

## CHAPTER 5

### FINDINGS AND DISCUSSIONS

#### **5.1 Ice cream consumption, consumption pattern and demography:**

##### **5.1.1 Brand Awareness**

Chart No. 4.4 shows brand awareness level for different brands. Amul scores the highest (with brand awareness more than 80%) while Natural (44%), Dinshaws (36%) and Baskin Robbins (34%) emerge as weaker brands in brand recall. Kwality Walls is still a strong brand. (With 70% brand recall).

##### **5.1.2 Brands consumed**

Chart No. 4.5 indicates about 53% of the customers eat Amul ice cream and about 47% customers eat Kwality Walls ice cream. Natural occupies the third position with 21% of the customers visiting their exclusive parlor. Ice cream consumers of Pune seem to be multibranded. Only about 28% of the customers consume only one brand, whereas 72% of the customers eat two or more than two brands. The figures in Table No.4.5 clearly indicate that Amul, Kwality Walls and Natural are competing at one level and Natural, Kwality Walls and Baskin Robbins are competing at higher end. That means, Amul's presence at a higher end is weaker.

##### **Brands consumed and Age**

The Chi-square test (Table No.4.9) indicates that there is highly significant relationship of age with brands of ice cream consumed (at  $\alpha = 0.0$ )

Table No.4.8 Shows that the children in the age group of 11-15 years tend to eat more than one brand. The high end brands like Natural and Baskin Robbins are more popular in this age group. More than 20% of the consumers are eating both Kwality Walls and Amul brands. Amul is the highest consumed brand in the age group above 36 years. This age group's presence in high end brands like Natural and Baskin Robbins is very weak. The youngsters in the age group of 16-25 years are presenting a mixed trend of children and the oldies but they are also highly skewed towards Amul and Kwality Walls. Many of the consumers in age group with  $> 45$  years are consuming Vadilal also. This age group has experienced the times when Vadilal was leading the market and this could be a residual effect of the same.

### **Brands consumed and Profession**

The relationship is again significant (Refer Table No 4.7).

The self employed are more skewed towards Kwality Walls followed by Amul and Natural. The service and business class are skewed more towards Amul followed by Kwality Walls and then Naturals (Refer Table No 4.6).

### **Brands consumed and Marital status**

Table No.4.11 indicates a highly significant relationship. The unmarried consumers' preference for the brands like Natural and Baskin Robbins is much higher than that of married (Refer Table No 4.10).

If we combine age and marital status then we can rationally say that the consumer's stage in life cycle is highly impacting his/her choice of brands.

### **Brand Consumed and Income**

Table No. 4.13 shows significant relation between income and brands consumed.

The consumers up to monthly income level of Rs. 30,000/- are favoring Amul followed by Kwality Walls. Although the consumers with monthly income > Rs. 30,000 are consuming Kwality Walls and Amul majorly; but they are much more skewed towards Natural and Baskin Robbins and Dinshaws than that of consumers with monthly income < Rs. 30,000/- (Refer Table No 4.12).

#### **5.1.3 Favourite Brand:**

Amul emerges as the most favorite brand of Pune city with 37% of the consumers voting for it followed by Kwality Walls with 23% consumers voting for it. Natural is as favorite as Kwality Walls (22% consumers voting it as favorite brand). Surprisingly, Baskin Robbins is doing better than Dinshaws and Vadilal (Refer Chart No 4.7)

If the data is compared with the brands consumed; although, there is lot of overlapping of brands while consuming; but, when it comes to favorite brand; the customers are quite clear and focused. The overlap of Kwality and Walls is only 4% as compared to

that of 22% for brands consumed. We can conclude rationally, that the consumers are not necessarily consuming their favorite brands. The liking for Natural and Baskin Robbins. (as favorite brand) is not resulting into equivalent amount of consumption of these brands; probably because of the higher prices. It can reasonably be concluded that, Natural and Baskin Robbins are not fully harnessing their potential by remaining only in high end segment.

The profession impacts the choice of favorite brand significantly (Refer Table No 4.16). Businessmen prefer Kwality Walls, Natural and other combinations more. Amul is equally popular amongst all professions. Servicemen are less inclined towards Kwality Walls. The housewives and retired people (others) seem to be very less inclined towards Natural and Baskin Robbins (Refer Table No 4.15).

The children in the age group of 11-15 years look more inclined towards Natural and Baskin Robbins. Teenagers look clearly inclined towards Amul and Kwality Walls. The young adults and middle age consumers are not sticking to one brand but their preferences are scattered. The consumers with age > 45 years are inclined more towards Amul and Kwality Walls. Quite a few of them, the retired ones are favoring Vadilal; may be their favorite since their middle age days (Refer Table No 4.17 & 4.18).

Amul is favorite of lower and middle income class. With increasing income consumers preference shifts towards Baskin Robbins and Kwality Walls (Refer Table No 4.21 & 4.22).

#### **5.1.4 Favorite Flavor:**

Chart No.4.9 gives details of favorite flavors as indicated by consumers. Pune city has broken the conventional belief that Vanilla is the most favorite flavor. Butter Scotch is emerging as the most favorite flavor of the Pune consumers (with more than 30% consumers showing preference for it; pushing Vanilla to second position with about 20% consumers registering it as their favorite flavor. Third position is grabbed by chocolate with 16% consumers showing preference for it. Strawberry is rising at 4th position with about 12% of the customers recording it as their favorite flavor. Amongst other flavors Mango is emerging as major flavor with about 6% customers liking it.

Chocolate flavor is popular amongst students in the age group of 11-15 years. Roasted almond is equally favorite of business class after Butterscotch. Servicemen prefer Vanilla and Strawberry after Butterscotch which is also the trend for middle age adults. Vanilla is the most favorite for the age group of more than 45 years. Married people prefer Vanilla most after Butterscotch whereas unmarried prefer Chocolate most after Butterscotch. Family income has no bearing on favorite flavor (Refer Table No 4.26 & 4.27).

