



Advertising Milk Nutritional Supplements - A Study of Mothers' Perception

Dr. Parampal Singh

Associate Professor, Department of Business Administration,
Guru Nanak Dev Engineering College, Ludhiana.

Ramneek Kaur

Assistant Professor, Department of Business Management
Guru Nanak Institute of Management and Technology, Ludhiana.

Abstract

Mothers play an indispensable role in parenting and as per the Indian culture they are considered to be solely responsible for bringing up the children. Beginning on this note the present study takes into consideration the perception that the mothers carry about the Milk Nutritional Supplements being heavily advertised on the TV.

Purpose

Purpose of this research study is to find out the perception that the mothers carry for the milk nutritional supplements in general and the various factors that mothers consider while selecting the particular brand of the supplement.

Methodology:

The research is exploratory in nature and the convenience sampling method has been used for this research. The respondents were specifically the mothers and the sample size of 100 was taken for study. The data collection was primarily based on the Primary data using the questionnaire and the interview method.

Findings:

The research work always culminates into useful findings that give relevance and meaning to the research work. The major findings of the research show that

- Mothers are open to the use of Milk nutritional supplements rather most of them feel that Milk Nutritional Supplements are necessary for their children.
- Mothers are really brand conscious while choosing the Brand of milk Supplement , in this regards
- It has been observed that Price, advertisements and children influence have profound effect on the purchase decision of the Milk Nutritional Supplements for mothers.



Limitations: There have been a number of limitations because of which the survey may not be indicative of the views of the target population. A few of these have been mentioned below.

- The sample size used for the research is small.
- The target area was limited to Ludhiana.
- The questionnaire was not extensive and more issues could have been addressed.
- The responses obtained might be inaccurate or biased, inadvertently or deliberately.
- The sample of the respondents chosen for the study might not be the true representative.

Key words: Milk Nutritional Supplements, Mothers perception, Advertising, Media, Advertisers.

Introduction

Sifting through the archives of history of mankind the idea of Milk Nutritional Supplements originated from the harsh fact that some of the mothers could not breast feed their babies, so they had either to restore to the Wet nurse or had to look for an artificial food for their babies. It was in year 1867, that [Justus von Liebig](#) developed the world's first commercial infant formula, *Liebig's Soluble Food for Babies*. The success of this product quickly gave rise to competitors such as Mellin's Infant Food, Ridge's Food for Infants and [Nestlé's](#) Milk.

It was in year 1912, that the [Mead Johnson](#) Company released the first ever milk additive called *Dextri-Maltose*. The first product was named *Similac* (for "similar to lactation"), another product by the name of *Sobee* was launched by Mead Johnson. The concept of the Milk Nutritional Supplements that was the outcome of inability to feed the new born has come a long way with these becoming the important constituents of the diet not only for the children but also for all the age groups. Scientifically the Milk Nutritional Supplements are defined as the nutrient supplying drinks which are prepared by adding malt or wheat based powders to milk. Different kinds of Milk Nutritional Supplements are available in the market with different flavours and types which target different kind of age groups.. Examples of Milk Nutritional Supplements: - Horlicks, Boost, Bournvita, Complian etc.

With the growing urbanization, consumers are now migrating to products which give them instant nutrition without dedicating much time. Mothers have always been worried about their child's health and nutrition. Most of the Milk Nutritional Supplements actually target growing children as their potential users. The Indian FMCG market is flooded with the various types of Milk Nutritional Supplements and Advertising in various forms is brewing the competition among various players. Various reasons for the sudden upsurge in this category can be attributed to various factors like:



- **Working mothers** don't have much time to look after their kids. Hence, are always concerned about child's health and nutrition.
- Kid's **choosy eating habits** have always kept mothers worried about their health and nutrition. Hence, they look out for source of food which finds acceptance among kids and also give them required nutrition. Milk Nutritional Supplements are known for their taste and flavor and are a favorite among kids.
- Most of the kids are averse to drinking "**plain milk**". Given, the perception of milk in our society as a "complete food", Milk Nutritional Supplements have become a favorite among mothers.
- Advertising in various forms, promoting their products as memory enhancers, complete food, sharper stronger children, has made mothers more inclined towards using these products.

