having equal inputs. Both are giving rise to an index value equal to zero. To get rid of this problem, we propose to consider an index number which will take positive value for positive profit and negative value for negative profit in a symmetric way.
around zero( as the origin). Thus $I_p$ should equal to $-I_p$. We shall later describe such a choice of $I_p$. Similar will be the case for $I_G$.

This is an important point to be considered because negative profitability and negative growth can be very much noticed in practice. Negative profitability and high growth rate or high profitability with negative growth rate cannot be considered as a sign of unattractiveness. For example, in soft drink, fan and copier industries firms are facing this type of situation but are continuing their operation with the hope of bouncing back with flying colours bounce back.

While introducing symmetric indices around zero we have presented the approach of combining the indices in a different way. We have considered the arithmetic mean as the measure of industry attractiveness in place of geometric mean suggested in Roy and Lahiri (2001). This will be similar in nature with the measure proposed in Ansoff and McDonnell (1990) except for dimensional complicacies. We have considered the degree of competition as deciding factor in place of opportunity/threat factor as suggested by Roy and Lahiri (2001).

Thus, our proposed measure of industry attractiveness is

$$IA = W_p I_p + W_G I_G + W_C I_C$$

where $W_p , W_G , W_C > 0$ $W_p + W_G + W_C = 1$

$$I_p = \left[ 1 - \exp\left( \frac{-P}{|P|} \right) \right] \frac{P}{|P|}$$

$$I_G = \left[ 1 - \exp\left( \frac{-G}{|G|} \right) \right] \frac{G}{|G|}$$
\[ I_c = 2E^{1-r}(1 - E)^r - 1 \]

and where \( E \) is the degree of competition and \( r \) is the planner's propensity to take risk. Thus negative value of \( P \) and \( G \) are duly considered.

Since each index number may vary between \(-1\) and \(1\) the combined weighted means will also vary between \(-1\) and \(1\). Thus \(-1 \leq IA \leq 1\). Industry is most attractive if \( IA = +1 \) and is most unattractive if \( IA = -1 \). In this study, we have examined industry attractiveness from two different angles. One is for risk-oriented managers by considering the value of \( r \) as \(.75 \) and another one is for risk aversive managers by considering the value of \( r \) as \(.25 \).

To measure the industry attractiveness of fan industry we have gone for year wise measurement of industry attractiveness. The production shares of branded players of fan trade are given in table 6.1 below. (Source- Indian Fan Makers Association- Production Data)
Year: 1999

6.1: Production share of various players of branded fan market-1999

<table>
<thead>
<tr>
<th>Existing Players (brand Names)</th>
<th>Production Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bajaj</td>
<td>6.89%</td>
</tr>
<tr>
<td>Crompton</td>
<td>24.30%</td>
</tr>
<tr>
<td>Usha</td>
<td>16.65%</td>
</tr>
<tr>
<td>Khaitan</td>
<td>13.50%</td>
</tr>
<tr>
<td>Ortem</td>
<td>3.38%</td>
</tr>
<tr>
<td>Orient</td>
<td>21.06%</td>
</tr>
<tr>
<td>Polar</td>
<td>14.22%</td>
</tr>
</tbody>
</table>

Here $E_K(\phi) = 1 - \exp\left[\sum_{i=1}^{k} \phi_i \log \phi_i \right]$

Here $\sum_{i=1}^{k} \phi_i \log \phi_i = -0.1843 - 0.3438 - 0.2985 - 0.2703 - 0.1145 - 0.3281 - 0.2774$

$= -1.8169$

$\exp \sum_{i=1}^{k} \phi_i \log \phi_i = e^{-1.8169} = 0.16253$

So, $E_K(\phi) = 1 - 0.16253 = 0.83747$

Here $P = \sum \phi_i$ (profitability)

$= 0.00225 + 0.00489 + 0.01401 + 0.00094 - 0.01456$

$= 0.00753$
and \( G \) (estimated) = 0.11 \[\text{by using Newton's Interpolation Method}\]

