

## Factors Influencing Purchase Decision of Institutional Buyers in Bangladesh: The Case of Poultry Chicken

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**Abstract:** The Bangladeshi poultry industry is gradually becoming a leading industry in the Bangladeshi market. It is a labor-intensive sector which does not require lengthy training. Almost anyone can be engaged in the poultry farming because it can be done either on a larger scale or in one's backyard. The purpose of the study is to identify the institutional buyer preference and to find out the purchase criteria factors which influence the purchase decision of the institutional buyers of poultry chickens in Bangladesh. A total of 110 respondents from 8 different categories of institutional buyers, who were directly related to poultry business were randomly selected to be the respondents for the collection of information within the Dhaka Metro City. All factors were randomly selected towards the collection of relevant information following pretested questionnaire. Advance statistical tools were applied for analysis of collected data. A factor analysis was conducted to identify the purchase criteria factors i.e. Brand, Freshness, Halal, How chicken are raised, Meat Cuts (Breast / Leg), Nutrition Value, Packaging, Price Sensitivity, Processed, Production Technology and Taste. Findings from the factor analysis showed that packaging, processed, production technology, taste and how chicken are raised have a significant effect on the selection of purchase criteria of the institutional buyers and their preference..

**Keywords:** Factor Analysis, Institutional Buyers, Poultry Chicken, Poultry Industry, Purchase Criteria

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### I. Introduction

Bangladesh poultry chicken industry have significant importance in ensuring sustainable economic development of the country and it is high time to advance forward for the better accumulation of available resources from the poultry industry. A 2008 study by FAO (Food and Agriculture Association) states that more than 80% rural households in Bangladesh keep poultry. The very poor prefer to keep no animal (such as cattle) other than poultry because of its favorable characteristics, i.e. low cost of maintenance and lack of land ownership. Despite the informal nature of the poultry sector, it is now among the top employment-generating sectors in the country. Bangladesh is one of the lowest poultry meat consuming countries. OECD-FAO (Organization for Economic Co-operation and Development, 2016) agricultural outlook states that the per capita consumption is even lower at only 1.2 kg per person per year (which is lower than regional countries like India and Pakistan). The low poultry consumption of Bangladesh is due to its vast segment of the population who are poor and middle-class, who consume meat occasionally, and have a low per capita income compared to her neighboring countries. There is an ample scope for small and medium enterprises (SMEs) to play a vital role to boost the Bangladesh poultry industry. This paper has tried to derive the institutional buyer preference and to find out the purchase criteria factors of poultry chickens in Bangladesh. A total of 110 respondents from 8 different categories, who were involved in this business as institutional buyers were surveyed. These respondents were 10 Professional chefs (Cook), 10 Chain shop; 20 Fast food shops; 15 Chinese restaurants; 15 Hotels, 15 Hostels/Barracks/University Canteens; 15 hospitals, 15 Convention centre/3star Hotels. The respondents were randomly selected and the information was collected from Dhaka Metro City.

### II. Objectives of the Study

The main objective of this study is to identify the purchase criteria factors of poultry chickens in Bangladesh by the institutional buyers.

#### Specific Objectives:

- To find out the preferred chicken type of institutional buyers who are involved in buying poultry chickens in Bangladesh.
- To find out the purchase amount of institutional buyers who are involved in buying poultry chickens in Bangladesh
- To find out the preferred payment system for institutional buyers who are involved in buying poultry chickens in Bangladesh

### **III. Literature Review**

Raihan & Mahmud (2008) stated that the present poultry industry of Bangladesh is a vital sector in order to improve agricultural growth and the diet of people. This sector is important particularly as it serves as one of the major sources of daily protein and nutritional supply. It is expected that the future demand of poultry products will be enhanced due to high population and income growth, urbanization and increasing high income elasticity of demand. This sector is also significant in generating economic activities involving women and especially the people from the poorer sections of any society. Poultry represents an asset, which can be liquidated when the need arises. Investing in small-scale poultry is an effective strategy to uphold a pro-poor and comprehensive growth. In recent years, a noteworthy revolutionary growth was observed in poultry business. Raihan & Mahmud (2008) also found that access to working capital by small stakeholders is also considered as a major hurdle towards the booming poultry industries in Bangladesh. Like some other industries, poultry sector is also facing challenges now. Price hiking of raw materials, different diseases, government policy, farmer's unawareness, lack of scientific method and neighboring country's aggression continuously makes the industry vulnerable. If it is possible to find out the underlying challenges that is faced by poultry industry now and the reasons which make the industry most vulnerable, some major steps can be taken to overcome and triumph over the challenges.

