CONSUMER PERCEPTION ON PROCESSED FOOD: A STUDY FROM GAIBANDHA DISTRICT

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BY

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CERTIFICATE

This is to certify that the thesis entitled 'CONSUMER PERCEPTION ON PROCESSED FOOD: A STUDY FROM GAIBANDHA DISTRICT' submitted to the Faculty of Agribusiness Management, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of Master of Science in Agribusiness And Marketing, embodies the result of a piece of bona fide research work carried out by ATQIYA FAHMIDA ZAMAN, Registration Number: 19-10095 under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma.

I further certify that any help or source of information received during the course of this investigation has duly been acknowledge.

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ABSTRACT

With the quick shift in people's lifestyles, consumer food consumption pattern in Bangladesh has experienced a remarkable transition in the last millennium. This paper's main goals are to find out customer perceptions of branded and non-branded processed food and assess the factors affecting their buying decision. A total of 100 consumers were interviewed through a structured questionnaire in Gaibandha district in 2021. The result shows that freshness, quality, and packaging items are the most important factors to customers and time saving is the unquestionable reasons to choose processed foods. Young generation's (21-40) purchasing frequency of packaged branded processed food is higher than other age group. Advertisement influences the customer more while purchasing. Consumer perception and satisfaction have positive influence on buying decision of consumer. More study might be done on a different section of customers, such as health-conscious consumers, or package design could be included. It provides empirical information concerning the nature and patterns of customer consumption. Customers' satisfaction levels are measured based on a variety of elements, with the aftereffects, people recommendation to other customers, that also boosting sales.

CHAPTER 1: INTRODUCTION

1.1 Background of the Study:

At the beginning of the twenty first century, the country was overtaken by a new phenomenon, people were replacing highly processed, ready-to-eat food products for cooked meals. As a result, the processed food sector exploded. There are several causes for this, including a movement in eating patterns, primarily a shift away from what may be referred to as conventional kinds of meals, as well as traditional joint families are being dismantled by people and forming households with just one child. In any business or retail establishment, whether little or huge, the brand always plays the most vital function. The current undulation witnessed an exegetical rise in need for ready-to-eat refined goods, providing businesses with an ideal market to develop into. Companies wanted to increase their consumer base by imprinting their commodities in a form that attracting new clients while maintaining their brand image.

Usually if we recapitulate about a brand, we can say that it is the unrivaled aggregate of commodity attributes and conscience which have gotten associated with a commodity through its appellation, packaging, publicity, pricing, and user interaction. This particular things individualize brand from competing items in the perspective of the consumer. Product sealing with all of its intricacies is a craft in and of itself; a good imprinting uplifts entreaty to the customer's basic innate need to possess or ingest; herein confides the secret to success. All aspect of branding is reflected in a product's wrapping, appearance, color, form, and nutritional qualities, as well as its underlying components. Branding serves a critical and crucial function in differentiating a product from other current products, which helps to attract and retain loyal customers. In today's marketplaces, a good brand policy serves as a significant boundary. The majority of processed foods are included in this research such as Maggie, macaroni, cornflakes, oats, Kellogg's, cheese, curds, fruit juice, potato chips, spices, pickles, processed nuts, different types of dessert (faluda, firni, jorda, khir), snacks(singara, somocha, papor, fuska), dressing meat, fish items etc. are preferred by the consumers.

Bangladesh, being the world's largest food producing terrain, it has the expectation to be the universe's largest food business. Most clients buy processed foods for time savings, quality, flavor, culinary skill, brand, and to modify their consumption wonts owing to a change in consumption pattern. Several individuals are superfluous concerned with their health, nutrition, and the cost of the goods. Though most elderly and young customers buy less-worth and less-exorcism food goods, people now-a-days thoroughly examine the product nutrition, components, expiration date, and brand quality of the products.

Customers' purchasing patterns for processed foods are impacted by their age. Processed food is popular among young people, who perceive it as not only an expedient way to eat but also a source of entertainment and a switch of sapour from traditional cuisine. (Ali and colleagues, 2008).

Visual packaging and labeling have a direct impact on customers' savvy of food multiplication and brand preference. In the late 1980s, the global food consumption pattern shifted, as food manufacturing businesses encouraged their clients, and as a consequence, pecuniary enhancement increased. (Hawkes, 2012) This transformation causes the plenary food market along with the food manufactory to incorporate new concepts into their business models and present new marketing plans in order to attract clients and increase consumers' consumption of processed foods such as cold beverages, soft drinks, and snacks. (Ludwig and Nestle, 2008).

In this case, the key meaning of this current investigation is to explore consumer preference, various factors, age group and how the brand of processed foods effects the customers as a whole.

1.2 Brand

"A name, word, sign, symbol, design, or a mix of these that identifies the producers or seller of the product or services," pursuant to Kotler et al (2005, p.549). The use of a brand name, symbols, and signals to identify a product from its competitors is the basis for this concept. In Accordance with Prasad and Dev (2000), a brand encompasses entire substantive and impalpable traits that the company represents. The American market association (AMA) ascertains a brand as a "name, word, sign, symbol, or design, or a combination of them, designed to identify the goods and services of one seller or group of

sellers and to differentiate them from those of competitors," according to Keller (2003, p.3). A brand is not the same as a product. A product, in accordance with Kotler (2000), is "anything that may be supplied to a market for purchase, usage, or consumption that can satisfy a need or demand." A product, he continued, is made up of items with physical countenance, service, events, experiences, locations, people, organizations, properties, information, and ideas.

1.3 Processed Food

Food which has been packed, canned, cooked, frozen, or had its nutritional makeup altered through fortification, diverse preparation methods, or preservation is considered processed food. Food processing is the turning of agricultural goods into food or change the form of one type food into another. From grain oppressing to prepare raw flour to household cooking to intricate industrial procedures wont to equip congruence foods, there is something for everyone.

1.4 Nutrition Facts of Processed Food:

Nutritional contribution of processed food is like that 55 percent dietary fiber, 48 percent calcium, 43 percent potassium, 34 percent vitamin D, 64 percent iron, 65 percent folate, and vitamin 46 percent B-12. Processed foods contributed 52 percent saturated fat, 75 percent added sugar, 57 percent energy, and 57 percent sodium to the elements to limit.

1.5 Factors Influencing Consumer Perceptions of a Brand

According to Kotler (2005) the procedure through which a person obtains, chooses, organizes, and interprets information is referred to as perception. Some of the factors that influence client perceptions of a brand are as follows:

- **Quality:** When consumers are choosing a brand, this is one of the factors they examine. Quality is a significant part of brand identification, according to Uggla (2001).

- **Pricing**: Price may be utilized as a rationale for brand sorting in two ways, according to McDonald and Sharp (2000): opting for the lowest price to avoid financial risk or going for the utmost price to acquire product quality. Price, location, and brand are three significant elements to consider while making a purchasing decision, according to Söderlund (2000).

- **Influence by others:** Others' effect on customer decision-making, according to Kotleret al (1999), is crucial. Consumers are prone to talking about new products or brands with one another and soliciting feedback. Consumer purchase behavior is heavily influenced by suggestions from others. The amount to which such influence is exerted, however, is dependent on the context or the individual. Other people's influence cannot be increased by marketers. A consumer can be impacted culturally, for example, by family or another institution, or socially, for example, by a small group such as family or a membership club. Other people's attitudes might also have an impact on a purchase decision. As an example, if a customer wants to purchase close up, he or she may come into contact with a buddy who claims that Colgate makes his or her teeth dazzling and whiter. The consumer may be compelled to purchase Colgate.

- **Advertising**: Advertising's main purpose is to generate awareness. Publicity is a well- known mode of communication. The brand will be powerful, according to Aaker (1991), if advertising, marketing, and packaging follow a consistent positioning approach across time. Advertising can be delivered to customers via television, cinema, radio, billboards, and other means.

- **Packaging**: The process of creating a cover for a brand or a product. Packaging, according to Kotler et al. (1991), is a sort of advertisement in that it serves sales purposes such as attracting customers, describing the product, and selling it.

- **Convenience**: The convenience of a brand, according to Lin and Chang (2003), has a significant influence on customers. Specifically, easy access to the brand/product in store is crucial for purchasing low-involvement items.