#### **5.1.5 Quality perception of ice cream:**

Table No.4.30 gives details of average, mean and mode rank for each of the 11 parameters ranked by the consumers. Taste, Creaminess, Sweetness, Hygiene and flavor are the top five ranked parameters by the consumers. The other parameters have been ranked low. Taste is the most important quality parameter followed by Creaminess, Sweetness, Hygiene and flavor. The findings of the survey confirm the earlier finding. (Pearson, 1979, Bodyfelt, 1983, Pick, 1990 as cited in Guinard et al., 1996).

#### **5.1.6 Frequency of consumption:**

More than 35% of the ice cream consumers eat ice cream either daily or alternate day. Another 12% eat weekly. As high as 40% of the consumers eat fortnightly. (Refer table No.4.31)

#### **5.1.7 Quantity of Ice cream consumed:**

About 75% of consumers eat less than 150 ml of ice cream per occasion of consumption. About 20% eat 150-200 ml. That means, most of the consumers eat only one cup, cone or scoop of ice cream. If a culture of eating two or three scoops is developed somehow; the ice cream consumption can be doubled or tripled. (Refer table No. 4.32)

#### **5.1.8 Pack Preferred at home:**

More than half of ice cream consumers prefer family pack (46%) or party pack (6.2%) or both (5.6%) for consumption at home. Cones and cups also contribute to good amount of consumption at home (about 25%). (Refer table No.4.33)

Except gender, all demographic variables significantly impact the pack preference at home.

#### **5.1.9 Pack preferred outside home:**

Cone and cup contribute to about 60% of the consumption outside home with cone's consumption double that of cup. Scoop surprisingly is almost double of sticks. This may be because of Natural's and Baskin Robbin's parlors. (Refer chart No. 4.14)

The pack preference outside home is very significantly affected by all demographic variables. Males seem to be very loyal to one type of pack but females have more preference for multi packs. Also males' preference for cups is significantly higher than that for females (Refer Table No 4.35 & 4. 36).

Serviceman and businessmen prefer cone and cup whereas students prefer cone and scoop (Refer Table No 4.37 & 4.38).

The housewives and retired people prefer the cup in quite large number more than 25%. The youngsters till the age of 25 years prefer cone and scoop. But, 30s onwards the preference shifts from cone to cup to a great extent (Refer Table No 4.39 & 4. 40).

The lower income group prefers cup to a significant extent after cone whereas the higher income group prefers scoop to a great extent after cone (Refer Table No 4.43 & 4.44).

#### **5.1.10 Brand and flavor decision influencers:**

About 87% consumers choose their brand and flavor on their own (Refer Chart No. 4.17). About 4% of the consumers follow their mother's advice in choosing their brand and flavor. The females are more self dependent than males in making their brand and flavor choice. Students (with age 11-15 years) slightly depend on their mother but they are mainly self dependent. The housewives and retired people (others) seem to be depending on others a lot (about 20% of them) for their brand/flavor choice. In fact the researcher experienced that many old people don't have any preferences for flavor and brand. Their choice is driven by the youngsters in their family. The dependence on

others for brand/flavor decision increases with increase in age (Refer Table No 4.46, 4.47, 4.48, 4.49, 4.50, 4.51, 4.52, 4.53)

#### **5.1.11 Availability:**

More than 55% of the ice-cream consumers have to walk more than 300 m to get their ice-cream. About 40% customers drive / walk more than half a kilometer to eat ice-cream. This means that ice cream is not available at an arm's length to the customer. This however has to be weighed against the viability of retailer with a low per capita consumption of ice-cream and seasonality factor (Refer Chart No 4.22).

#### **5.1.12 Buying Behavior (Impulse / Preplanned):**

Ice-cream is by and large an impulse item as about 75% of the consumers eat ice-cream impulsively (Table No. 4.63). The Chi square test (Table No.4.64) confirms that age significantly impacts the buying behavior for ice-cream. The children in the age group of 11-15 years seem to be quite different than the rest of the population as about 42% of them preplan their ice-cream consumption. This may be due to their dependence on their parents. The youngsters in the age group of 16-25 years eat (with more than 80% of them) ice-cream impulsively.

The consumers plan their ice-cream consumption more after marriage as about 25% of the consumers (above 25 years age) preplan their consumption.

The Chart No. 4.23 shows the relation between age and impulse buying. The curve follows parabolic path. The impact of gender on impulse buying is insignificant.

#### **5.1.13 Buying Behavior (Accompanied / Alone):**

The joy of ice-cream consumption is something to be shared with others as more than 82% consumers require somebody's company when they eat ice-cream (Refer Table No 4.65)

The Chi-square test (Refer Table No 4.67) indicates that there is a significant impact of age on whether ice cream is consumed alone or in company of somebody. The Chart No.4.26 shows that the tendency to share the joy of ice-cream consumption grows with age.

#### **5.1.14 Brand Loyalty:**

The ice-cream consumer seems to be moderately brand loyal with more than 50% of them either go to another shop or drop the purchase; if they do not get their favorite brand (Refer Table No 4.68 & Chart No 4.26). The children of age group 11-15 years are surprisingly equally brand loyal. The age group 16-20 years (higher secondary or undergraduate students) is showing stronger brand loyalty (63%). It may be because they have more free time to explore the availability of their favorite brand. The consumer also tends to become shop loyal with his / her growing age as they tend to drop the purchase if they do not get their favorite brand not the shop (Refer Table No 4.69)

The chi-square test (Table No. 4.70) confirms the significant association between age (stage in life cycle) and brand loyalty and shop loyalty. The gender does not have any bearing on brand loyalty.