Muhammad, Mahboob Ali and Md Mouludi Hossain (2012) stated that Small-scale poultry production has developed in a large number of developing countries around the world as an important source of earning for the rural poor. In the last few years, the recognition of small-scale commercial poultry production helped to accelerate the pace of poverty reduction raising new heights for Bangladesh. The poultry industry has been successfully becoming a leading industry of the country. The sector is also growing rapidly for the last two decades though it started farming during the mid sixties in this country. It is already capable to increase at an annual growth of around 20 per cent for the last two decades. This industry has immense potentialities from the point of view of the economic growth of the country as well as fulfillment of basic needs and to keep the price at a minimum level and ensuring food especially animal protein for the humans.

Ali (2011) stated that the poultry industry is becoming one of the leading industries in the country. The growth of poultry industry during the last few years is one of the remarkable success stories of Bangladesh. The sector has been rising around 20 percent annually for the last two decades and it has huge possibility to contribute significantly in economic growth of Bangladesh.

### **IV. Research Methodology**

We have conducted a qualitative and quantitative research survey. For quantitative analysis, primary and secondary data have been used. A random survey was performed with the help of constructed and pretested questionnaire, following face to face interview to collect relevant information from different stakeholders, those who are directly involved in the poultry industry. A purposive sample technique was also applied for selecting the respondents to fulfill the desired data for analysis. Institutional buyers were all interviewed with the intention to collect necessary data and information. Before commencing the face to face interview, each of the respondents was given a brief description about the nature and purpose of the study. This study is an exploratory one. A total of 110 respondents from 8 different categories of institutional buyers, who were directly related to this business were randomly selected to be the respondents for the collection of information within the Dhaka Metro City.

#### **4.1 Sampling and Data Collection**

The survey was conducted in different areas of Dhaka Metropolitan Area. A total of 110 respondents participated in the interviews who were residing in Dhaka Metropolitan area. The maximum respondents in the survey were literate. Furthermore, the data collection was conducted by face to face interview. These respondents were 10 Professional chefs (Cook), 10 Chain shop; 20 Fast food shops; 15 Chinese restaurants; 15 Hotels, 15 Hostels/Barracks/University Canteens; 15 hospitals, 15 Convention centre/3star Hotels. The respondents were randomly selected and the information was collected from Dhaka Metro City through structured questionnaire pretested format.

#### **4.2 Questionnaire Design and Pretest**

Both quantitative and qualitative approaches have been used to conduct the study. It is an exploratory and descriptive study. At first the exploratory research has been conducted to gain an in-depth knowledge to understand the demand dynamics and influencing variables that is considered at the time of purchasing poultry chicken products. Face to face interview was conducted to collect qualitative data. This paper has tried to derive the institutional buyer preference and to find out the purchase criteria factors of poultry chickens in Bangladesh. To find out the purchase criteria factors institutional buyers were randomly selected for the survey and close ended structured questionnaire using 5 point Likert Scale with end points

ranging from strongly agree (5) to strongly disagree (1) on selective factors of purchase criteria was developed for the research. The questionnaire also included necessary institutional buyer preference and institutional basic information. The questionnaire was verified in a validation meeting consisting of professionals from the institutional poultry chicken buyers.

### 4.3 Data Analysis

The main objective of this study is to identify the purchase criteria factors of poultry chickens in Bangladesh by the institutional buyers and also to find out the preferred chicken type, purchase amount and the preferred payment system of institutional buyers who are involved in buying poultry chickens in Bangladesh. Frequency distribution was obtained to check for data validity. The data for the study were analyzed using descriptive and inferential analysis. Three types of analysis were carried out on this study:

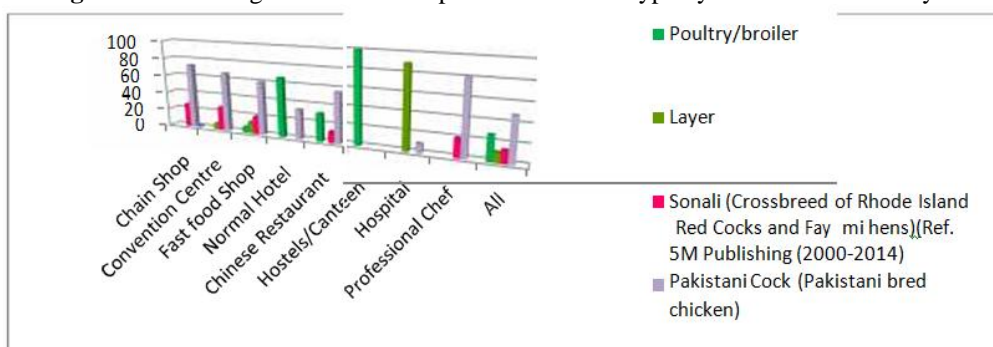
- Descriptive Analysis to explain the institutional buyer preference
- Factor analysis to find out the purchase criteria factors of poultry chicken industry of Bangladesh by the institutional buyers
- Reliability Analysis to find out the validity of the research study

## V. Analysis of Findings

### 5.1 Analysis of Institutional Buyer Preference:

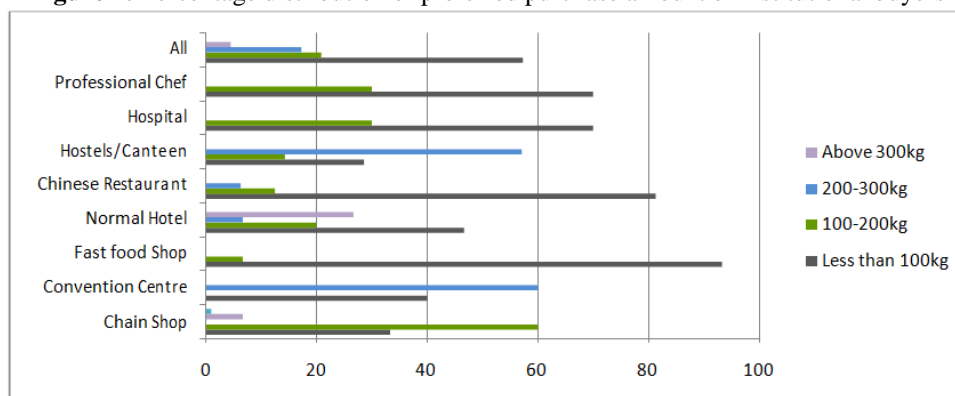
The figures below summarize the respondents according to the preferred marketing channel, preferred supplier type and preferred payment system of institutional buyers of poultry chicken in Bangladesh.

**Figure 1:** Percentage distribution of preferred chicken type by the Institutional Buyers



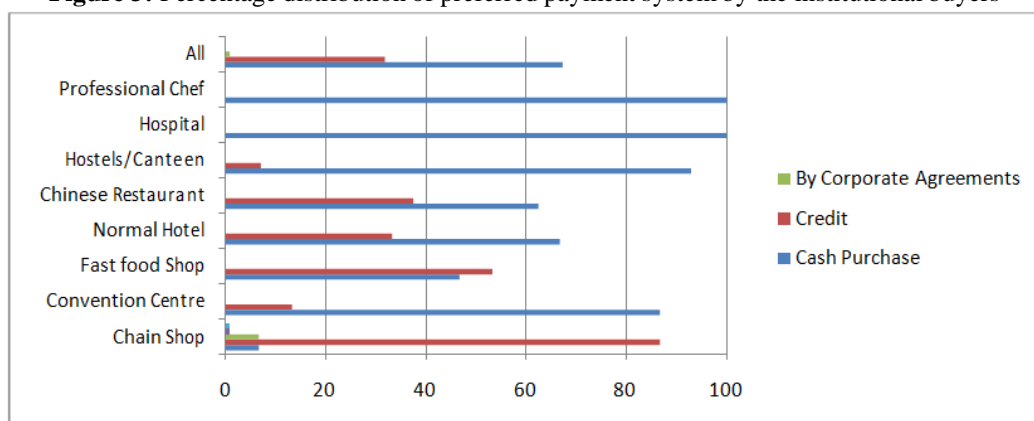
It can be observed in Figure No. 1 that 48.2% institutional business respondents who are involved in purchasing chicken products prefer to buy Pakistani Cocks and 27.3% business organizations prefer to buy Poultry/broiler. It can also be noted that 10.9% businesses prefer Layer chickens and 13.6% business organizations prefer Sonali chickens.