1.6 Objectives of the Study:

1. To find out the consumer preference level of Branded and Non-branded processed food.

2. To assess the factors affecting consumer buying decision of processed food.

1.7 Rational of the Study:

The processed food sector is one of Bangladesh's fastest expanding businesses. With the agro-processing business aiming for $1 billion in revenue by 2021. With the advancements being made on a daily basis, Bangladesh's food processing sector has a promising future.

Muzayyaanah et al. (2012) conducted a study which reveals the food processing business of cattle products has enormous prospects, as well as customer interests and preferences. According to the research's findings, customer preference exploration is likely to be one of the issues driving novelty in the processed food business.

Roselyne et.al (2020) explores customer preferences for innovative and other qualitative aspects in processed meals. Different quality attributes, tradeoffs between innovation (fortification and highly processed), certification on food quality and standards, preferences for product origin are focused in this study.

Baskar *et.al* (2014) provide an immense obtainment to the buying behavior of consumer on branded processed food. They use multiple variables to carry out the study.

Though there are so many studies about consumers' perception on processed food or branded processed food but no study focusing on Gaibandha, District areas' consumer. Therefore, this current study is focusing on this problem and making an effort to analyze the consumer perception on processed food specially the Gaibandha districts' selected areas people. Therefore independent variables are classified to analyze the dependent variable with some factors. Age group are also classified to find out the preference level of any specific age group.

Insight from this study can help the sellers to improve their strategy to make competitive advantage and attract more consumers through offering better services and products.

1.8 Research Question:

The research is designed to answer the following questions:

1. Does consumer prefer branded processed food?

2. Does consumer prefer non-branded processed food?

3. Does consumer perception lead to a buying decision?

4. Does consumer satisfaction lead to a buying decision?

5. Does any specific age group prefer processed foods most**?**

1.9 Scope of Future Study:

This study is based on responses from 100 samples and data has been collected from January through March 2021. So it is limited to a particular time frame. For the further study, this topic can be studied in a different time frame to see the variations in the result which can provide exact and extensive conclusion. The sample size is small, which is another limitation of this study. This research was limited to geographic boundaries of Gaibandha districts selected areas, so it can be expanded to the whole district or other districts to determine the consumer perception towards processed food. Further research can be done on package design or health consciousness issues about processed food.

1.10 Limitations of the Study:

After finishing the study several limitations were found. First of all, the author has done such type of research for the first time, so there was a knowledge gap and lack of experience in doing research which might impact the quality of the research. Also this study is based on a small number of independent variables that could influence consumers' buying decision towards processed food. Besides this study has geographical limitations, as data are collected from selected samples of Gaibandha district. Moreover, the data has been collected during covid-19 pandemic situation so it was quite impossible to cover most of the areas' sample that may be added.

CHAPTER 2: LITERATURE REVIEW

This chapter compiles what others have written on the issue traced in the research study and attempts to fetch forth our ideas about what is found in the literature, particularly in reference to our subject.

Product branding is usually recognized as the simplest and most common strategy of increasing customer demand (Ahmed and Anders, 2012). Consumer impression of processed foods is influenced by a variety of elements for example trust and safety, national branding, packaging, and awareness.

Baskar et al. (2014) present a more comprehensive analysis of customer purchasing attitude for branded processed foods. It was discovered that consumers bought brands in most cases for the sake of confidence and indemnity. Food is assuredly, the nutritious content per serving, however it has been discovered that this is not the case. It has been shown that good branding may successfully persuade customers to alter their priorities from a nutritious meal to meals that provide a better feeling of pleasure via characteristics as flavor, scent, brand value, and brand awareness. Although there are several variables to consider when selecting a brand, trust and safety are two that stand out when it comes to purchasing branded food. Consider the following example: Coke vs generic soda. While Coca-Cola has created a strong brand equity and trust, it can cost a higher price for its product.

Kazmi (2012) performed a concise research on the perceptions and purchase decisions of pasta customers. The study was concerned with the factors that impact customers' views of pasta items, as well as other related causes for the pasta product's appeal and awareness in various locations and socioeconomic levels. Branding gimmicks may persuade buyers for a short time, but they seldom keep their attention; at the end of the day, it evermore comes back to the core component, which is the value-for-money acquired from the product (Dynan, 2000; Ahmed and Anders, 2012).

Wills et al. (2007) studied that in the present climate, demand for rapid meals or replacement meals has surged among customers who have limited to no culinary abilities or do not have enough time to make meals; this has resulted in product diversification and

high outgrowth of retail operators. The growth in the number of middle-income working-class people has raised demand for ready-to-eat meals. These meals must meet the criterion of being easily ingested as well as meeting the daily nutritional requirements.

Darrian and Cohen (1995); Ahmed and Anders (2012) studied that retailers and food producers have responded to these developments by increasing the variety of convenience items available to customers in order to fulfill the taste and quality requirements of varied consumer categories.

Spinelli et al. (2014) said previous study has shown that recognizable or famous brands can produce the placebo effect in a consumer and increase satisfaction resulting from heightened taste judgments of food goods.

Richie et al. (2017) found that the majority of customers chose private brands over national brands.

Shafiea et al. (2012) explore how consumers recognize food quality perceive in order to study the potential of organic agriculture. The study discovered that the link between demographic parameters may identify organic consumers, but it is not always accurate; it may vary from person to person; and pricing is the most important element in purchasing an organic item. Branding offers every product a distinct identity that distinguishes it from every other product on the market by virtue of customer perception **(Perrea et al. 2014)**. Furthermore, **Mari et al. (2015)** expressed worry about consumers' impressions of various external variables, such as packaging, and observed how the external factor influences purchasing decisions of processed cereal items. It has been demonstrated that customers appreciate the assistance of packaging in terms of product protection, how hygienic the product is, product information, i.e. who is the maker of the product, and the brand of the food product. Other elements that influence customer impression include packaging materials, which include the permanency of the product, product shape, attractiveness, accessibility, environmental friendliness, and recyclability.

Wang (2013) states that aesthetic packaging is a significant aspect in affecting customers' perceptions of value, commodity quality, and brand preference, which has an imperceptible impact on the value of the food product.

According to **Kathuria et al. (2013)**, customers are conscious of the brand they purchase and have identified the source of such awareness. Conventionally, customers are assumed to buy known brands out of habit or loyalty, and they are likely prepared to pay more for a branded product than a non-branded generic one if they sense the benefits of brand use **(Solomon, 2007; Paasovaara et al. 2012).** It has been discovered that the flavor, scent, and lack of any toxic additives or pesticides are the most crucial characteristics that stimulate the purchase of any branded processed food. The primary sources of awareness for branded goods are generally neighbors, family members, friends, and occasionally even merchant recommendations, which play the most important influence in purchasing behavior, etc.

Xie, et al. (2014) investigated whether Chinese consumers anticipated organic processed food to be safer and healthier. These types of items were purchased by customers with a higher level of education and who were financially secure, but children and older consumers did not purchase them due to a lack of information and the greater price of the product.

According to Bora and Kulshrestha (2015), nutritional valuation is a significant factor for food selection since it implies that high fiber goods are high in nutritional value and a good source of minerals. Cooking abilities, according to **Horst, Brunner, and Siegrist (2010),** were a crucial predictor of healthy eating as well as purchasing ready-meal goods, as it is probable that cooking skills may gradually decline in the future.

Furthermore, Jana et al. (2015) discovered that a customer's prior purchasing experience might impact brand value.

Mantrala and Zou (2012), when customers are presented with a large number of identical items to pick from, they begin to experiment with brands; the deciding element in this situation will be a brand's effectiveness in advertising its product to consumers. Brand preference does not always follow the leader trend, which implies that if a market leader in a process fails to continuously capture and acquire the interest of customers on a regular basis, it may be replaced with another product. Customer awareness and brand awareness are intrinsically linked. Experimentation yields an opinion, which in turn leads to a firm image of the brand that the client may choose.

Wang (2013), Branding aids in the communication and impact of product choice by conveying information to consumers through packaging. It enables marketers to affect how customers value quality in a product regardless of price.

Consumption of a single product on a regular basis may enhance the likelihood of emotional connection; this attachment may cause customers to believe that their own preference is the finest on the market and that there is no reason to stray from it. If items are eaten over lengthy periods of time, regardless of quality, consumers may form emotional ties to them **(Cova and Pace, 2006).**

Mukherjee et al. (2012) investigate that increases in household disposable income are inversely linked to increases in processed food consumption. As a result, customers are switching one meal per day for non-cost-effective ready-to-eat meals, with no large or small financial consequences. Individual attribute preferences, past product experiences, and information obtained from package labeling all have an impact on product selection judgments; individual attribute preferences, past product experiences, and information obtained from package labeling all have an impact on product selection judgments. As a result, merchants have used a range of brands, product packaging, and product selections to try to target certain customer groups.