#### **5.1.15 Flavor Loyalty:**

Chart No 4.27 show that more than 55% of customers don't seem to be flavor loyal. The age group of 16-20 years again shows stronger flavor loyalty (55%). The consumers in the age group of > 55 years have a weak loyalty towards the flavor as only about 30% of them either drop the purchase or go to another shop for their favorite flavor (Refer Table No 4.74). Table No.4.75 shows that age (stage in life cycle) significantly impacts flavor loyalty. The impact of gender on flavor loyalty is insignificant.

#### **5.1.16 Ice-cream storage at home**

About 50% of the consumers say they store ice-cream at home which is an encouraging figure. The chi-square test (Table No.4.80) indicates significant association between the gender and ice cream storage at home. The female members are more inclined to store ice cream at home than male members (Table No. 4.79). The family income also significantly impacts the ice cream storage at home (Table No. 4.82) the higher the income more is the inclination towards ice cream storage at home (Refer Table No 4.81).

#### **5.1.17 Preference of occasions for ice cream consumption:**

Birthdays, outings for dinner and marriages are favorite occasions for ice-cream consumption (Refer Table No 4.83). Kitty party is not the right occasion to eat ice cream is what even the female members feel. Party, the professionals & stage in life cycle significantly impacts preference for opinion (Refer Table No 4.85, 4.87, 4.89)

#### **5.1.18 Frozen Dessert Awareness**

About only 20% of the consumers feel they know that frozen dessert is. But nobody knows what actually frozen dessert is. Amul's "Real Milk Real Ice Cream" campaign has not built any curiosity around what real ice cream is (Refer Chart No 4.32).

#### **5.1.19 Why they eat ice cream?:**

Most of the consumers (about more than 80%) eat ice cream for taste and its cooling effect. Very few (less than 5%) consumers perceive ice cream as nutrition for good health (Refer Chart No 4.33). The result confirms to the belief that ice cream is an indulgence product and consumers seek hedonism in ice cream consumption. Table No 4.93 shows profession significantly impacts the motive. Students eat ice cream more for its cooling effect; whereas the businessmen and servicemen eat it more for taste and other reasons (Refer Table No 4.92). The age group 11-15 years mainly eats it for cooling effect whereas once the consumer passes teenage; he/she eats ice cream more for taste (Refer Table No 4.94). The family income has also significant effect on the consumption motive (Refer Table No 4.97). The lower income group eats it more for cooling effect and higher income group has sighted taste or other reasons as the motive behind their ice cream consumption (Refer Table No 4.96).

#### **5.1.20 Seasonality:**

More than half of the consumers eat less ice cream in winter (Refer Chart No 4.34). Age and profession have very significant relationship with seasonality (Refer Table No 4.101 & 4. 103) The seasonality in consumption is very high (77%) amongst children of age group 11-15 years and it gradually comes down till the age of 25 years (only 41%) but after that it gradually grows up (64% for the age group of > 55 years – refer table No. 102).

Many of businessmen and self employed professionals (more than 60%) don't consider ice cream as seasonal item (Refer Table No 4.100).

Fear of cold (about 50% of them confirming) is the more attributed reason followed by fear of infection in throat and pain in teeth. About 10% of the consumers say their doctor advises them to avoid ice cream in winter season (Refer Chart No 4.35).

Chart No.4.38 shows about a half of the consumers eat less ice cream in rainy season also. Fear of infection in throat looks predominant reason for this seasonality; followed by fear of cold. About 15% of the consumers attribute difficulty of going out of house in rainy season as the reason for eating less ice cream (Refer Chart No 4.39). The age again significantly impacts the seasonality (Refer Table No 4.115) in rainy season also and it follows the same trend as in case of seasonality in winter season.

#### **5.1.21 Favorite Time for ice cream consumption:**

Evening and night are the favorite times for ice cream consumption. 90% of the customers confirm to this. Night time (probably after dinner) scores higher than evening, however. Morning is definitely not a time for ice cream eating. It definitely is a part of evening snack or dessert after dinner. About 30% of consumers also prefer afternoon as the right time for ice cream; may be as a dessert after lunch (Refer Chart No 4.40)

There is a significant impact of age on favorite time (Refer Table No 4.120). Table No.4.119 shows that the other age groups prefer afternoon less as compare to the children of 11-15 year age group and the consumers with age group of more than 26 years. The children in the age group of 11-15 years may be coming home in the afternoon and hence they have opportunity to eat ice cream at home. Whereas the consumers in the age group of 16 to 55 years are mostly in college or on the job. The age group of more than 55 years, surprisingly, prefers eating ice cream at night.

#### **5.1.22 Possible substitutes for ice cream:**

About 80% of the customers associate ice cream with either milk, dessert or chocolate (Refer Table No 4.123). About 15% of the customers associate it with cold drink. Therefore, we can conclude that milk shakes, chocolate and other desserts may be

competing with ice cream more than cold drinks and juices. The findings of reasons attributed for ice cream consumption also support this fact; where the taste scores higher than the cooling effect. Also if we combine this with the fact that consumers favorite time for ice cream consumption is evening and night; then we may conclude that milk shakes, lassi, chocolates and other dessert like fruit salads are the competitors for ice cream. The cold drinks and juices may not be competing with ice cream as the taste factor is missing from them.

The chi-square test (Table No. 4.125) indicates a significant relationship between consumer's favorite flavor and association of substitutes with ice cream. Those who prefer fruit flavors like strawberry, mango, pine apple have associated ice cream more with either milk or juice put together than cold drink or juice put together. This fact again supports the above conclusion that milkshakes and fruit salads are closer substitutes than juices and cold drinks. The 21% consumers preferring chocolate flavor have associated chocolates with ice cream. Table No 4.128 shows about 37% of the children in the age group of 11-15 years have preference for chocolate as their favorite flavor and they contribute to 45% of the population favoring chocolate as their favorite flavor. Therefore, not only choco milk shakes but even chocolate are competing with ice cream.