So, \( I_P = \left[ 1 - \exp(-|P|) \right] \frac{P}{|P|} \)

\[= [1 - \exp(-0.00753)] = 0.0075\]

\( I_G = \left[ 1 - \exp(-|G|) \right] \frac{G}{|G|} \)

\[= [1 - \exp(-0.11)]\]

\[= 0.1042\]

\( I_C = 2 E^{1-r} (1 - E)^r -1 \)

\[= [2 \times 0.83747^{25} \times 0.16253^{75}] -1 \] [when \( r = 0.75(\text{ROMs}) \)]

\[= -0.51024\]

and \( I_C = 2 E^{1-r} (1 - E)^r -1 \)

\[= [2 \times 0.83747^{25} \times 0.16253^{75}] -1 \] [when \( r = 0.25(\text{RAMs}) \)]

\[= 0.1117\]

Since \( I_A = (I_P + I_G + I_C) / 3 \), under equal weightage.

We have \( I_A = -0.1015 \) for ROMs

and \( I_A = 0.0820 \) for RAMs

Thus, in respect of year 1999 industry attractiveness in fan trade is negative for ROMs and very low for RAMs.
Year: 2000

6.2: Production share of various players of branded fan market-2000

<table>
<thead>
<tr>
<th>Existing Players (brand Names)</th>
<th>Production Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bajaj</td>
<td>6.51%</td>
</tr>
<tr>
<td>Crompton</td>
<td>26.33%</td>
</tr>
<tr>
<td>Usha</td>
<td>17.55%</td>
</tr>
<tr>
<td>Khaitan</td>
<td>12.17%</td>
</tr>
<tr>
<td>Ortem</td>
<td>3.82%</td>
</tr>
<tr>
<td>Orient</td>
<td>21.52%</td>
</tr>
<tr>
<td>Polar</td>
<td>12.10%</td>
</tr>
</tbody>
</table>

Here \( E_K(\phi) = 1 - \exp\left[\sum_{i=1}^{k} \phi_i \log \phi_i\right] \)

Here \( \sum_{i=1}^{k} \phi_i \log \phi_i = -0.1783-0.3514-0.3054-0.2563-0.1247-0.3305-0.2556 \)

\( = -1.8022 \)

\( \exp \sum_{i=1}^{k} \phi_i \log \phi_i = e^{-1.8022} = 0.16494 \)

So, \( E_K(\phi) = 1 - 0.16494 = 0.83506 \)

Here \( P = \sum \phi_i \) (profitability)

\( = 0.0004-0.0310+0.0090-0.0027-0.0133 \)

\( = -0.0376 \)
\[
G \text{ (Growth Rate)} = \frac{\text{Present Year Production} - \text{Previous Year Production}}{\text{Present Year Production}}
\]

\[
= \frac{706.5 - 740.6}{740.6}
\]

\[
= -0.046
\]

So,
\[
I_P = \lfloor 1 - \exp(-P) \rfloor \left( \frac{P}{|P|} \right)
\]

\[
= \lfloor 1 - e^{-0.0376} \rfloor (-1) = -0.96310
\]

\[
I_G = \lfloor 1 - \exp(-G) \rfloor \left( \frac{G}{|G|} \right)
\]

\[
= \lfloor 1 - e^{-0.046} \rfloor (-1)
\]

\[
= -0.04
\]

\[
I_C = 2 E^{1-r} (1 - E)^{-1}
\]

\[
= [2 \times 0.83506^{25} \times 0.16494^{75}]^{-1} \quad \text{[when } r = 0.75 \text{(ROMs)]]}
\]

\[
= -0.50517
\]

and
\[
I_C = 2 E^{1-r} (1 - E)^{-1}
\]

\[
= [2 \times 0.83506^{75} \times 0.16494^{25}]^{-1} \quad \text{[when } r = 0.25 \text{(RAMs)]]}
\]

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Here $IA = \frac{(I_F + I_G + I_C)}{3}$, under equal priorities.