Horst et.al. (2010) A previous research study looked at several aspects of processed food in terms of brand choice, customer perception, and consumer purchasing behavior in terms of quality, nutrition, health, price, and production scale. Some studies show that consumers' culinary abilities vary, and that if their cooking skills are low, they will choose processed foods such as noodles, spaghetti, and cornflakes. Future research may take a more rapid approach, which is vital for customers and in responding to market mobility changes **(Shafiea & Rennieb 2012).**

This study will concentrate on a topic that has not been explored or addressed by prior researchers. Previous studies did not look at the consumption patterns of processed foods, such as breakfast, lunch, evening snacks, and supper time. Middle-income, lower-middle-income, and upper-middle-income consumers' perceptions of quality food and nutrition for health **(Kathuria & Gill, 2013)**. In addition, further research may be conducted using a high sample size to close the gap left by earlier researchers **(Mmari, Safari, & Lwelamira,**

2015). The previous researcher did not look at the behavior of future rural customers when it came to packing, and with such a huge sample size, more research may be done at the national or worldwide level **(Baskar & Sundaram, 2014)**.

Ahmed and Anders, (2012) visual packaging is quite successful in luring customers, according to research in this sector. It ignores any dietary or nutritional considerations.

Baker and Friel (2012) Consumers, on the other hand, are increasingly more conscious of what they eat. Breakfast cereals and oat meals have effectively taken over the breakfast food sector, according to future study. What proportion of the market has been taken over by processed goods, and how much of the existing demographic remains unexplored **(Perrea et al. 2014)**. A growing amount of attention must be paid to a product's manufacturing technique Preservatives, artificial coloring, artificial tastes, sugar, and other additives are used in different ways depending on the product. We may investigate how customers actively strive to avoid semi-harmful chemicals in products as consumer knowledge grows. Future research into what constitutes quality in the processed food business **(Grunert et al. 2004)** may help to build a benchmark against which buyers may compare all other items.

Carrigan et al. (2006) According to qualitative study findings, older individuals are concerned about pre-packaged, processed foods since they know they aren't as nourishing. Processed food, on the other hand, was praised for its time-saving benefits. Other qualitative findings suggest that buying processed food isn't just for the sake of saving time. **(Aamir, S., & Nawaz, A. 2019)** A comparison is made to show that the most important element influencing grocery store shopping behavior was the value and convenience of processed items, which were more popular than traditional grocery purchases. Even if natural food was less expensive in certain areas, people preferred to shop for processed meals because of the convenience of cooking and handling the product.

The model and measurement of the construct and its antecedents are also influenced by how one conceptualizes customer happiness. **Johnson et al. (1995)** define two types of satisfaction conceptualizations: transaction-specific and cumulative. Transaction-specific satisfaction refers to a customer's brief assessment of a specific product or service

experience **(Cronin & Taylor, 1992; Parasuraman et al., 1988)**. According to the cumulative model, satisfaction is a cumulative construct that reflects the whole consuming experience with a product or service to date **(Johnson and Fornell, 1991; Meeks, 1984; Van Raaij, 1981)**. Although transaction-specific satisfaction might give insights into specific product or service interactions, cumulative satisfaction is thought to be a superior predictor of future behavior (customer retention) and firm performance (profi tability).According to Johnson, Nader, and Fornell, the technique used in this study is both aggregate and cumulative (1996).

According to **Davis and Heineke (1998),** there are two approaches to defining customer satisfaction in service operations: (1) satisfaction as a function of disconfirmation; and (2) satisfaction as a function of perception. Some scholars **Teas, (1994); Goode & Moutinho, (1995)** who prefer another technique have questioned the disconfirmation model due to its intricacy. As a result, an alternate viewpoint that appears to be gaining traction is that satisfaction is largely determined by the customer's impression of service performance rather than the disconfirmation between perception and expectation **(Cronin & Taylor, 1994; Teas, 1993)**. This method is consistent with existing study findings, which shows that customer perception influences total customer satisfaction in a service encounter **(Brocato et al., 2012; Anderson et al., 2008; Sreejesh et al., 2017)**. If customer satisfaction is considered as an outcome, then it is vital to focus conversation on its antecedents in order to achieve the desired conclusion **(Day & Crask, 2000)**. This technique will be used in this study, in which consumers' views are conceived as having an antecedent influence on satisfaction with retailing services.

(Sahaf, 2008) This perceptual process results in an overt (actions) or covert (motivations, attitudes, and feelings) or both reaction. Perceptions, in terms of consumer behavior, are an attempt by a consumer to gather and process information about a market condition in order to become more aware of the market and its options. Consumers form and constantly update their impressions of the alternative products/services under consideration, and based on those perceptions, they form their attitudes about the items (preferences). Perception has strategic consequences for marketers, according to **Schiffman and Kanuk (2010)**, Customers make judgments based on their perceptions of facts rather than real

facts. As a result, marketers have realized that understanding customers' perceptual processes helps them design better ways to help customers perceive their products and services favorably, which is critical because products and services that are perceived clearly and favorably have a much higher chance of being purchased than products and services with unclear or unfavorable images. As a result, marketing and information systems (IS) scholars have spent years trying to figure out how perceptions of an IT breakthrough affect satisfaction **(Lin & Sun, 2009).**

Since a result, it is critical that an online business knows client perceptions, as this may assist organizations increase customer satisfaction while also attracting and retaining loyal customers **(Yee & Yazdanifard, 2014)**. As a result, the independent variable in this study is the customers' perceptions construct. It is made up of three dimensions (perceived qualities, perceived risk, and perceived value) that have been identified as having an antecedent role in satisfaction with online retailing services in existing service management, consumer behavior, and technology adoption research. However, in order to analyze the link between the composite independent variable and the dependent variable, the three dimensions are aggregated to generate a composite higher-level construct known as "customers' impressions." The next sections go through these variables in detail.

According to Helm et,al. (2011), With age, the urge to convert to a new brand lessens, but the desire to cross-buy increases. The problem of age as a moderating factor in product and brand preferences. They also take into account a variety of behavioral determinants such as product satisfaction, product involvement, category experience, perceived purchase risk, and other factors that mediate the effect of age on these desires, resulting in a fairly accurate picture of the underlying causes of age group differences.

In Multan, Pakistan, **Awan and Abbas (2015)** explored the influence of demographic characteristics on customers' impulsive purchase behavior. The study's goal was to see how demographic characteristics (gender, age, income, and education) affected customers' impulsive purchase behavior. Consumer impulsive buying behavior was the dependent variable, whereas age, gender, income level, and education were the independent factors. It was discovered that a consumer's age had a significant impact on impulsive purchasing

behavior, and that the incidence of impulse buying for a certain product rose as the consumer's age decreased.

Baruk and Iwanicka (2016) investigated the impact of age, gender, and educational attainment on customer expectations of dairy product packaging. The study's major goal was to identify and evaluate the features of dairy product packaging that influence customer purchasing decisions, as well as to investigate the relationships between ultimate consumer expectations and dairy product packaging elements. The purpose of the study was to determine what polish customers anticipate from dairy product packaging. Consumer expectations regarding dairy product packaging were the dependent variable, whereas age, gender, and educational level were the independent factors. It was discovered that age, gender, and educational level had a substantial impact on the hierarchy of their expectations about packaging characteristics that influence their purchasing decisions for dairy products. According to the findings, as people get older, they demand more information on the package regarding the provenance of the milk used in dairy products.

Alikhan & Chawla (2015) conducted study on the influence of age on purchasing decisions in organized and unorganized retail outlets in India. The study's main goal was to look at the influence of age on purchasing decisions, as well as the relationship between age and time and money spent. The research was conducted using data from a retail business in Uttarakahnd, India. The purpose of the study was to look at the link between age and the reason for shopping at a retail establishment. The dependent variable was the consumer's buying choice for selecting a retail shop, whereas the independent variables were the retail store and age. The study found that an individual's consumption pattern is impacted by his or her personality, and that personality changes with age and changes in consumption patterns.

Though there are some gap in this study like small sample size, knowledge gap, lack of experience but previously no study was conducted based on Gaibandha district's processed food using consumer.