The age significantly impacts (Table No.4.129) the perception of substitutes for ice cream. The age group of 16-20 years associates ice cream with milk and chocolate combination (19%). Only 15.6% of consumers in this group associate ice cream with dessert (without combination with others) which is significantly lower than that of other age groups. That means choco milk shakes and cold coffee could be a strong competitor for ice cream in this age group. The age group > 55 years seems to be outstandingly associating ice cream with juice and cold drink also apart from milk (Refer Table No 4.128)

The association of ice cream with chocolate significantly goes down with increasing age and association with cold drink seems to be increasing with increase in age. The relation between gender and association of substitutes is insignificant.

### **5.1.23 Ice cream's position in Maslow's hierarchy of needs:**

Table No.4.143 indicates that ice cream is predominantly considered as "a medium for expression of love" followed by "a means of indulgence" which could be placed in the upper part of second level in the hierarchy ( i.e. need for security in) Maslow's hierarchy of needs (stage in life cycle).

The relationship between age and the position of ice cream in Maslow's hierarchy of needs is very significant. Whereas, children in the age group of 11-15 years consider it more as a means for expression of parental love (from their parents) and indulgence; the youngsters and adults below the age of 35 consider it more as a "means to express their love for their female counterparts". Beyond 35 years of age, as the age grows the ice cream shifts its position more towards "Expression of parental love" (to their children / grand children) and indulgence (Refer Table No 4.144 & 4. 145).

### **5.1.24 Satisfaction with the favorite Brand:**

Almost all the consumers are satisfied with whatever brands they are consuming currently. Majority of them (77%) are fully satisfied and have absolutely no complaints about quality of the product. Table No.4.148 shows the relationship between age and satisfaction level is significant (Refer Table No. 4.150). The satisfaction level declines as the age increases but it again shows upward trend after 35 years of age and goes on increasing. May be after this age people start expecting less (Refer Table No 4.149).

### **5.1.25 Brand Switching:**

Chart No. 4.46 shows, about a half of the consumers have switched their brand in last three years. Kwality walls and Amul are the brands which consumers have switched most (26% of customers each) followed by Vadilal (18.8%) and Dinshaws (13.9%) Natural and Baskin Robbins seem to have highly loyal customers (Refer Chart No 4.48).

Change in taste is the major reason (reported by about half of the customers having switched brands) followed by unavailability of the brand (about 30% customers). Increases in price, poor quality are other important reasons for switching the brand (Refer Chart No 4.49).

### 5.1.26 Brand Switched and reason for brand switching

The primary reason for switching over to other brands from Amul, Kwality Walls and Natural is change in taste. But people have switched from Vadilal because of availability factor also greatly. The switching for other brands has happened because of unavailability and other reasons like poor response of company and rude behavior of sales person (Refer Table No 4.160 & 4.161).

### 5.1.27 Favorite flavor and Brand consumed

Vanilla and Butter Scotch are the fast moving flavors for Amul. But for Kwality Walls, Butter Scotch outweighs other flavors. For Baskin Robbin Chocolate is the highest selling flavor. Interestingly, for Natural the liking for Mango flavor is as strong as other flavors (Refer Table No 4.162).

### 5.1.28 Position in Maslow's hierarchy of needs and brand consumed

Table No. 4.164 and 4.165 show that the association is significant at  $\alpha = 0.07$ . Kwality Walls and Baskin Robbins find place in the consumer's need of expressing love and happiness, whereas Amul and Natural are placed at the bottom of the pyramid of hierarchy as 25-30% of the consumers link it with cooling effect. Baskin Robbins, however, is clearly placed in the consumer's need to express love and happiness (Refer Table No. 4.166 and 4.167).

### Chart No. 5.1 Hierarchy of needs – Brands

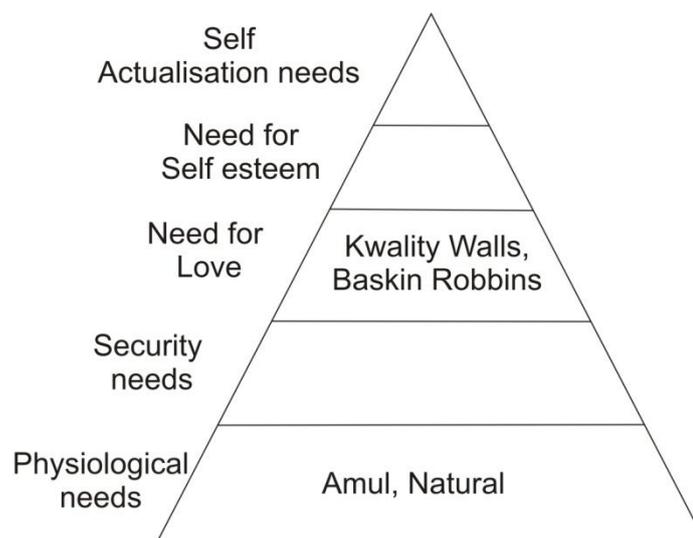


Chart No. 5.1 shows the pictorial representation of placement of various brands in the needs' hierarchy.

### 5.1.29 Position in Maslow's hierarchy and favorite flavor

Chart No.5.2 Position in Maslow's hierarchy and favorite flavor



The chart No.5.2 .shows the placement of various flavors in the hierarchy of needs.

Butter Scotch and Chocolate are clearly identified with love and treat, whereas Vanilla and Strawberry are identified with food and cold also very strongly aprt from Love and treat (Refer Table No 4.168 & 4. 169).