As per the research statistics Milk Nutritional supplements is the most selling FMCG product (Source: HT report April 6, 2010). Milk Nutritional supplements offer tremendous potential for growth as consumers are becoming more aware, literate. There is a new variety of consumers which are fast emerging "**Health Conscious Consumers**". Consumers are concerned about diet and health, particularly with all the media focus on obesity and diabetes. With the changing life style, increased awareness and health concerns; consumers are now switching over to more healthy drinks over carbonated soft drinks.

The National organisation by the name of HADSA (**Health Foods and Dietary Supplements Association**) is looking into the various issues related with safe and effective products made to quality standards. Further, the association supports a science-based environment for responsible marketing of nutritional supplements and ensures that consumers are provided with accurate information required to make informed choices. Health Foods and Dietary Supplements Association is a national non-profit association with the following aims and objectives.

- To represent the interest of health foods, dietary supplements, nutraceuticals and healthcare industry in general.
- To support science based environment to ensure responsible marketing of health foods, dietary supplements and nutraceuticals.
- To promote and defend regulatory environment conducive to health foods, dietary supplements, nutraceuticals and healthcare industry in general as well as consumer protection.
- To prevent, eradicate malpractices, if any, in the health foods, dietary supplements and nutraceuticals industry and to establish a code of ethics, for observance by its members in the line with the prevailing regulations.
- To initiate timely actions that are likely to improve the regulatory climate, reputation and consumer confidence in health foods, dietary supplements, nutraceuticals and healthcare industry.



- To secure the most favorable duty / tax structure for the health foods, dietary supplements, nutraceuticals and healthcare industry segment.

Literature Review

Armstrong and Doll's (1975) survey provided epidemiological evidence of an association between meat consumption and cancer. The researchers attributed much of the international variation in cancer incidences to dietary differences, particularly variations in meat and fat consumption. The study reported high correlations between meat consumption and cancers of the colon (0.85 - 0.89), breast (0.78), uterus (0.78), prostate (0.60), and kidney (0.70).

Virtanen *et al* (1991) found that when children in their first years of life who were at risk for diabetes were fed a formula based on cow's milk, they exhibited a higher risk of developing diabetes than those children who were exclusively breastfed . This research actually investigated the harmful effects that the Artificial formula based dietary food for children that was being substituted for the mothers milk.

Marshall (1993) and colleagues reported that fibre intake was higher among those who had diabetes than those who did not. They reported that a 10-gram decrease in fibre intake per day was associated with a 25% lower occurrence of diabetes. The research enumerated that the foods that were taken as the substitute for the Natural ingredients may have a harmful effect .

Gerstein (1994) synthesized the results from the previous related thirteen studies and reported that individuals who were exposed to cow's milk-based nutrition supplements before they were four months of age carried the higher chances of developing the diabetes.

Norris and Scott (1996) conducted a meta-analysis that synthesized the results from 17 studies and reported that individuals who were exposed to breast-milk substitutes at earlier than four months of age were at a 1.38 times greater risk of developing diabetes. Additionally, this risk was listed as 1.61 times higher for those who were exposed to cow's milk during a similar time period.

Pettitt *et al* (1997) found that after adjusting for the effects of age, gender, birth date, parental diabetes, and birth weight, individuals who were exclusively breastfed were 59% less likely to develop Type 2 diabetes, as compared to those who were exclusively bottle-fed with the artificially engineered food substitutes or supplements.