**Figure 2:** Percentage distribution of preferred purchase amount of institutional buyers



From Figure No. 2, among the respondents, 57.3% of business organizations who are involved in purchasing chicken products purchase less than 100 kg amount of chickens and 20.9% business organizations purchase 100-200 kg amount of chickens for their businesses. It is noticeable that only 17.3% businesses purchase 200-300 kg amount of chickens and 4.5% businesses purchase over 300 kg amount of chickens.

**Figure 3:** Percentage distribution of preferred payment system by the institutional buyers



Among the respondents, 67.3% of institutional buyers who are involved in purchasing chicken products prefer to purchase by cash and 31.8% of institutional buyers prefer credit payment system (Figure 3). It can be observed that only 0.9% institutional buyers who are involved in purchasing chicken products prefer payment system by corporate agreements.

**5.2 Analysis of Results of Factor Analysis**

The factor analysis was conducted using principal axis factoring with varimax rotation as an extraction method (Nummenmaa et al., 1996.p 244). The Bartlett's test of Sphericity confirmed that the variables within factors are correlated (Table 1). Factor analysis of 11 items of purchase criteria of institutional buyers was done to check the grouping of response.

**Table 1:** Factor Analysis of Purchase Criteria of Institutional Buyers (Independent Variable)

	Component		
	1	2	3
Brand	.420	.538	.177
Freshness	-.208	.814	.052
Halal	-.115	.817	-.256
How chicken are raised	.811	.234	.181
Meat Cuts (Breast/Leg)	.280	-.122	.744
Nutrition Value	.085	.027	.850
Packaging	.858	-.016	.157
Price sensitivity	-.241	-.504	.060
Processed	.860	-.085	.183
Production Technology	.795	-.143	.293
Taste	.553	.206	-.027

The terms listed above is defined as follows:

- Brand: Investopedia (2017) states that brand is the distinguishing symbol, mark, logo, word, sentence, or a combination of these items that companies use to distinguish their product from others in the market. Institutional buyers purchase their desired product or chicken based on the brand of the chicken products available in the market.
- Freshness: Oxford University Press (2017) states that “freshness” is the state of the food being recently made or obtained or not having decayed. The term refers to the poultry chickens and the poultry chicken’s state of being recently made or obtained or not having decayed while making the purchase decision by the institutional buyers.
- Halal: The term “halal” refers to halal poultry chicken which adheres to Islamic Law in the slaughtering of the poultry chicken.
- How Chicken is raised: How Chicken is raised refer to the method or manner in which the chickens are raised in Bangladesh poultry industry.
- Meat Cuts (Breast/Leg): Meat Cuts (Breast/Leg) refer to the part of the chicken that is cut accordingly and which is preferred by the institutional buyers.
- Nutrition Value: Nutrition value refers to the nutritional value of the poultry chicken.
- Packaging: Packaging refers to the type of packaging preferred by the institutional buyers in purchasing poultry chicken products.

- Price Sensitivity: Price sensitivity is the price preferred by the institutional buyers i.e. low price of poultry chicken products
- Processed: The term processed refers to chicken meat that has been mechanically recovered from a chicken carcass or is made of a combination of chicken meat and skin.
- Production Technology: The term “production technology” refers to the technology used in producing the poultry chicken products.
- Taste: The term “taste” refers to the taste of the poultry chicken products preferred by the institutional buyers.

Factors	Eigen Values	% of Variance	Cumulative %
Major Preference (F-1)	3.931	35.737	35.737
Moderate Preference (F-2)	2.109	19.174	54.911
Minor Preference (F-3)	1.086	9.870	64.781

The factors listed above are defined as follows:

- F-1: Factor 1 are the major preferences of institutional buyers which are how chicken are raised, Packaging, Processed, Production Technology, Taste
- F-2: Factor 2 are the moderate preferences of institutional buyers which are brand, freshness and halal
- F-3: Factor 3 are the minor preferences of institutional buyers which are meat cuts (breast/leg), nutrition value

3 components extracted

Extraction Method: Principal Component Analysis

Rotation method: Varimax with Kaiser Normalization

Factor analysis extracted three (3) major factors which influences purchase criteria of the institutional buyers.