## 5.2 Hypothesis Testing:

### 5.2.1 Hypothesis - 1:

H1: The demographic characters of ice cream consumers affect the consumption pattern of ice cream.

For sub hypothesis 1a:

Null Hypothesis,

Ho: There is no association between demographic characters of ice cream consumers and frequency of ice cream consumption.

Alternative Hypothesis,

H1a = The demographic characters of ice cream consumers affect the frequency of consumption of ice cream.

Table No.5.2.1 gives details of Chi-square and p values for different dimensions of demographic characters and frequency of consumption.

**Table No. 5.2.1**

Sr. No.	Demographic Character	Dependent Variable	Chi-Square Value	Degrees of freedom	p value	Significance of relationship
1	Age	Frequency of Consumption	62.380	25	0.000	Highly significant
2	Income	Frequency of Consumption	43.050	25	0.014	Highly significant
3	Gender	Frequency of Consumption	1.948	5	0.856	Highly insignificant
4	Profession	Frequency of Consumption	14.417	15	0.494	Highly insignificant
5	Marital status	Frequency of Consumption	9.966	5	0.076	Significant at $\alpha = 0.08$

**Refer Table No. 4.171, 4.173, 4.175, 4.177, 4.179**

Since age, income and marital status have significant relationship with frequency of consumption of ice-cream, we reject the null hypothesis  $H_0$  and accept the alternative hypothesis  $H_{1a}$ ,

Therefore, we conclude that the stage in life cycle and family income affect the frequency of ice cream consumption very significantly.

For sub hypothesis 1b,

Null hypothesis,

$H_0$  = There is no association between demographic characters of ice cream consumers and quantity of ice cream consumption per occasion.

Alternative hypothesis,

$H_{1b}$  = The demographic character of ice cream consumes affect the quantity of ice cream consumption per occasion.

The Table No. 5.2.2 gives details of Chi-square and p values for different dimension of demographic characters and quantity of ice cream consumed per occasion.

**Table No. 5.2.2**

Sr. No.	Demographic Character	Dependent Variable	Chi-Square Value	Degrees of freedom	p value	Significance of relationship
1	Age	Quantity/ Occasion	25.024	15	0.050	Highly significant
2	Income	Quantity/ Occasion	27.811	15	0.023	Highly significant
3	Gender	Quantity/ Occasion	2.536	3	0.469	Highly insignificant
4	Profession	Quantity/ Occasion	9.164	9	0.422	Highly insignificant
5	Marital status	Quantity/ Occasion	2.242	3	0.524	Highly insignificant

Refer Table No. 4.181, 4.183, 4.185, 4.187, 4.189

Since the relationship between the important sub variables of demographic variable (age and income) are highly significant, the null hypothesis is rejected and alternative (hypothesis) H1b is accepted.

It can be concluded that the demographic characters of ice cream consumers significantly affect the quantity of ice cream consumed per occasion.

### **5.2.2 Hypothesis – 2**

Null Hypothesis,

Ho = There is no association between consumer's attributed reasons for consumption of ice cream and the consumer preferences.

Alternative Hypothesis,

H2 = The consumer's attributed reasons for ice cream consumption affect consumer preferences for ice cream.

For this hypothesis, for consumer preferences we have following sub variables and the Chi-square value and p value for their association with attributed reasons for ice cream consumption (Table No. 5.2.3)

**Table No. 5.2.3**

Sr. No.	Independent Variable	Dependent Variable	Chi-Square Value	Degrees of freedom	p value	Significance of relationship
1	Attributed reasons for ice cream consumption	Brand preference	49.724	21	0.000	Highly significant
2		Flavor preference	24.650	21	0.263	Highly insignificant
3		Pack preference at home				Highly significant
4		Pack preference outside home	58.974	24	0.000	Highly significant
5		Preference for companionship	16.586	3	0.001	Highly significant
6		Storage at home	1.106	3	0.776	Highly insignificant
7		Time preference	130.305	15	0.000	Highly significant
8		Seasonal preference	21.473	3	0.000	Highly significant
9		Preference for occasions	40.898	9	0.000	Highly significant

**Refer Table No. 4.191, 4.193, 4.195, 4.197, 4.199, 4.201, 4.203, 4.205, 4.207, 4.209**

Since 7 out of 9 variables tested show highly significant association with the independent variable attributed reasons for consumption; the null hypothesis  $H_0$  is rejected and alternative hypothesis  $H_3$  is accepted.

Therefore, it is concluded that the consumers' attributed reasons for ice cream consumption affect the consumer's preferences for ice cream.

### **5.2.3 Hypothesis – 3**

Null Hypothesis,

$H_0$  = There is no association between the ice cream's position in the Maslow's hierarchy of needs and consumer preferences.

Alternative Hypothesis,

H3 = The ice cream's position in the Maslow's hierarchy of needs of consumer affects the consumer preferences for ice cream.

For this hypothesis, c, the sub variable wise Chi-square and p value are given in Table No. 5.2.4.

**Table No. 5.2.4**

Sr. No.	Independent Variable	Dependent Variable	Chi-Square Value	Degrees of freedom	p value	Significance
1	Ice cream's position in Maslow is hierarch of needs	Brand preference	74.931	42	0.001	Highly significant
2		Flavor preference	67.828	42	0.007	Highly significant
3		Pack preference at home				Highly significant
4		Pack preference outside home	83.480	48	0.001	Highly significant
5		Preference for companionship	22.125	6	0.001	Highly significant
6		Storage at home	17.275	6	0.008	Highly significant
7		Time preference	126.454	30	0.000	Highly significant
8		Seasonal preference	15.444	6	0.017	Highly significant
9		Preference for occasions	54.545	18	0.000	Highly significant

**Refer Table No. 4.217, 4.219, 4.221, 4.223, 4.225, 4.227, 4.229, 4.233, 4.235, 4.237**

Since all 9 sub variables have highly significant relationship, the null hypothesis Ho is rejected and the alternate hypothesis H3 is accepted.