Iso (1999) and colleagues examined the association between the intake of Ca, K, and Mg, three minerals abundant in milk, and stroke incidence. The study reported that participants in the Nurses' Health Study who were in the highest quintiles of Ca, K, and Mg consumption had,



respectively, 28%, 29%, and 27% decreased risks of ischemic stroke as compared to those in the lowest quintile of consumption. This inverse association was stronger for dairy Ca intake than for non-food dairy Ca intake. For dairy calcium, the reductions in risk for quintiles 2 - 5, as compared with the lowest quintile were 44%, 17%, 41% and 30%. For non-dairy calcium, quintiles 2 and 4 showed an increased risk of 31% and 3%, respectively, while quintiles 3 and 5, respectively, had a 5% and 9% reduction in risk.

Menrad (2003) found that the soft drink segment includes non-alcoholic beverages with vitamins or other enhanced ingredients; in the confectionery segments, innovations included chewing gum for dental hygiene, while omega-3 milk was an important functional food innovation in the dairy product sector; functional bakery products included breakfast cereals with cholesterol-lowering ingredients. He noticed that the other product segments contributed to only 16% of new functional products compared with 41% of products innovations in the total food and drinks market. Menrad also pointed out that consumers exhibit rather higher rates of acceptance for the long-established functional ingredients, (e.g. vitamins, fibre, minerals, calcium, and iron) than the newer ones (e.g. flavonoid, carotinoids, Omega-3 fatty acids).

Larue et al (2004) used a stated preference method to analyze consumers' response to different kinds of functional foods, produced by conventional, organic, and GM technology. A representative sample of 1,008 Canadian household food shoppers responded to the stated preference experiment administered through a telephone survey. Each choice set in the questionnaire asked consumers to choose between the same foods produced by three different food production processes. As this was a phone survey, the number of other characteristics describing the foods had to be quite small, and the three alternatives differed only in terms of price and the presence or absence of a functional health property, so it is almost a "pure" functional health and price attributes trade-off survey. A Mixed Logit model was used to analyse the responses. Results indicated that many Canadian consumers will avoid GM foods regardless of the presence of functional health properties, and they are accepting of conventional and organic functional foods if the prices are reasonable.

Halford (2005) found that there was a need of major changes in the home life of children to take place because TV advertisements do influence children's behaviour and their intake.

Karrie Heneman & Sheri Zidenberg (2007) conducted a research on energy drinks and they studied that consumption of energy drinks can significantly improve physical and mental performance, driving ability when tired and decrease mental fatigue during long periods of concentration. The body of literature is limited and is not known whether those improvements were due to the caffeine, other herbal ingredients, or as a result of the combination of the ingredients found in a beverage.



Kelly Brewington (2010) found that food additives added to the milk might be packed with harmful levels of caffeine and some other ingredients that , offer no therapeutic benefit and may put some children and young adults at risk of health problems. The study found that the overdose could cause a small body to ingest too much of these ingredients that may lead to the health problems such as diabetes, cardiac abnormalities or behaviour disorders.

Objectives Of Research

- To study the perception of Working and Non working towards Milk nutritional Supplements in general.
- To analyze the brand preference of mothers towards Milk Nutritional Supplements.
- To analyze the preference of Working and Non Working mothers about the attributes of Milk Nutritional Supplements.
- To find out various sources of information that mothers use while evaluating and selecting the Milk Nutritional Supplement Brand .

Research Design & Methodology

A multiple method approach was used for this study . Since the data was to be collected from the mothers of 8 to 12 year old children , the methodology adopted was through personal interaction and the structured questionnaire.

Sample

The samples size of 150 mothers was selected but after careful scrutiny the sample was narrowed down to 100 mothers, who were selected from the urban private schools from the city of Ludhiana. The questionnaire was the mix of the Open ended, dichotomous , ranking types questions. Likert scale was used to gauge the perception of the parents about the Milk Nutritional Supplements. Mothers were asked to fill the questionnaire at the parent teacher meet and students were given the questionnaire by the respective teachers to get them filled from home by their mothers. The data was analysed using the SPSS statistical software. The working hypotheses were constructed and Chi square test was used to evaluate the differences between the responses of working and Non-working mothers.