These identified factors represent 64.78 percent of the variance of the variables.

Table 2 shows the items that are included in each factors.

**Table 2: Grouping of Items in Each Factor**

<b>Major Preference (F-1)</b>	<ul style="list-style-type: none"> <li>▪ How chicken are raised</li> <li>▪ Packaging</li> <li>▪ Processed</li> <li>▪ Production Technology</li> <li>▪ Taste</li> </ul>
<b>Moderate Preference (F-2)</b>	<ul style="list-style-type: none"> <li>▪ Brand</li> <li>▪ Freshness</li> <li>▪ Halal</li> </ul>
<b>Minor Preference (F-3)</b>	<ul style="list-style-type: none"> <li>▪ Meat Cuts (Breast/Leg)</li> <li>▪ Nutrition Value</li> </ul>

### 5.3 Analysis of Reliability Analysis

In general, the computation of coefficient alpha involves the matrix of correlations or covariance's among all items of a scale. For Cronbach's alpha, the Pearson covariance matrix is routinely used. The inter-item (3 factors identified through factor analysis) correlation matrix (Table 3) does not reveal any strong association among factors themselves.

**Table 3: Inter-Item Correlation Matrix**

	Major	Moderate Preference	Minor Preference
Major Preference (F-1)	1.00	0.104	0.124
Moderate Preference (F-2)	0.104	1.00	-0.243
Minor Preference (F-3)	0.124	-0.243	1.00

Cronbach's alpha reliability coefficient normally ranges between 0 and 1. However, there is actually no lower limit to the coefficient. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. George and Mallery (2003) provide the following rules of thumb: “\_ > .9 – Excellent, \_ > .8 – Good, \_ > .7 – Acceptable, \_ > .6 – Questionable, \_ > .5 – Poor, and \_ < .5 – Unacceptable” (p. 231). In this case alpha is slightly over 0.6 which is below acceptable level according to the referred scale (Table 4).

**Table 4:** Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item
<b>Major Preference (F-1)</b>	20.7727	1.535	.283	.045	.629
<b>Moderate Preference (F-2)</b>	24.9727	9.476	.124	.087	.635
<b>Minor Preference (F-3)</b>	31.3091	9.830	.128	.092	.641

## VI. Conclusion

The main objective of this study is to identify the purchase criteria factors of poultry chickens by the institutional buyers and to find out the preferred chicken type, purchase amount and the preferred payment system of institutional buyers who are involved in buying poultry chickens in Bangladesh. It is anticipated that research information provided by the current study will prove useful to institutional buyers of the poultry chicken industry to make purchase decisions according to their preference of chicken type, purchase amount and payment system. With the factor analysis, the overall purchase criteria of the institutional buyers of the poultry chicken industry of Bangladesh is associated with three broad factors consisting of Factor 1 – Major Preference (How chicken are raised, Packaging, Processed, Production Technology, Taste); Factor 2 – Moderate Preference (Brand, Freshness, Halal) and Factor 3 – Minor Preference (Meat Cuts, Nutrition Value). The results of the factor analysis conducted on the three factors indicated that Factor 1 – Major Preference: how chicken are raised, packaging, processed, production technology, taste have significant impact on purchase decisions by institutional buyers. From a theoretical point of view, the results presented in this study, contributed to the existing literature in a number of ways. First, the research makes a contribution to poultry chicken industry literature by providing insights on the factors that seem to affect the purchase criteria in the poultry chicken industry. Secondly, the research contributes to the institutional buyer literature by suggesting how chicken are raised, packaging, processed, production technology, taste were to be more influential factors of purchase criteria. From the managerial point of view, this research can facilitate the business investors, owners, SMEs to take cost effective and efficient purchase decisions for their organizations. Despite the merits of this research, it has certain limitations that should be recognized. First, the research is based on Dhaka metropolitan area only. Other metropolitan areas are much different in many aspects. So, factors should be considered to take decision on the overall purchase criteria of institutional buyers in Bangladesh. To get more accurate results, one should consider the total process with a large number of samples. These limitations pave the way to future research.

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