Therefore, it is concluded that the ice cream's position in consumer's Maslow's hierarchy of needs impacts the consumer preference for ice cream.

#### 5.2.4 Hypothesis – 4

H4: There is relationship between consumer preferences for ice cream and ice cream consumption pattern.

For sub hypothesis H4a,

Null hypothesis,

Ho : There is no association between consumer preferences for ice cream and frequency of consumption of ice cream.

Alternative hypothesis,

H4a = There is an association between consumer preferences for ice cream and frequency of consumption of ice cream

Table No. 5.2.5. gives details of Chi-square values and p values for the association of different sub variables under consumer preference and frequency of consumption of ice cream.

**Table No. 5.2.5**

Sr. No.	Independent Variable	Dependent Variable	Chi-Square Value	Degrees of freedom	p value	Significance
1	Brand preference	Frequency of Consumption	51.195	50	0.427	Highly insignificant
2	Flavor preference		43.750	35	0.147	Highly insignificant
3	Pack preference at home		50.899	35	0.010	Highly significant
4	Pack preference outside home		46.210	40	0.231	Highly insignificant
5	Preference for companionship		21.846	5	0.001	Highly significant
6	Storage at home		28.612	5	0.000	Highly significant
7	Time preference		23.695	25	0.537	Highly insignificant
8	Seasonal preference		46.975	5	0.000	Highly significant
9	Preference for occasions		22.708	15	0.910	Highly insignificant

Refer Table No. 4.239, 4.241, 4.221, 4.243, 4.245, 4.247, 4.249, 4.251, 4.253, 4.255, 4.257

Since, 4 relations out of 9 relations are significant we accept the null hypothesis and reject alternative hypothesis H4a.

Therefore, it can be concluded that there is no association between consumer preferences and the frequency of consumption of ice cream.

For sub hypothesis H4b,

Null hypothesis,

Ho = There is no association between consumer preference for ice cream and quantity of ice cream consumed per occasion.

Alternative hypothesis,

H4b = There is an association between consumer preference for ice cream and quantity of ice cream consumed per occasion.

Table No.5.2.6. gives details of Chi-square values and p values for the association of different sub variables under consumer preference and quantity of ice cream consumed per occasion.

**Table No. 5.2.6**

Sr. No.	Independent Variable	Dependent Variable	Chi-Square Value	Degrees of freedom	p value	Significance
1	Brand preference	Quantity/ Occasion	33.631	30	0.296	Highly insignificant
2	Flavor preference		35.745	21	0.023	Highly significant
3	Pack preference at home		87.804	18	0.000	Highly significant
4	Pack preference outside home		82.562	24	0.000	Highly significant
5	Preference for companionship		23.182	3	0.000	Highly significant
6	Storage at home		23.638	3	0.000	Highly significant
7	Time preference		24.825	15	0.050	Highly significant
8	Seasonal preference		15.276	3	0.002	Highly significant
9	Preference for occasions		9.217	9	0.418	Highly insignificant

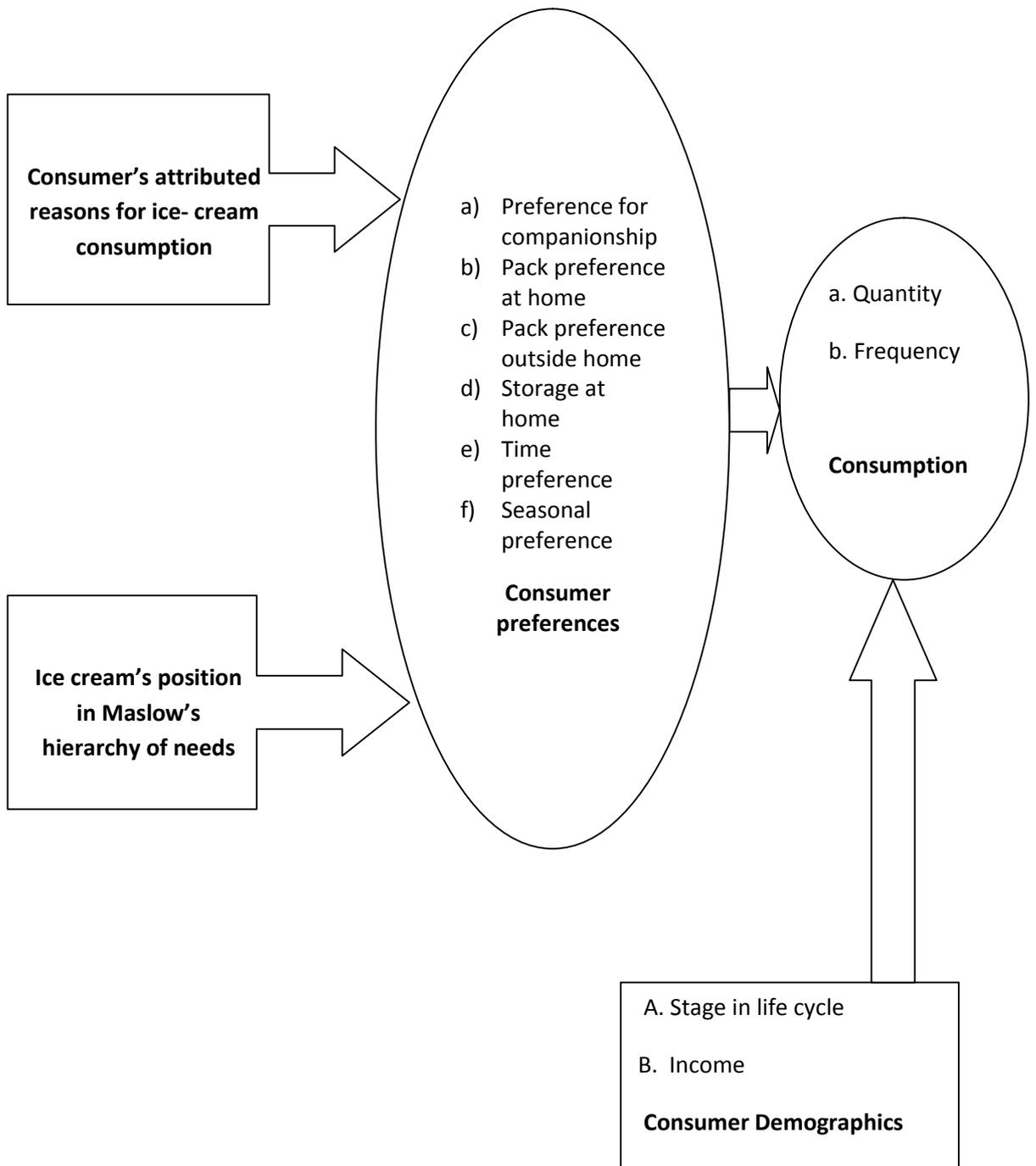
**Refer Table No. 4.261, 4.263, 4.265, 4.267, 4.269, 4.271, 4.273, 4.275, 4.277**