Thus $IA = -0.5027$ for ROMs

and $IA = -0.0296$ for RAMs

Thus in respect of year 2000 industry attractiveness in fan trade is again in decreasing trend for both for ROMs and RAMs.

Year: 2001

6.3: Production share of various players of branded fan market-2001

<table>
<thead>
<tr>
<th>Existing Players (brand Names)</th>
<th>Production Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bajaj</td>
<td>10.25%</td>
</tr>
<tr>
<td>Crompton</td>
<td>20.80%</td>
</tr>
<tr>
<td>Usha</td>
<td>17.33%</td>
</tr>
<tr>
<td>Khaitan</td>
<td>11%</td>
</tr>
<tr>
<td>Ortem</td>
<td>4.52%</td>
</tr>
<tr>
<td>Orient</td>
<td>22.68%</td>
</tr>
<tr>
<td>Polar</td>
<td>13.41%</td>
</tr>
</tbody>
</table>

Here $E_K(\phi) = 1 - \exp\left(\sum_{i=1}^{k} \phi_i \log \phi_i\right)$

Here $\sum_{i=1}^{k} \phi_i \log \phi_i = -0.2335 - 0.3266 - 0.3037 - 0.2428 - 0.1400 - 0.3365 - 0.2694$
\[ \exp \sum_{i=1}^{t} \phi_i \log \phi_i = e^{-1.8525} = 0.15653 \]

So, \( E_k(\phi) = 1 - 0.15653 = 0.84347 \)

Here \( P = \Sigma \phi_i \) (profitability)

\[ = 0.00529 - 0.02385 + 0.01112 - 0.00269 + 0.00071 \]

\[ = -0.00942 \]

and

Present Year Production - Previous Year Production

\[ G \text{ (Growth Rate)} = \frac{ \text{Present Year Production} - \text{Previous Year Production} }{ \text{Present Year Production} } \]

\[ = \frac{663.50 - 706.5}{706.5} \]

\[ = -0.0608 \]

So, \( I_p = \left[ 1 - \exp(-|P|) \right] \frac{P}{|P|} \)

\[ = \left[ 1 - e^{-0.00942} \right] (-1) = -0.0094 \]

\( I_G = \left[ 1 - \exp(-|G|) \right] \frac{G}{|G|} \)

\[ = \left[ 1 - e^{-0.0608} \right] (-1) \]

\[ = -0.059 \]

253
\[ I_c = 2 \cdot E^{1-r} \cdot (1 - E) - 1 \]

\[ = [2 \times 0.84316^{0.25} \times 0.15684^{0.75}] - 1 \quad \text{[when } r = 0.75(\text{ROMs})\text{]} \]

\[ = -0.52237 \]

and \[ I_c = 2 \cdot E^{1-r} \cdot (1 - E) - 1 \]

\[ = [2 \times 0.84316^{0.25} \times 0.15684^{0.25}] - 1 \quad \text{[when } r = 0.25(\text{RAMs})\text{]} \]

\[ = 0.10714 \]

Here \[ IA = \frac{(I_p + I_d + I_c)}{3}, \] under equal priorities.

Thus \[ IA = -0.1968 \text{ for ROMs} \]

and \[ IA = 0.0129 \text{ for RAMs} \]

Thus in respect of year 2001 industry attractiveness in fan trade is negative for ROMs and very lower for RAMs.
Year: 2002
6.4: Production share of various players of branded fan market-2002

<table>
<thead>
<tr>
<th>Existing Players (brand Names)</th>
<th>Production Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bajaj</td>
<td>10.16%</td>
</tr>
<tr>
<td>Crompton</td>
<td>23.44%</td>
</tr>
<tr>
<td>Usha</td>
<td>18.29%</td>
</tr>
<tr>
<td>Khaitan</td>
<td>12.43%</td>
</tr>
<tr>
<td>Ortem</td>
<td>3.99%</td>
</tr>
<tr>
<td>Orient</td>
<td>20.05%</td>
</tr>
<tr>
<td>Polar</td>
<td>11.64%</td>
</tr>
</tbody>
</table>