CHAPTER 3: METHODOLOGY

Methodology is an integral aspect of every investigation where the techniques about how the research was carried out and how the research objectives achieved are presented and discussed. It needs a very cautious and sincere focus. Without proper methodology no work can be completed and fruitful. The purpose, goals, and objectives of the research are decided by an acceptable methodology. Methodology of study requires a careful understanding and proper execution. It is also useful for the reader to understand how the researcher obtained her data, as it enables them to assess the quality of the results. This includes gathering primary data from the respondent directly and storing secondary data related to the analysis. The primary data are collected through the preparation of an interview schedule, and rely on the nature and purpose of the research.

3.1 Research Model:
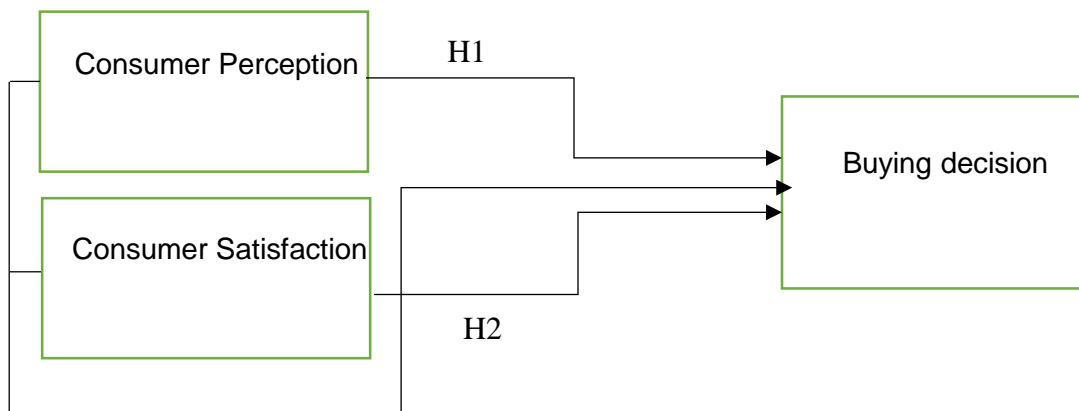
Figure 1: Research model

(Source: Author)

3.2 Research Hypotheses:

Consumer purchasing behavior is influenced by a variety of variables. Taste, convenience, income, and variety are all factors that influence a product's purchase power. When it comes to defining their buying behavior, consumers have established criteria of needs that meet their demands. Branded products must appeal to customers, but the purchasing choice of a product is entirely up to the consumer. The process food market has altered as a result

of changes in socioeconomic situations, as individuals determine if, when, what, where, how, and from whom to buy processed food (Kaur & Singh, 2014). Packaging and branded goods are the most popular among customers, and branding is a sort of marketing communication. Regardless matter whether it is labeled or not, consumers consider packaged food to be the most realistic option. Food that has been packed and branded is favored above food that has not been packaged and branded.

Null hypotheses (H_0) : Consumer preference does not lead to a buying decision. There is no relationship between consumer satisfaction and buying decision.

Alternative hypotheses (H_1): Consumer preference leads to a buying decision. The relationship between consumer satisfaction and buying decision.

3.3 Research Design

The research is based on descriptive research methodology. In order to describe the characteristics or functions of the market descriptive research methodology is used (Malhotra, 2017). Descriptive research also finds out information regarding some questions such as what, who, when and how –Zikmund (2003). In this study this method is used to describe the consumers' preferences, perceptions, and attitudes about branded processed foods. In light of the preceding, we developed a questionnaire that considers the three criteria of Brand, Packaging, and Types of Packed Foods; the questionnaire considers all three. The worries of consumers regarding eating processed foods are investigated in this research. In a pilot test, both subsisting and recent items were pre-tested, resulting in some adjustments to the questionnaire's language and architecture. After that, the questionnaires were sent out to the sample. For reliability and validity testing, the data from the entire survey was imported into SPSS.

3.4 Research Population

The population, often known as the universe, refers to the entire collection of units that the study is concerned with. As a result, people of Gaibandha district's sadar upazila and palasbari upazila may be included in the population.

3.5 Sample

A sample is a collection of data drawn from a large group of people. A sample, on the other hand, can be defined as a subset of the population. We investigated 100 random samples from the district of Gaibandha in this study.

3.6 Sampling Technique:

There are so many techniques of sampling available for collecting primary data. In this study random sampling is used for sample collection procedures. Who were willing to participate to fill up the questionnaire, data are collected from them and who have purchased processed food regularly.

3.7 Data Collection method

This research is based on both primary and secondary data. The primary data was gathered from process food consumers using a statement questionnaire. The consumer's individual impression of numerous attributes of processed food in terms of convenience, variety, quality, price, packaging, flavor, and nutritional benefits on a five-point Likert scale.

The Secondary data has been gathered from a variety of sources, including books, journals, periodicals, and websites, among others.

3.8 Data Measurement, Analysis and Scaling Procedure:

The collected data from selected respondents has been analyzed using Microsoft Excel and SPSS. Five point Likert scale has been used in multiple question. Moreover Microsoft word has been used in preparing the report. Graphical presentation has been used for presenting the analysis of the data. Collected data has been analyzed using compare means, co-relation, multiple regression and bivariate regression.

The statistical tools utilized in this study are as follows:

• Microsoft Excel

• SPSS (Statistical Package for Social Science)

3.8.1 Analytical techniques:

Analytical approaches allow researchers to investigate the relationships among variables. As needed by the study, a combination of descriptive and statistical approaches were used to achieve the objectives and offer meaningful results. To test the hypotheses, several

descriptive statistical measures (such as sum, average, percentage ratios, and so on) were used.

The following techniques were used for analyzing the data:

- Descriptive Statistics
- Linear Regression Analysis

3.8.2 Descriptive Statistics

Descriptive statistics were used extensively by creating a collection of tables relevant to the study. The entire technique's calculating approach was based on a weighted average and percentages to describe the respondents' responses. In this study, the mean, maximum, minimum, standard deviation, and other statistics were calculated.

Maximum: The data set's highest value.

Mean: A common approach for locating the numerical center of a collection of numbers. The average is another term for the mean. It's determined by dividing the total number of observations by the number of non-missing ones.

Formula of calculating mean is,

$$\bar{x} = \sum\nolimits_{\square=1}^{\square} x_\square / N$$

Where,

Term	Description
$x_\square$	$\square^{\square h}$ observation
N	Number of non-missing observations

Median: The sample median is in the middle of the data: at least half the observations are less than or equal to it, and at least half are higher than or equal to it. Let's say you have a column that contains N values. To calculate the median, first order your data values from smallest to largest. If N is odd, the sample median is the value in the middle. If N is even, the sample median is the average of the two middle values.

For example, when N=5 and you have data x_1, x_2, x_3, x_4 and x_5, the median $= x_3$

When N=6 and you have ordered data x_1, x_2, x_3, x_4, x_5 and x_6:

$$\text{Median} = \frac{x_3 + x_4}{2}$$

Where, x_3 and x_4, are the third and fourth observations.

Minimum: The smallest value in the data set.

Standard Deviation (StDev): The sample standard deviation provides a measure of the spread of the data. It is equal to the square root of the sample variance.

Formula of calculating standard deviation is,

If the column contains x_1, x_2.........,x with mean, the standard deviation of the sample is:

$$S=\sqrt{\frac{\sum(x_i-\overline{x})^2}{N-1}}$$

Where,

Term	Description
x_i	i^{th} observation
$\overline{x}$	Mean of the observation
N	Number of non-missing observations

3.9 Variables and Explanations:

Dependent variable:

Buying Decision:

Consumer buying decision is the study of the processes that people or groups go through while making purchase decisions to meet their requirements. Buying behavior may take various forms, and can vary depending on a wide range of criteria such as incomes, demography, social, and cultural aspects. Aside from these fundamental internal components that are thought to influence purchasing behavior, there are a number of aspects that are replicated by external situations in the consumer's environment. (Velayutham & Brosekhan, 2013).