Since, 7 sub variables out of 9 variables tested have highly significant relationship with quantity of ice cream consumed per occasion we reject the null hypothesis  $H_0$  and accept alternative hypothesis  $H_{4b}$ .

Therefore, it can be concluded that there is an association between consumer preferences and quantity consumed per occasion..

The model in Chart No.5.3 summarises the results of the hypotheses tested

**Chart No. 5.3 Factors driving consumption pattern of ice cream**



### **5.3 Discussions: (Hypothesis Testing)**

#### **5.3.1 Impact of demographic variables on ice cream consumption pattern**

##### **a) Effect on frequency of consumption**

The following variables have significant impact on frequency of consumption of ice cream.

- i) Age
- ii) Income
- iii) Marital status (at  $\leq 0.08$ )

The gender and profession does not impact the frequency at all.

##### **Age :**

The frequency in the age group 11-15 years is very high with more than 60% of the children eating ice cream daily, alternate day or weekly. The frequency in the age group of 16-20 years is lowest with only 39% of them eating ice cream daily, alternate day or weekly. The frequency then goes on increasing with age. The frequency surprisingly is very high after the age crosses 45; with more than 70% of them eating daily or alternate day or weekly. The age group of 16-20 years and 21-25 years is totally dependent on their parents and they can not also demand ice cream like children. Or, their spend probably is diverted on some other items (Refer Table No. 4.174).

##### **Income :**

The frequency increases with increase in family income (Refer Table No. 4.178).

##### **Marital Status**

The frequency of ice-cream consumption in married people is more than non married ones with more than 55% of them eating ice cream daily or alternate day or weekly as compared to about 45% in case of unmarried, ones (Refer Table No. 4.176).

If the age and marital status is combined as it is giving similar trend, we can say that the stage in life cycle and income impacts the frequency of consumption significantly.

**b) Effect on quantity consumed**

Only age and income affect the quantity consumed significantly.

The quantity consumed per occasion by the age group of 11-15 years is highest and it then decreases with increasing age. The age group of 21-25 years is however an exception as the quantity consumed per occasion by this group is lowest. May be this age group is either doing their masters degree or they have started working, which keeps them too busy and hence do not get time to set out for their ice cream (Refer Table No. 4.184).

The quantity of consumption significantly increases with increase in family income (Refer Table No. 4.188).

To sum up, the stage in life cycle and family income of the ice cream consumer impact the ice cream consumption very significantly.

The gender and profession however do not play any role in the consumption of ice cream, neither in frequency nor in quantity.

**5.3.2 Effect of consumer's attributed reasons for consumption and consumer preferences.**

**a. Attributed reasons and pack preferred at home:**

The relationship is significant statistically (Refer Table No. 4.192). The cone, cup and family pack is preferred more by those looking for taste whereas party pack is preferred more by those looking for cooling effect. About 50% of the 'stick consumers' have attributed other reasons like health, appeasing hunger or projecting status and rest 50% have given 'taste' and 'cooling effect' as the motive behind consuming ice cream.

**b. Attributed reasons and pack preferred outside home:**

The relationship is statistically significant. The cone, cup and stick consumers mainly attribute 'taste' (about 40%) as the prime mover followed by cooling effect (29%); but in case of family pack and party pack the other reasons like

appeasing hunger or health or projecting status are equally contributing as 'cooling effect' (Refer Table No. 4.194).

**c. Attributed reasons and preference for companionship:**

The impact of consumer's attributed reasons for consumptions on consumer's preference for companionship is significant (Refer Table No. 4.194). About 75% of consumers say they eat ice cream for its taste and cooling effect, but when it comes to other reasons like appeasing hunger or project status or easy to eat; consumers are more skewed towards eating alone than that of taste and cooling effect. Also, more proportion of consumers eat alone when they eat for taste than that for cooling effect (Refer Table No. 4.196).

**d. Attributed reasons and preference of occasion:**

The association is very significant. The consumer's saying they eat ice cream to appease hunger or to project status or other reasons tend to prefer eating ice cream more in marriages and birthdays than those who eat ice cream for its taste and cooling effect(Refer Table No. 4.200).

Those eating for 'taste' tend to eat during evening walk and outing more (about 45%) than those eating for 'cooling effect' (37%)

Also those eating for 'cooling effect' and others tend to eat during parties more. Interestingly, those, attributing 'projecting status' as the reason, have co-related ice cream to home and party more.