Factor analysis was used to find out the factor structure underlying the perception of the mothers regarding the Milk Nutritional Supplements. Appropriate percentages were calculated where ever required.



The Research hypotheses for the study were constructed as follows

Hypotheses

- H_0 There are no differences in the responses of Working and Non-Working Mothers towards the Nutritional Requirements of their children.
- Difference exists between the usage pattern of Working and Non-Working Mothers towards the Milk Nutritional Supplements.

Results/ Discussions

This section examines key themes related to the objectives of the study. It considers the degree of awareness of Mothers about Milk Nutritional Supplements on various parameters, the sources of awareness, the preference regarding particular brand and the perception that mothers carry about Milk Nutritional Supplements.

The Comparative results of the generalised statements with reference to the Working and Non Working Mothers have been shown in the **Table 1.1**. To analyse the responses of working and Non Working mothers Chi square test has been used.

Table 1.1

SNo	STATEMENT		Working Mothers	Non Working Mothers	Total
1	Are you really concerned about the daily Nutritional intake of your children	Yes	64(64)	23(23)	87
		No	3(3)	10(10)	13
		Total	67	33	100
Pearson Chi value 13.038 (df=1). is significant at .01 level					
2	Are you sure about the daily Nutritional requirements that your child needs	Yes	13(13)	1(1)	14
		No	53(53)	32(32)	85
		Not sure	1	0	1
		Total	67	33	100
Pearson Chi value 5.556 (df=2). is not significant at .05 level					
3	Do you think that the diet your children take is nutritionally balanced .	Yes	10(10)	4(4)	14
		No	53(53)	27(27)	80
		Not sure	4(4)	2(2)	6
		Total	67	33	100



Pearson Chi value .145 (df=2). is not significant at .05 level					
4	Do you use any kind of a Milk Nutritional Supplements.	Yes	54(54)	30(30)	84
		No	13(13)	3(3)	16
		Total	67	33	100
Pearson Chi value 1.749 (df=1). is not significant at .05 level					
5	For how long you have using the Milk Nutritional Supplement	< than 6 months	47	31	78
		6 months to 1 Year	18	2	20
		> than 1 Year	2	0	2
		Total	67	33	100
Pearson Chi value 7.357 (df=2). is significant at .05 level					
6	How many times you give Milk Nutritional Supplement to your children daily	Once	50	24	74
		Twice	17	9	26
		Total	67	33	100
Pearson Chi value .041 (df=1). is significant at .05 level					

The results observed in the table 1.1 show that

- There were 64 Working and 23 non working mothers who agreed and 13 who disagreed to the statement that they are really concerned about the daily Nutritional Intake of their children,. more over the chi square value of 13.038 suggests that both Working and Non working mothers significantly differ in their opinion about the above said statement.
- For the next statement “ Are you sure about the daily Nutritional requirements that your child needs.” About 85 mothers responded that that they did not know about the Nutritional requirements that their children , 14 said yes and 1 said not sure. chi square value of 5.556 shows that Working and Non working mothers do not differ significantly in their opinion . An important inference that can be drawn from these results is that 53 % of the working mothers acknowledge this fact that they are not sure about the Nutritional requirements of their children. Similarly 27 % of Non Working Mothers agree with the above statement.
- When asked “Do you think that the diet your children take is nutritionally balanced .” the responses of working and non working mothers show that they invariably hold the same view point that they are not sure for the same . The Chi square value of 1,779 at .05 level shows that they is not significant difference in the responses of the working and Non Working mothers.
- 84 of the mothers agreed and 16 disagreed to the statement that “Do you use any kind of a Milk Nutritional Supplements.” The working and Non Working mothers did not differ



in their response towards this statement as evident from the results of the Chi square test with a value of 1.749 which is not significant at .05 level.