The buying decision process shows how a customer's perspective and behavior change before, during, and after acquiring a product or service. A consumer's purchasing decision can be evaluated in five steps (Johnston E, 2013).
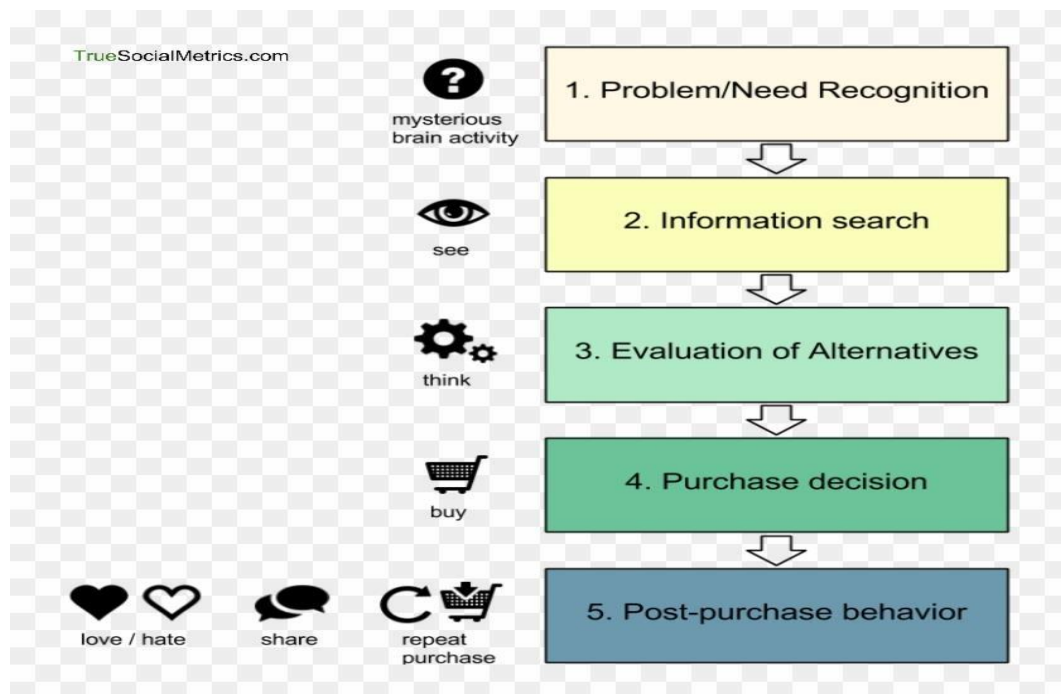
Figure 2: The Process of Buying Decision (Johnston E, 2013)

This dependent variable has been computed by asking the questions from question number 15 to 23 (Appendix).

Independent Variable:

Consumer Satisfaction:

Customer satisfaction is frequently defined as the customer's post-purchase evaluation of pre-purchase expectations with performance realized (Oliver, 1980; Zeithaml et al., 1993). When products and services fulfill the expectations of customers, this is referred to as customer satisfaction (Kotler, Cunningham & Turner, 2001). Online businesses, like traditional businesses, must please their clients. Most satisfied consumers want to repurchase the items if the product satisfies their expectations. Furthermore, from a marketing standpoint, contentment assures that clients build good brand emotions, whereas dissatisfaction results in negative brand emotions (Pizam et al., 2016).

Customer satisfaction is a metric that determines how satisfied your customers are with your company. Client satisfaction surveys may help you discover the black and white aspects of your goods, services, and solutions.

Model of Customer Satisfaction

Source: Snigdha Patel (2020), How to Measure Customer Satisfaction in 8 Easy Ways (Methods & Metrics)

This independent variable has been computed by asking the questions from question number 9 to 14 (Appendix).

Consumer Perception:

Perceptions are basically mental maps created by humans in order to provide them with a meaningful image of the world on which to make their judgments (Berelson & Steiner, 1964). Perception takes place when stimuli are recorded by one of the five human senses: vision, hearing, taste, smell, and touch (Hoyer & MacInni, 2008) through a process of perceiving, choosing, and interpreting stimuli in the external, physical world into the internal, mental world (Wilkie, 1994). This perceptual process results in an overt (actions) or covert (motivations, attitudes, and feelings) or both reaction.

Perceptions, in terms of consumer behavior, are an attempt by a consumer to gather and process information about a market condition in order to become more aware of the market and its options (Sahaf, 2008).

Three distinct phases make up the entire perception process. The exposure stage comes first, followed by the attention stage, and finally the interpretation stage. The brain is the one who stimulates in the attention stage and interprets the stimuli in the interpretation

stage based on past experience and what the person wishes (Solomon, Bamossy, Askegaard, and Hogg, 2006).
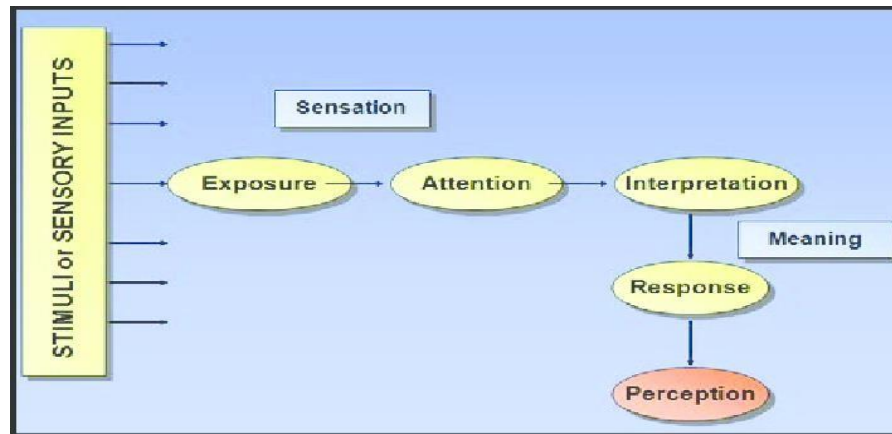
Figure 3: The Process of Perception (Solomon,Bamossy,Askrgaard
And Hogg, 2006)

This independent variable has been computed by asking the questions from question number 1 to 8 (Appendix).

3.10 Empirical Model

Bivariate analysis refers to regression using two variables. Multivariate regression analysis is used when there are more than one independent variable in the investigation (Tabachnick,1996, Buyukozturk, 2002). The relationships between a dependent variable and an independent variable are formulated using bivariate regression analysis. Multivariate regression analysis, on the other hand, refers to regression models with one dependent variable and more than one independent variable (Koksal, 1985; Tabachrick,1996; Buyukozturk, 2002).

The goal of multivariate regression analysis is to account for the fluctuation of the independent variables in the dependent variable synchronously (Unver & Gamgam, 19990).

Multivariate model is formulated as in the following for this study; Y

$= \beta_0 + \beta_1 P_1 + \beta_1 S_1 + \varepsilon$

Where:

Y = Consumer buying decision (Dependent variable)

β0 = Constant

β1 = Linear regression coefficient

P1 = Consumers' Perceptions (Independent variable)

S1= = Consumers' Satisfaction

ε = Error Term

The bivariate linear regression equation for buying decision and consumer perception is illustrated below:

$Y = \beta 0 + \beta 1\ P1 + \varepsilon 1$

Where:

Y = Consumer buying decision (Dependent variable) β0

= Constant

β1 = Linear regression coefficient

P1 = Customers' Perceptions (Composite Value) ε1

= Error Term

The simple linear regression equation for buying decision and consumer satisfaction is illustrated below:

$Y = \beta 0 + \beta 1\ S1 + \varepsilon 1$

Where:

Y = Consumer buying decision (Dependent variable) β0

= Constant

β1 = Linear regression coefficient

P1 = Consumers' Satisfaction (Composite Value)

ε1 = Error Term

CHAPTER 4: FOOD PROCESSING INDUSTRIES IN
BANGLADESH

4.1 The Food Processing Industry's Contribution to the Economy

According to the Bangladesh Bureau of Statistics' 2006 Economic Census, there are around 246 medium-sized food processing industries in Bangladesh, employing 19% of the industrial manufacturing workforce and 8% of the overall manufacturing labor force. In 2010-11, the industry employed 2.45 percent of the country's entire work force and contributed 2.01 percent of GDP. There are various small-scale food processing firms and home units that the BBS has not counted. After the Ready-Made Garment (RMG) and gas sectors, the food processing industry provided about 13% of total industrial value in Bangladesh in 2005-06.

Domestic or family companies have used common processing skills for the conservation and management of raw agricultural commodities to make them useable as food and feed in Bangladesh, similar to other economically poor and technologically underdeveloped countries. Despite the fact that commercial-scale food processing using modern technology first appeared in the 1960s — particularly for wheat and rice milling, mustard seed crushing, and very limited bread and cookie manufacturing — the sector did not gain traction in terms of operational scale and quality until the mid-1980s. The processing of increasingly diversified items to fulfill the changing wants of the Bangladeshi populace has recently been the industry's distinguishing attribute.