Here \( E_K(\phi) = 1 - \exp\left[\sum_{i=1}^{t} \phi_i \log \phi_i \right] \)

Here \( \sum_{i=1}^{t} \phi_i \log \phi_i = -0.23229-0.34003-0.31074-0.25933-0.12831-0.32216-0.25034 \)

\( = -1.8432 \)

\( \exp \sum_{i=1}^{t} \phi_i \log \phi_i = e^{-1.8432} = 0.15831 \)

So, \( E_K(\phi) = 1 - 0.15831 = 0.84169 \)

Here \( P = \sum \phi_i \) (profitability)

\( = 0.0135 \)
and

\[
\frac{\text{Present Year Production} - \text{Previous Year Production}}{\text{Present Year Production}} = \frac{707.90 - 663.50}{707.90} = 0.0627
\]

So,

\[
P_L = [1 - \exp(-|P|)] \left( \frac{P}{|P|} \right) = [1 - e^{-0.0627}] = 0.0134
\]

\[
G_0 = [1 - \exp(-|G|)] \left( \frac{G}{|G|} \right) = [1 - e^{-0.0607}] = 0.06077
\]

\[
I_c = 2E^{1-r}(1 - E)^{-1} - 1 = [2 \times 0.84169^{25} \times 0.15831^{.75}] - 1 \quad \text{[when } r = 0.75(\text{ROMs})]\]

\[
= 0.51921
\]

and

\[
I_c = 2E^{1-r}(1 - E)^{-1} - 1 = [2 \times 0.84169^{.75} \times 0.15831^{25}] - 1 \quad \text{[when } r = 0.25(\text{RAMs})]\]

\[
= 0.1086
\]
Here $I_A = (I_P + I_G + I_C)/3$, under equal priorities.

Thus $I_A = -0.1477$ for ROMs

and $I_A = 0.0616$ for RAMs

Thus in respect of year 2002 industry attractiveness in fan trade is negative for ROMs and very lower for RAMs.

From the above study we may draw an interesting finding. In every year industry attractiveness of fan trade is negative or of lower degree for ROMs and RAMs. But, a close look on growth index and profitability index reveals that from year 2002 there is an increase in growth index and profitability index. Risk oriented managers of fan trade give negligible emphasis on competition because of their high propensity to take risk. Alternatively, risk averse managers of fan trade consider competitive forces seriously. Their mode of operation may be different. So, we can conclude that industry attractiveness of fan trade is in increasing phase and future market entry may be a profitable move for a firm.

6.5: Estimating the future trend of fan trade:

From our previous discussions one can see that present and past industry attractiveness of fan trade is not in a favourable condition. But, it is not logical to draw any final conclusion about the trade by observing present year market attractiveness only. One has to study the trend of attractiveness.
Indian population growth rate and houses under electrification are in the growing phase. So, market growth rate may bounce back. It depends on firm's own capabilities of factor matching to turn this opportunity in its favour. Thus, analysis of future trend may be helpful for existing players and for new entrants for formulation of strategic plan to grab market share of the growing market.

In practice, most of the time, subjective methods, namely, written or verbal information, intuition based forecasting, management information system and spying are used to analyse the future trend (Jauch and Glueck, 1988). But, for error free projection objective methods should be utilised.

Keeping the above view in mind we have forecasted industry attractiveness by using linear regression method. We have tackled the prediction issues at two different levels. In the higher level forecasting we have carried out projection analysis for system point of view. It means generation of a time series data on industry attractiveness and making prediction from the same. Given the chronological information on \( \{ I_p \}, \{ I_o \}, \{ I_c \} \) we may calculate \( \{ IA \} \) values for all \( t \) following the formula stated in section 6.3.3 and then install forecasting model on \( \{ IA \} \) to forecast for some \( t = n \) the \( IA \) value. For this higher level forecasting we have calculated \( IA \) (ROM)s and \( IA \) (RAM)s separately. Necessary forecasting has been done by regression method.
We have observed that linear regression explains only an insignificant part of the error variance for ROMs. We have therefore considered a quadratic regression equation of the form

\[ \text{IA (ROM)} = B_0 + B_1 t + B_2 t^2 \]

Let us consider Table 6.5 below for necessary prediction.