- Regarding the usage of the Milk Nutritional supplements the responses of the working and Non Working mothers to the statement “ For how long you have been using the Milk Nutritional Supplement do differ . This is also evident from the results of the Chi Square test with a value of 7.357 which is significant at .05 level. 47 % of the working mothers and 31 % of non working mothers agree that they have been using the supplement for less than 6 months.
- Regarding the daily frequency of usage of Milk Nutritional Supplements there is no significant difference in the responses of the Working and Non Working Mothers.

The Brand Preference of the Working and Non-Working mothers

In order to analyse the brand preference of the mothers towards Milk Nutritional Supplements, mothers were asked to select a particular brand . The conclusion that can be drawn are given below in the **Table 1.2**. The results have been graphically represented in **Figure 1(a)**

Table 1.2 Table showing the brand preference of working and Non working mothers

BRANDS	WORKING MOTHERS	NON WORKING MOTHERS	TOTAL
Horlicks	31	11	42
Milo	1	0	1
Maltova	4	9	13
Complan	18	19	28
Boost	6	0	6
Protinex	0	0	0
Bournvita	4	0	4
Viva	1	0	1
Others	2	3	5

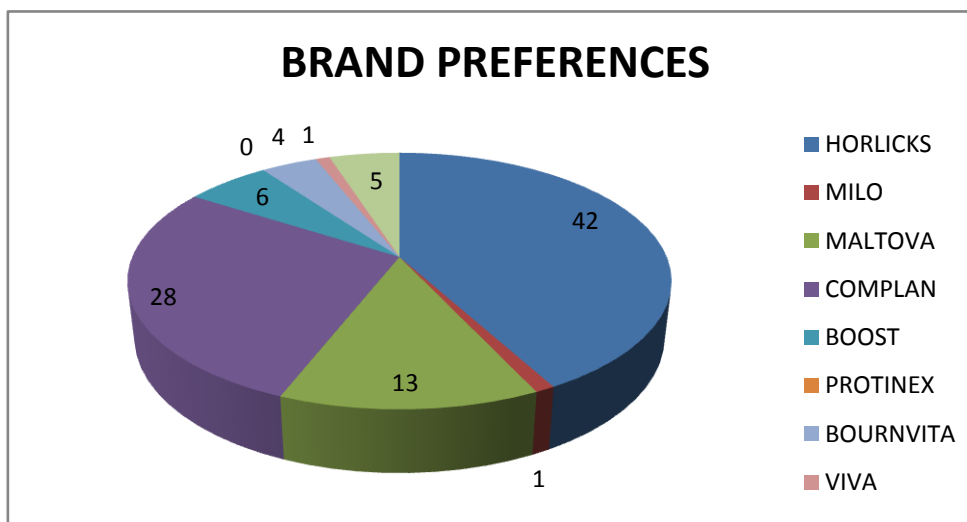


Figure 1.(a)



The results show that the preference of the mothers in terms of brand are

Horlicks : 1st Preference

Complan: 2nd Preference

Maltova : 3rd Preference

These observation can be attributed to the fact that they two brands are the most heavily advertised brands on TV.

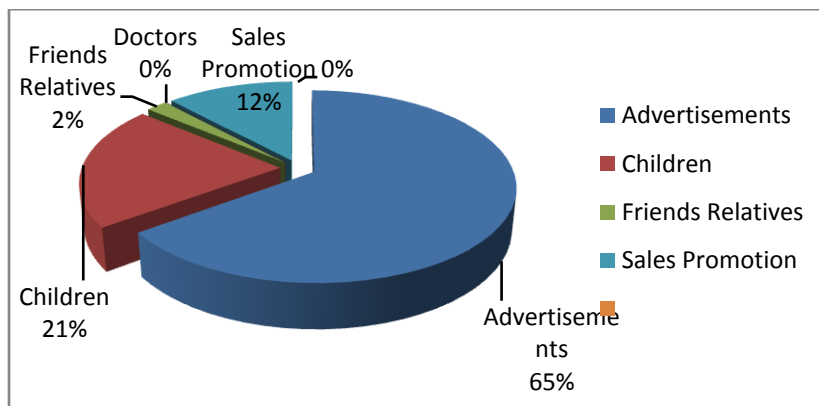
Information source for the mothers

In order to find out the sources of information that the mothers rely on while taking the decision regarding the purchase of a particular brand of the milk nutritional supplement are being reported below in the **Table 1.4** and graphical depiction is given in **Figure 1(b)**