The current structure of Bangladesh food processing industries can be categorized as follows:

Subsector	Components
Dairy Processing	Dairy based confections, ghee/paneer/curd processing
Edible oil	Oilseed crushing, mustard, rapeseed and soybean, refining of crude edible oils, including soybean and palm
Sugar	Crushing of sugarcane, sugar molasses, refining of mostly imported raw sugar, sugar based processed food items, e.g., chocolates and confections
Rice	Flakes, puffed rice, snacks, breads
Wheat	Bread and cookies, noodles/pasta and vermicelli; chapatti/luchi/somocha
Fruit and vegetable	Fruit juices, fruit based soft drinks, sauces and ketchup; pickles, potato chips
Tea	
Poultry/beef	Dressed poultry and beef, processed sausages, nuggets etc.
Pulses and spices	

Table 1: Major Food Processing Subsectors of Bangladesh

4.2 Top Processed Food and Beverage Industries in Bangladesh:

Close upon 246 medium-sized food processing enterprises exist in Bangladesh, and these sectors employ 8% of the country's manufacturing workforce. Bangladesh's food businesses have exploded in recent years. PRAN and ACI are successful exporters of a variety of food items and frozen food to numerous nations across the world. Bangladeshi food companies are reaching world standards in terms of quality, flavor, and food production method. We've compiled a list of Bangladesh's most well-known food and beverage firms. These food companies are propelling Bangladesh's food industry to new heights.

1. Square Food & Beverage Ltd. (SFBL)

Square Consumer Products Limited was emerged in 2000 as a subsidiary of the Square Group, Bangladesh's largest business conglomerate. Through its excellent goods and customer service, it has been able to establish a solid presence in the industry in a short period of time. The firm received ISO 22000 certification for its food safety management system in 2010. It was renamed Square Food & Beverage Ltd on September 1, 2014, more than a decade later. The firm promises to address the growing demand for high-quality items both domestically and internationally. The worldwide standards-compliant items are exported to 30 nations.

Radhuni, Ruchi, Chashi, and Chopstick are four prominent brands introduced by Square Food & Beverage Ltd. in the market. The company's flagship brand is Radhuni. Radhuni caught the attention of housewives who desired ease and time-saving cooking shortly after its launch.

Radhuni's product line includes basic spices, ready mixes, cereals and pulses-based goods, and edible oil. Ruchi, on the other hand, sells Chanachur, Fried Dal, Potato Crackers, Muri, Jhalmuri, Sauce, Ketchup, Jhuribhaja, Chutney, and Pickles as ready-to-eat snacks. Ruchi has captured the hearts of the youth with its healthy, delectable, and ground-breaking goods.

Shezan, Tang, Kolson, Nocilla, Cadbury Bournvita, Oreo, and Sajeeb are some of the brands available.

2. Akij Food and Beverage Ltd. (AFBL)

Akij Food & Beverage Ltd., a subsidiary of the Akij Group, began operations in 2006. AFBL manufactures a comprehensive range of snacks and drinks for the domestic and international markets. AFBL is a $70 million project created by the Akij Group's parent company. The carbonated soft drink line started at 400 BPH, whereas the juice line started at 300 BPH. AFBL has grown capacity to 1800 BPH in just over a year and a half. At the moment, one of the AFBL's capacity is operating at the ground-breaking rate of 1900 BPH. So, in little over three years, AFBL's capacity has expanded thrice, and most of AFBL's brands have either been number one or are on the cusp of being number one in their respective categories.

3. Transcom Beverages Ltd. (TBL)

Transcom Beverage Ltd (TBL) is Bangladesh's only PepsiCo franchisee. TBL has sophisticated bottling factories in Dhaka and Chittagong that bottle well-known soft drink brands as Pepsi, 7UP, Mirinda, Slice, Mountain Dew, Pepsi Diet, and 7UP Light. The company's mission is to deliver sustained growth in Bangladesh and to become a dominant

beverage company, delighting and nourishing every Bangladeshi by best meeting their everyday beverage needs, and to delight and nourish stakeholders by delivering performance with purpose, via talented people. TBL had an incredible year in 2009, collecting several honors as PepsiCo's sole bottling partner in Bangladesh. TBL has garnered numerous significant national and international accolades for its one-of-a-kind and superb enterprise through excellence.

Carbonated soft drinks (Pepsi, Mirinda, 7UP, Pepsi Diet, Mountain Dew, 7UP Light), non-carbonated soft drinks (Slice), drinking water, energy drink (Sting Energy Drink), and soda are among Transcom Bangladesh's products.

4. Partex Beverage Ltd.

Mr. M. A. Hashem, Chairman of Partex Group, attended an international trade show in the United States in 1994, when he met officials from Royal Crown Cola Co. International. He began developing the "RC" beverage brand in Bangladesh from that point forward. Following favorable results, the Corporate Head and Directors founded Partex Beverage Ltd in 1996. Mr. Rubel Aziz, one of the founders of the RC idea, has been named Managing Director. As part of the Group's equity, funds totaling Tk. 10 crore were raised. Despite the fact that the company is registered as a public limited company, no public offers have yet been made. On October 20, 1997, RC was launched in Dhaka. This is the tale of how Partex Beverage Limited turn out the Royal Crown Cola Co. International's sole official bottler. It's been over three years since then, and a slew of new items, packaged in fresh and imaginative ways, have hit the market. Outside of Dhaka, Partex Beverage has brought RC to untapped areas. Partex Beverage is currently valued at much more Taka 80 crore ($16 million).

5. PRAN Foods Ltd.

PRAN is a leading international consumer brand that produces 200 agro-food items in ten food categories and distributes to more than 110 countries. Juices, Drinks, Mineral Water, Bakery, Carbonated drinks, Snacks, Culinary, Confectionery, Biscuits, and Dairy are among the categories.

PRAN has contributed to the development of rural economies, employment, export earnings, agriculture, and consumer health via our shared values and dedication to society and the environment since 1981, in addition to catering to the different preferences of PRAN's worldwide customer.

PRAN holds ISO 9001:2008, ISO 22000:2005, Halal, and HACCP (Hazard Analysis and Critical Control Point) certifications, making it worldwide compliant. It also received an IMS (Integrated Management System) certificate, which is a combination of the ISO 14001:2004 Environmental Management System and the British Standard Occupational Health and Safety Assessment Series (BS OSHAS) 18001:2007 Occupational Health and Safety Assessment Series (BS OSHAS).

6. ACI Foods Ltd.

The need for pure food in Bangladeshi consumers' thinking, particularly in the commodity food business, has prompted ACI to meet market demand by creating food goods such as spices, edible oils, snacks, and sweets. ACI is a company that produces, markets, and distributes a diversity of branded foods and condiments. Bangladeshi shoppers may now be assured of 100 percent pure food goods under the 'Pure' brand.

This brand has swiftly ascend to second position in the market after only a several months on the market. Consumers have flocked to Fun Candy and Fun Chanachur, which are made from high-quality imported raw ingredients and state-of-the-art technology. ACI Foods

Ltd. is attempting to change the eating patterns of Bangladeshi customers by delivering more ready-to-cook and ready-to-eat goods. ACI also exports its Pure Brand goods to Australia, the United Arab Emirates, Kuwait, Saudi Arabia, Bahrain, Qatar, and a number of other nations.

7. IFAD Multi Products Ltd.

IFAD Multi Products Ltd. was established in 2003 and is one of Bangladesh's leading consumer food producers. It started its journey by building one of the country's largest automated flour mills, and it has since grown to become one of the country's leading flour suppliers. Simultaneously, the company introduced itself as one of the leading suppliers of salt, both for human consumption and for industrial use, owing to a careful refining procedure that assures its high quality.

Instant noodles, stick noodles, a range of biscuits and sweets, packed whole spices, and bottled drinking water collected from local aquifers are all made and supplied at the company's own industrial park. In addition, the company is working on a variety of new consumer products that will be published soon.

8. Fu-Wang Foods Ltd.

Fu-Wang Foods Ltd is a public limited business formed with joint-stock companies and listed on the Dhaka Stock Exchange and the Chittagong Stock Exchange in Bangladesh. In August 1997, Fu Wang Foods Limited started commercial production, and on November 4, 1998, it received ISO-9002 accreditation.