**e. Attributed reasons and seasonality:**

Those attributing 'cooling effect' as the reason for eating ice cream are showing higher seasonality (62%) than those attributing 'taste' or other reasons. (about 45% of them). That is quite logical as these consumers do not feel the need of cooling in winter (Refer Table No. 4.202)

**f. Attributed reasons and favorite time”**

Those who have attributed the 'taste' as the reason, tend to eat more in the evening and night whereas significant number of consumers have shown

inclination to eat in the afternoon or morning from those who attribute 'cooling effect' or appeasing hunger or other reasons (Refer Table No. 4.204).

**g. Attributed reasons and brand consumed:**

The Table No. 4.210 shows that the Amul's consumer has attributed the 'taste' as the motive the least (34%); whereas, for the other brands about 40% consumer have listed 'taste' as the motive. This figure for Kwality walls is more than 45%. About 30% consumers attribute 'cooling effect' as the motive for all other major brands but for Kwality Walls the figure is only 19%. The consumers who have reported multiple brands as their favorite brands in combination with Kwality Walls; attribute 'taste' as the reason more than that in combination with Amul. Those who are eating Natural and Baskin Robbins; the major reason attributed by them is 'taste' (about 55% of consumers).

That means, on taste the consumers are ranking Kwality Walls, Baskin Robbins and Natural higher than Amul.

**5.3.3 Effect of Position in Maslow's hierarchy of needs on consumer preferences:**

**a. Effect on pack preferred at home and outside home:**

Table No. 4.222 shows that the people associating it with love tend to prefer cones and cups more (about 26%) at home than the others (about 18%). The family pack seems to be favorite for those associating status with ice cream (60%). Those associating love with ice cream tend to prefer family pack less (41% than others (more than 50%).

The variation of pack preference outside home with position in Maslow's hierarchy is not significant.

**b. Effect on preference for companionship in consumption:**

The association is statistically highly significant (Refer Table No. 4.225). Those who consider ice cream as a medium to express love and affection tend to eat more in group (more than 83%) than those who associate ice cream with food,

status or cooling effect. (Cold 79%, food and status 67%) (Refer Table No. 4.224)

**c. Effect on ice cream storage at home:**

Table No.4.226 shows, those who associate love and treat with ice cream tend to store ice cream at home more than those who associate it with cooling and food.

**d. Effect on preference of occasion:**

Table No.4.228 shows the association is highly significant. Those associating ice cream with love tend to eat ice cream during evening walks and outing maximum. Those who associate it with treat tend to associate it with party maximum. Those who associate it with food also associate it with home, birthdays and party maximum. Those associating it with status associate it with outing most. Significant no. of customers (more than 20%) from all categories prefer to eat ice cream in marriages.

**e. Effect on seasonality:**

The association with seasonality in winter is statistically insignificant (Refer Table No. 4.230 & 4.234).. But the association with seasonality in rainy season is significant. The customers considering ice cream as expression of love tend to show less seasonality in eating ice-cream than those associating it with treat and cold. Those who associate ice cream with food also show very less seasonality comparatively. (66% of those have indicated no seasonality)

**f. Effect on time preference:**

The association is highly significant (Refer Table No. 4.232). Those associating ice cream with love are more skewed towards evening than night, whereas the others are skewed more towards night (more than 40% customer - (Refer Table No. 4.231).

#### **5.3.4 Consumer preferences and frequency of consumption:**

Consumption in group, storage at home, pack preference at home and seasonality has strong association on the frequency of consumption.

Consumption in group significantly increases the frequency of ice cream consumption (Refer Table No. 4.246).52% of those who consume in group eat ice cream daily or alternate day or weekly as compared to only 36% of those who eat alone.

Those who do not store ice cream at home tend to eat it more frequently. May be, they move out more frequently and hence prefer to eat out (Refer Table No. 4.248).

Surprisingly, those who show seasonality both in winter and rainy season have recorded higher frequency of consumption (Refer Table No. 4.252 & 4.256). May be, those who eat less in winter and rainy season eat more in summer season. So, seasonality does not have any adverse effect on the average frequency of consumption.

#### **5.3.5 Consumer preferences and Quantity of ice cream consumed.**

##### **a) Flavor preference and Quantity of ice cream consumed**

Table No.4.262 indicates that those who prefer Mango, Roasted almond and other favors tend to eat more quantity per occasion than the consumers of most moving flavors like Vanilla, Butterscotch, Chocolate and Strawberry(refer table No.---).

##### **b) Pack preference and Quantity of ice cream consumed**

The consumers of family pack and party pack tend to eat much higher quantity per occasion than those who prefer cones and cup at home (Refer Table No. 4.264).

The consumer of scoop and family pack tend to eat more quantity outside home than those of cone and cup (Refer Table No. 4.266).

**c) Consumption in group and Quantity of ice cream consumed**

Surprisingly those who eat ice cream alone have shown tendency to eat higher quantity than those who eat in group (Refer Table No. 4.268).

**d) Ice cream storage at home and Quantity of ice cream consumed**

Those who store ice cream at home are eating much higher quantity per occasion (33% eating > 150 ml) than those not storing at home (only 20% eating > 150 ml) (Refer Table No. 4.270).

**e) Seasonality and Quantity of ice cream consumed**

Those showing seasonality are eating significantly less quantity per occasion (only 22% eating > 150 ml) against those not showing seasonality (about 31% eating > 150 ml) (Refer Table No. 4.274 & 4.278).

**f) Time preference and Quantity of ice cream consumed**

Those who eat in afternoon and evening tend to eat higher quantity (29% eating > 150 ml) than those preferring to eat in the night (22% eating > 150 ml) (Refer Table No. 4.276).

**g) Preference for occasion and Quantity of ice cream consumed**

People tend to eat more quantity at home and in party than that in evening walk or outing (Refer Table No. 4.280).