Figure 1.4 showing the various information sources

INFORMATION SOURCES	MOTHERS		TOTAL
	WORKING	NON WORKING	
Advertisements	48	17	65%
Children	11	10	21%
Doctors	0	0	--
Friends/Relatives	0	2	2%
Sales Promotion	8	4	12%

Figure 1(b)



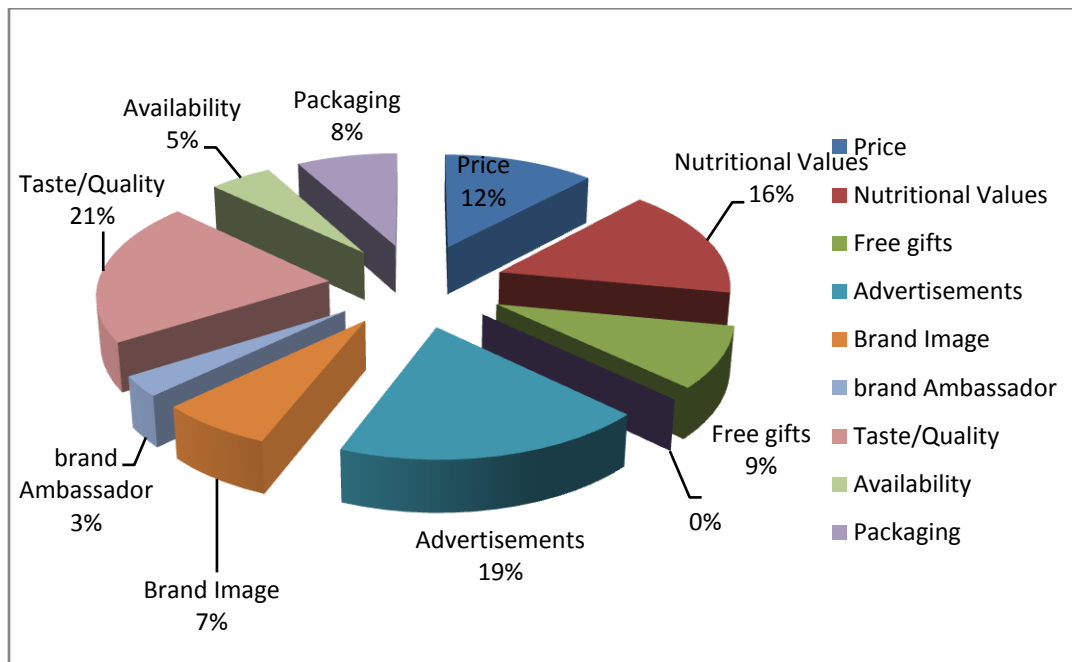


As evident from the **Table 1.4** it can be interpreted that the information source that the mothers prefer is Advertisements (65%), followed by the Children (21%), sales promotion (12%), this shows the impact that the Advertisements have on the purchase behaviour of mothers. Within this the working mothers rely more on this source of information (48) as compared to the Non Working Mothers (17). Similarly the Children influence the purchase behaviour of working mothers regarding Milk Nutritional Supplements to a greater extent as that of the Non Working mothers.

Attributes considered while making the purchase decision for Milk Nutritional Supplements.