Since its beginning, Fu Wang Foods Limited has introduced a variety of packaged foods such as Bread, Biscuit, Cake, Toast, Wafer Bar, Chocolate, Instant Noodles, Drinking

Water, Carbonated Drinks, Energy Drinks, and others that have been well received across the world.

9. Ispahani Foods Ltd.

Ispahani Foods Limited (IFL), which was established in 1999, manufactures a variety of snack foods. IFL is a subsidiary of M.M. Ispahani Ltd and is located in Ispahani Foods Complex, Konabari, Gazipur, Dhaka. Our food is weighed, wrapped, and sealed in a totally automated process that is overseen by a team of experts and uses the most up-to-date equipment.

10. Bombay Sweets & Co. Ltd.

Sweets (mishti) such as ladoo, perra, barfi, and rasgula have long been popular in India. The creator of Bombay Sweets wanted to manufacture high-quality sweets, thus he founded the company. In 1948, it all started with a modest cottage factory in Nawabpur, Old Dhaka, with a store front. Since its establishment, local ethnic snacks known as chanachur have been a showcase product with sweets (misti).

Bombay Sweets' goods (mishti and chanachur) were popular, and the company prospered. In the years thereafter, additional outlets have gradually appeared in Baitul Mukram and New Market. However, it wasn't until 1971, when Bangladesh got independence, that Bombay Sweets began to extend its product line. Biscuits, dry cake, toast, and even drinks like orange, lemon, and pineapple squash were produced by the firm. More cottage factories sprung up in Captain Bazar, Bonogram, Rankin Street, and Fakirapul in Old Dhaka.

Importers:

Shaheen Food Suppliers:

In Bangladesh, a well-known worldwide packaged food goods importer, distributor, and marketing firm. BEST's, Life, and Rasaku are some of the brands available.

Sajeeb Group:

One of Bangladesh's most well-known and long-standing (since 1982) quality food importer, distributor, and marketing companies. Halal Bangladesh Services awarded me "100% Halal certification" (HBS).

4.3 Food Processing Industry's Improvement in Bangladesh

Bangladesh's food processing sector was producing over 150 million dollars in income from food exports each fiscal year by 2013, and it was showing no signs of slowing down. This figure jumped to 372 million dollars in the 2017-2018 fiscal year. As a result, Bangladesh's economy has become one of the world's fastest-growing economies.

Bangladeshis are earning more money and witnessing affluence, even in the poorest communities, as the economy improves. In South-East Asia, the food processing sector has had a substantial influence on poverty levels. In Bangladesh, for example, the number of people living in poverty has decreased from 44% in 1991 to 13% in 2017. With the agro-processing business aiming to create $1 billion by 2021, there is hope for a community that once seemed hopeless to be fully free of poverty. Bangladesh's food processing sector has a promising future, with advances being made every day.

4.4 Challenges of Bangladesh Food Processing Industries

The Bangladesh-based study of Syed Robayet Ferdous currently illustrates the potential and limits of Bangladesh processed food (2015). Infrastructure development, currency devaluation, price collapse, labor law enforcement, attracting international investment, and other issues face Bangladesh's processed food industry. He also mentioned ways for overcoming these barriers, including the implementation of new rules, expanding export destinations, self- and government-monitoring, and many more. Consumers' purchase decisions of semi-processed food commodities are influenced by quality, flavor, price, availability, and competitive superiority of the product over alternative substitute or rival

brands. Customers are also concerned about competitive dominance, according to the research (S.M. Monirul Islam, 2018).

Low capacity utilization, technical obsolescence, and marketing inadequacies plague Bangladesh's food processing sector. Due to large changes in raw material quality and a lack of efficient technology and educated labor, the completed product's quality is often low. The sector is struggling because to high energy costs and significant power supply issues, ambiguity about the availability of enough amounts of raw materials for processing, insufficient and costly cold chain facilities, and changing processing conditions from one raw material to the next. By transporting the raw commodities to the facility to marketing the final products, there is no structured and systematic endeavor from the industry or government regulatory authorities to ensure food safety standards and hygiene entirely the whole process.

Research and development (R&D) funding is also severely lacking in the sector, making it difficult to overcome technological challenges and exhibit more efficient processes and new products. Increased R&D might help the sector turn out more economically viable in the home market as well as more competitive in the global market. The majority of Bangladesh's food processing sector is incapable to fulfill international food standards and safety criteria in its current level of development (the only anomaly is shrimp, owing to EU and U.S. FDA intervention).

4.5 Quality and Standards

Pesticide and chemical contamination, improper manufacturing technologies, transportation inadequacies, and insufficient storage all contribute to the low quality of raw materials utilized in the food processing business. In Bangladesh, an adequate quality control system is required to ensure the food safety of finished goods. All processed food goods now produced in or imported into Bangladesh have standards set by the Bangladesh Standards and Testing Institute (BSTI). Raw materials and their quality characteristics, sanitary circumstances in which goods are created, and packaging and labeling requirements are all covered by these standards. The application of these standards, however, has been delayed. The fact that there are as many as 13 government ministries

and agencies liable for maintaining food safety is one of the reasons for the sluggish implementation. This creates uncertainty about relevant regulatory standards and authority.

CHAPTER 5: DATA ANALYSIS

Socio economic charactersitics of the respondennts

5.1.1 Gender
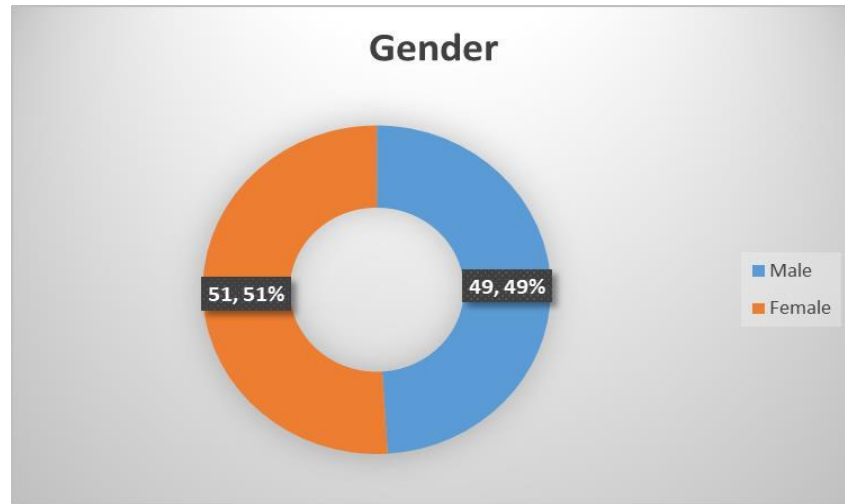
Figure 4: Gender of the respondent

Here most of the respondents are female which is 51% of all respondent. So the outcome of this research will be dominated by the perception of the female towards branded processed food.

5.1.2 Age

		Frequency	Percent	Valid Percent	Cumulative Percent
	Age				
Valid	Below 15	3	3.0	3.0	3.0
	15 − 20	5	5.0	5.0	8.0
	21 − 25	14	14.0	14.0	22.0
	26 − 30	15	15.0	15.0	37.0
	31 − 35	15	15.0	15.0	52.0
	36 − 40	27	27.0	27.0	79.0
	41- 45	12	12.0	12.0	91.0
	More than 45	9	9.0	9.0	100.0
	Total	100	100.0	100.0	

Table 2: Age of the respondent

Here 27% of the respondents are from age group 36-40 and then both the age group 31-35 and 26-30 have 15% respondents. 14% respondents are from the age group of 21-25.