### Table 6.5: Year wise industry attractiveness of fan trade as viewed by ROMs.

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>( t )</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>( \text{IA} )</td>
<td>-0.1015</td>
<td>-0.5027</td>
<td>-0.1968</td>
<td>-0.1477</td>
</tr>
</tbody>
</table>

The corresponding multiple correlation coefficients is 0.73020 and the estimated regression coefficients are

\[
B_0 = 0.283875, \\
\hat{B}_1 = -0.546145, \\
\hat{B}_2 = 0.112575.
\]

Thus, the prediction equation can be expressed as

\[ \text{IA (ROM)} = 0.283875 - 0.546145 \times t + 0.112575 \times t^2 \]

For prediction for the year 2005 we have to consider \( t = 7 \).

For \( t = 7 \) we get

\[ \text{IA (ROM)} = 1.977035 \]

which is to be truncated at \( IA = 1 \) because \(-1 \leq IA \leq 1\)
Thus, $\lambda_A \geq 1$ indicating that by the year 2005 the fan industry will be highly attractive.

Similarly

$$\lambda_A \text{ (RAM)}_s = B_0 + B_1 t + B_2 t^2$$

Let us consider Table 6.6 below for necessary prediction.

Table 6.6: Year wise industry attractiveness of fan trade as viewed by RAMs.

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>$\lambda_A$</td>
<td>0.0820</td>
<td>-0.0296</td>
<td>0.0129</td>
<td>0.0616</td>
</tr>
</tbody>
</table>

The corresponding multiple correlation coefficients is 0.92458 and the estimated regression coefficients are

$$B_0 = 0.236775$$

$$\hat{B}_1 = -0.202245$$

$$\hat{B}_2 = 0.040075$$

Thus the prediction equation can be expressed by

$$\lambda_A \text{ (RAM)} = 0.236775 - 0.202245 x t + 0.040075 x t^2$$

For $t = 7$ i.e. for the year 2005, we get

$$\lambda_A \text{ (RAM)} = 0.784735$$

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From this study one can see that over the years fan industry will be more attractive for existing and new players because of increasing trend in the industry attractiveness. Thus, we can conclude that though fan industry is going through a turbulent phase, it will bounce back in future. So new entry may be possible in future.

In this context let us point out that from the above higher-level study one may examine the overall industry attractiveness of fan trade, but clear idea about the future status of growth, profitability and degree of competition may not be available. To focus on micro level prediction we propose forecasting at subsystem level for inducing such flexibilities. Given \{I_p\}, \{I_o\}, \{I_c\}, different forecasting methods may be employed to arrive at the forecasting figures for \(I_p\), \(I_o\) and \(I_c\) for \(t = n\). Then we may use the weight mean method (mentioned in previous section 6.3.3) to arrive at the forecasting level of industry attractiveness. In this micro level study we get the following results:

For degree of competition:

\[ nI_c(\text{ROM})_s = B_0 + B_1 t + B_2 t^2 \]

Let us consider Table 6.7 below for necessary prediction.
Table 6.7: Year wise degree of competition indices of fan trade as viewed by ROMs.

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>( n/C )</td>
<td>-0.51024</td>
<td>-0.50517</td>
<td>-0.52237</td>
<td>-0.51921</td>
</tr>
</tbody>
</table>

The corresponding multiple correlation coefficients is 0.99124 and the estimated regression coefficients are

\[
\begin{align*}
B_0 &= -0.293995 \\
\hat{B}_1 &= -0.147801 \\
\hat{B}_2 &= 0.023035
\end{align*}
\]

Thus, the prediction equation can be expressed by

\[
\( n/C \)(ROM) = -0.293995 - 0.147801 \times t + 0.023035 \times t^2
\]

For \( t = 7 \) i.e. for the year 2005, we get

\[
\( n/C \)(ROM) = -1.99887
\]

Again

\[
\( n/C \)(RAM)s = B_0 + B_1 t + B_2 t^2
\]

We may consider Table 6.8 below for necessary prediction.