Consideration of various factors before making the purchase decision is of prime importance for the mothers and the advertisers hence the disposition of mothers on a whole were studied in this question. Results have been depicted graphically in **Figure 1(c)**

Figure 1(c) Attributes considered while making the purchase decision for Milk Nutritional Supplements





Interpretation:

As per the results, most of the priority is given to the taste/quality then to the advertisements and then to the nutritional values of the Milk Nutritional supplements. Rest of the attributes of the Milk Nutritional Supplements are given relatively less priority by mothers while selecting the Milk Nutritional Supplement.

Conclusion:

Conclusions which flow from the above discussion are:

- **Working and Non working Mothers do not differ in their views regarding**
The daily nutritional requirements of their children.
Use of any kind of milk nutritional supplement.
Is the diet nutritionally balanced

This is supported by insignificant Chi square value which supports the hypothesis that *There are no differences in the responses of Working and Non Working Mothers towards the Nutritional Requirements of their children.*

- **Working and Non working Mothers differ in their views regarding**
Concern that mothers have for the daily nutritional intake of the children
Time for which the mothers have been using the Supplements
Daily usage rate of the Milk Nutritional Supplements.

This is supported by significant Chi square value which supports the hypothesis that *Differences exist in the responses of Working and Non Working Mothers towards the Nutritional Requirements of their children.*

Perception of the Mothers about Milk Nutritional Supplements in General

In order to check out the perception that the mothers carry about Milk Nutritional Supplements Responses from 13 statements were factor analysed to find out the actual factor structure underlying their Perception. Correlation matrix and KMO value (.781) reveal data to be fit for factor analysis.

To extract and name the factors Principal Component Analysis method was used. The criterion for selection was on the basis of ‘ Latent Root Criterion’ in which the factors that have the Eigen values greater than one were selected. Accordingly three factors were extracted that together accounted for 70 % of the total variance. Varimax with Kaiser normalization method was used for rotating the factor loadings . All factor with loadings greater than 0.30 (ignoring signs) have been considered for further analysis. Three factors have been extracted on the basis of the above criteria as shown in the **Table 1.5**

Table 1.5 showing factor naming, variance and the loadings

Factor Number	Name of Dimension (% of variance)	STATEMENT (FACTOR LOADING)
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Factor I	Pricing factor 43.48%	Price is the major factor in your buying decision. (.954)
		Advertisements related to Milk Nutritional Supplements influence your buying decision (.893)
		Claims made by the advertisers about the Milk Nutritional Supplements are all fake (.871)
Factor II	Advertising Effect 17.42%	Advertisements related to Milk Nutritional Supplements influence your buying decision (.827)
		The diet that we take is nutritionally balanced (.682)
		The effect of long term usage of these supplements has not been studied. (.615)
Factor III	Child Influence 9.11%	Children influence your buying decision about milk nutritional Supplements (.777)
		The effect of long term usage of these supplements has not been studied. (.569)
		The diet of my child is enriched hence there is no need of Milk Nutritional Supplements. (.467)

Naming of factors : Based on the factor loadings three factors have been identified

Pricing Factor : This factor shows the maximum level of Variance of the order 43.48 % which shows that the pricing plays a very important role in the perception of mothers towards milk Nutritional Supplements

Factor of Advertising Effect: This factor shows the variance of the order of 17.42% which shows that Advertising too has a profound effect on the perception of mothers towards Milk Nutritional Supplements.

Factor of child Influence: With the variance of 9.11 % this factor significantly contributes towards the fact that children play a very important role in purchase decisions of mothers towards milk Nutritional Supplements.

Conclusion:

The factor structure underlying 13 statements suggest three factors ie *Pricing, Advertising effect and Influence of children* , Determine the perception of mothers regarding the Milk Nutritional Supplements and overall these three factors account for 70 % (approx) of the total variance observed. The pricing emerges as the most pertinent factor which the mothers consider while



purchasing the supplements, this is followed by effect of advertising and lastly the Influence that the children have on the purchase decision of the Milk Nutritional Supplements.

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