Table 6.8: Year wise degree of competition indices of fan trade as viewed by RAMs.
The corresponding multiple correlation coefficients is 0.99742 and the estimated regression coefficients are

\[ B_0 = 0.164793 \]
\[ \hat{B}_1 = -0.036391 \]
\[ \hat{B}_2 = 0.005608 \]

Thus the prediction equation can be expressed by

\[ n I_c (\text{RAM}) = 0.164793 - 0.036391 t + 0.005608 t^2 \]

For \( t = 7 \) i.e. for the year 2005, we get

\[ n I_c (\text{RAM}) = 0.184848 \]

For growth rate index:

\[ n I_G = B_0 + B_1 t + B_2 t^2 \]

Let us consider Table 6.9 below for necessary prediction.

Table 6.9: Year wise growth indices of fan trade.
The corresponding multiple correlation coefficients is 0.99968 and the estimated regression coefficients are

\[ B_0 = 0.385225 \]

\[ \hat{B}_1 = -0.346725 \]

\[ \hat{B}_2 = 0.066475 \]

Thus the prediction equation can be expressed by

\[ \eta I_c = 0.385225 - 0.346725 x t + 0.066475 x t^2 \]

For \( t = 7 \) we get

\[ \eta I_c = 1.215425 \]

which is to be truncated at \( IA = 1 \), because \(-1 \leq IA \leq 1\)

Thus \( \eta I_c \geq 1 \)

We have already mentioned that in case of subsystem level forecasting different forecasting methods may be employed for necessary flexibility and accuracy.

For profitability index we have used a periodic curve fitting in terms of different forms of sin curve. We consider Periodic curve of the form:

\[ I_p = \alpha + \beta \sin(\lambda t) \]

where \( t \) is the year; \( I_p \) is \( I_p \) value for the year \( t \).
The various trial values of $\lambda$ have been studied as shown in the Table 6.10 below.

Table 6.10: Various values of sin curve

<table>
<thead>
<tr>
<th>Year</th>
<th>$\lambda = 2.4$</th>
<th>$\lambda = 2.3$</th>
<th>$\lambda = 2.2$</th>
<th>$\lambda = 2.1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>0.68</td>
<td>0.75</td>
<td>0.81</td>
<td>0.86</td>
</tr>
<tr>
<td>2000</td>
<td>-1.00</td>
<td>-0.99</td>
<td>-0.95</td>
<td>-0.87</td>
</tr>
<tr>
<td>2001</td>
<td>0.79</td>
<td>0.58</td>
<td>0.31</td>
<td>0.02</td>
</tr>
<tr>
<td>2002</td>
<td>-0.17</td>
<td>0.22</td>
<td>0.58</td>
<td>0.85</td>
</tr>
</tbody>
</table>

To make an optimum choice of $\lambda$ we consider the value of multiple correlation coefficients as the measure of optimality (Table 6.11):

6.11: Values of multiple R.

<table>
<thead>
<tr>
<th>Trial values of $\lambda$ (putting sin curve to the given data)</th>
<th>Multiple Regression (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>0.88619</td>
</tr>
<tr>
<td>2.2</td>
<td>0.96975</td>
</tr>
<tr>
<td>2.3</td>
<td>0.95808</td>
</tr>
<tr>
<td>2.4</td>
<td>0.84781</td>
</tr>
</tbody>
</table>

By putting optimum value of $\lambda$ i.e 2.2 which corresponds the R value of 0.96975 in the equation we get:

$$ \theta_{\theta} = \hat{\alpha} + \hat{\beta}\sin(2.2\theta) $$
where $\hat{\alpha} = -0.35017$

and $\hat{\beta} = 0.59611$

Thus,

$$nI_p = \hat{\alpha} + \hat{\beta}\sin(15.4) \quad \text{when } t = 7$$

$$= -0.165$$

After using subsystem level of analysis of \{\nI_p\}, \{nI_G\}, \{nI_C\}, we use equations mentioned below to arrive at the forecasting level of industry attractiveness.

$$nIA (\text{ROMs}) = \frac{(nI_p + nI_G + nI_C)}{3}, \text{ under equal priorities.}$$

$$= (-0.165 + 1 - 0.199887)/3$$

$$= 0.21170$$

Similarly,

$$nIA (\text{RAMs}) = \frac{(nI_p + nI_G + nI_C)}{3}, \text{ under equal priorities.}$$

$$= (-0.165 + 1 + 0.184848)/3$$

$$= 0.33994$$

From this subsystem study we can specifically get industry attractiveness of fan trade along with micro level forecasting. In earlier study one can see that at system level attractiveness of fan industry for ROMs and RAMs are equal to 1
and 0.784735 respectively. But a micro level subsystem study shows that industry attractiveness will be about 0.21170 and 0.33994 for ROMs and RAMs respectively.

Thus, we may conclude that industry will face a moderate rate of attractiveness over the years. An error free strategy formulation by proper factor matching will only finalise the winner of the trade. To do this, a micro level sub system based study will give a specific guideline towards strategic planning in practical sense.

6.6: Concluding remarks:

From this study one may conclude that firms in fan trade are presently anxious about unsure prospect. Decisions making has become much more critical as firms are facing multi-layer competition, shifts in consumer likings, fear of market diffusion. In this situation firms are not certain about future strategic move. Most of them are following cautious approach in their operations by copying other companies within or outside of their functioning industries. But this cannot be treated as a permanent solution. We have shown through the installation of a model that future market will be transformed due to shift in economic, legal, social and competitive factors. Proper strategy formulation is possible with the help of appropriate scanning of environments and following a directed environmental factor matching process. Critical success factors will
depend on the individual firm's potential to foresee future needs and it is true for both an active player or to a new entrant.

We have noted that decision makers of fan trade, irrespective of their risk taking propensity, select market/competitive and marketing factors as most important external and internal factors. It has been further identified that functional background of decision makers influences their factor identification for scanning external internal environments. A two factor matching study shows that ROMs favour marketing—finance combination as the most important internal two factor combination to be matched with the economic (including govt. & legal)—market/competitive, the most important external two factor combination. Similarly, RAMs favour marketing—corporate resource combination as the most important internal two factor combination to be matched with the market/competitive—geographical/social, the most important external two-factor combination.

One can also note from this study that views of the decision makers of fan trade are identical with those of the consumers of fan trade. Customers think that price is the most important factor to be considered at the time of purchase. Product quality and brand name are next best features of importance. Similarly, colour and design are getting importance and in future they may be deciding factors for product differentiation and market segmentation. After sales service and
guarantee factor are important factors as fan is completely a durable product and it has a direct influence on repeat purchase behaviour of consumers.

At the time of making comparative study on fan trade with other industries we have observed that all respondents from selected industries, irrespective of their propensity to take risk, consider market/competitive and marketing factors as most important deciding factors at the time of factor selection in case of existing player. We have noted that factor matching has its importance to ROMs mainly. At the time of factor matching they select combination of market/competitive and marketing factors for strategic planning. One interesting finding of this study is that factor selection and matching varies for industry to industry. There are some common deciding factors like market/competitive and marketing but ready-made pre-selected factor for matching cannot be supported for fault free strategy formulation. Again, it can be seen that industry attractiveness of fan trade is at present negative of lower degree for ROMs and RAMs. But houses under electrification are under a growing phase. A close look on growth index and profitability index reveals that from year 2002 there is an increase in growth index and profitability index. We are of the opinion that fan industry will experience a moderate rate of attractiveness during the current years. We can conclude that a firm’s own capabilities and proper factor matching may only turn this opportunity in its favour.