5.1.3 Occupation:
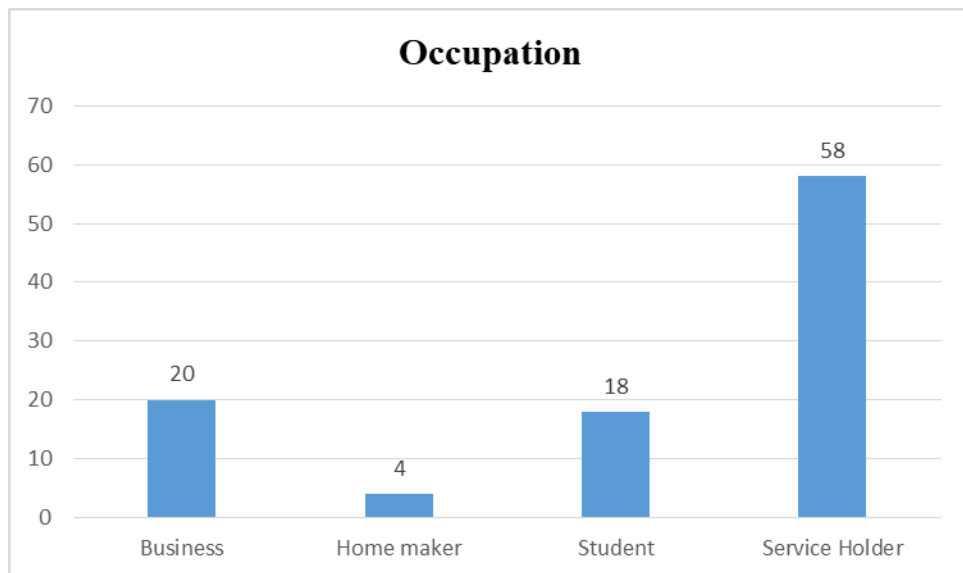
Figure 5: Occupation of the respondent

Here, most of the respondents' are service holder which is 58% of all the respondent.

5.1.4 Monthly Income

Monthly Income		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 10,000	19	19.0	19.0	19.0
	10,001 - 20,000	16	16.0	16.0	35.0
	20,001 - 30,000	25	25.0	25.0	60.0
	30,001 - 40,000	28	28.0	28.0	88.0
	40,001 - 50,000	6	6.0	6.0	94.0
	More than 50,000	6	6.0	6.0	100.0
	Total	100	100.0	100.0	

Table 3: Monthly Income

Here, most of the respondents' income group is '30,001-40,000tk,' which is 28% of all the respondent. So, it can be said that data is valid as previously showed that most of the respondents are service holder.

5.1.5 Education
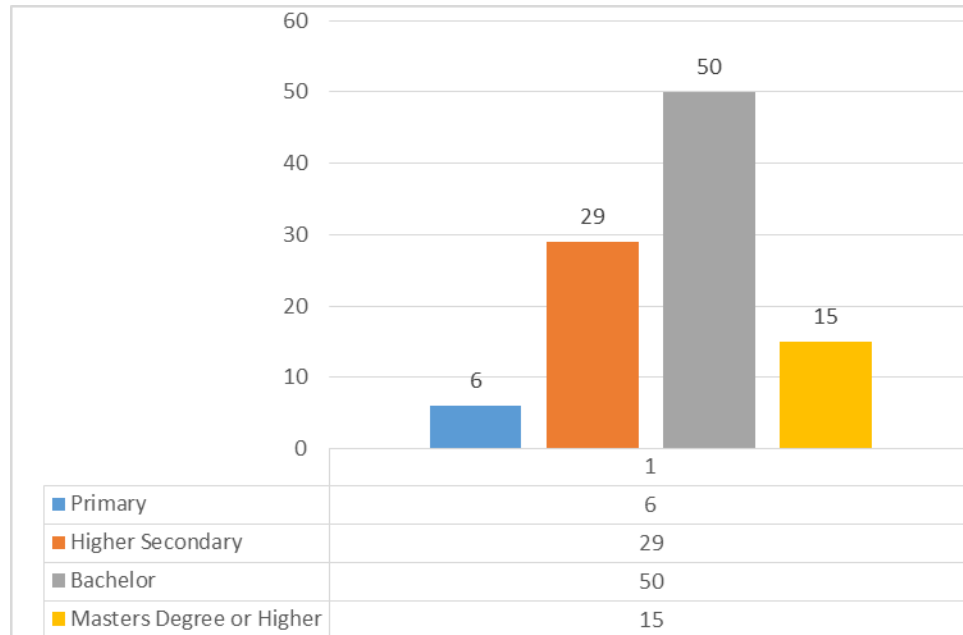
Figure 6: Education of the respondent

Here, most of the respondents' have completed or doing their Bachelor Degree. Which is 50% of all respondent.

5.1.6 Food Items Prefer More
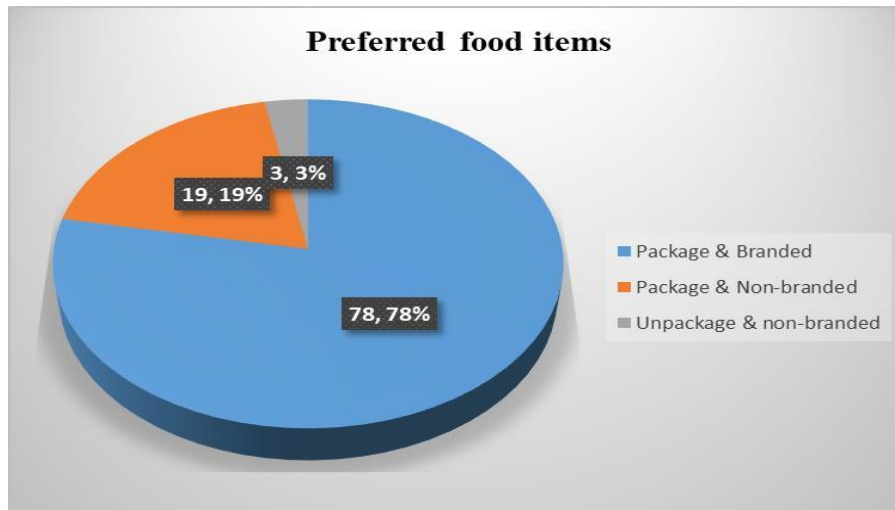
Figure 7: Preferred food items of the respondent

Here, 78% of the respondents said that they prefer package and branded item more. 19% of respondents said they prefer package and non-branded and the rest 3% of the respondents prefer unpack & non-branded.

5.1.7 Purchase Frequency of Packaged Branded Processed Food

Purchase frequency of packaged branded processed				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	1.0	1.0	1.0
	Twice in a week	10	10.0	10.0	11.0
	Once in a week	75	75.0	75.0	86.0
	Once in a two days	13	13.0	13.0	99.0
	Daily	1	1.0	1.0	100.0
	Total	100	100.0	100.0	

Table 4: Purchase frequency of packaged branded processed food
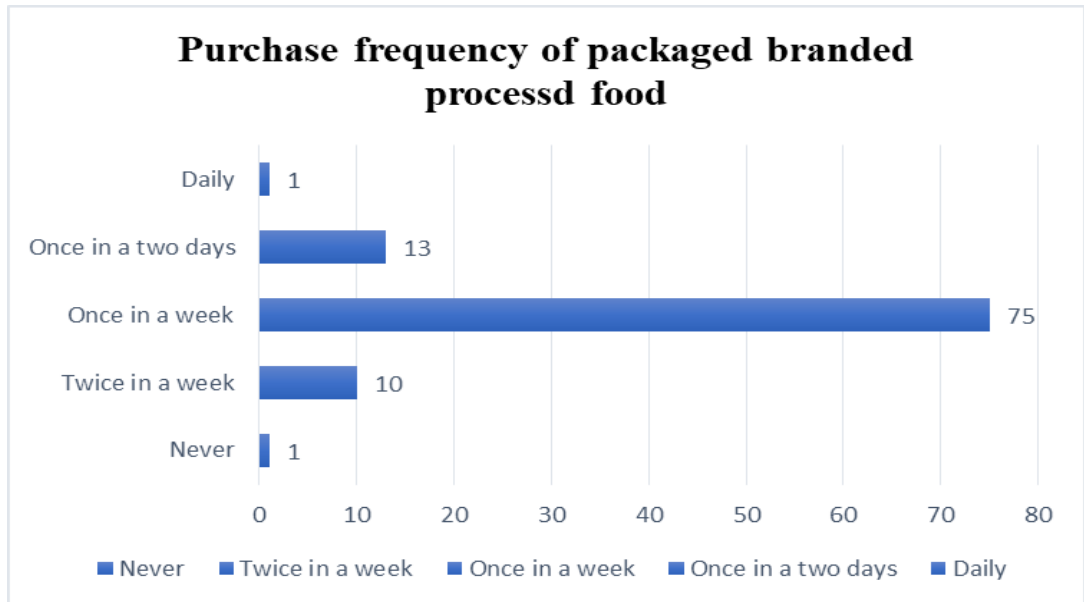
Figure 8: The respondent's purchase frequency of packaged branded processed foods

Among the respondent 75% said, they purchase once in a week. Which indicates from previous data that most of the respondents' are service holder. As they remain busy most of the time so they choose once in a week to purchase their necessary items.

5.1.8 Purchase Location of Processed Food
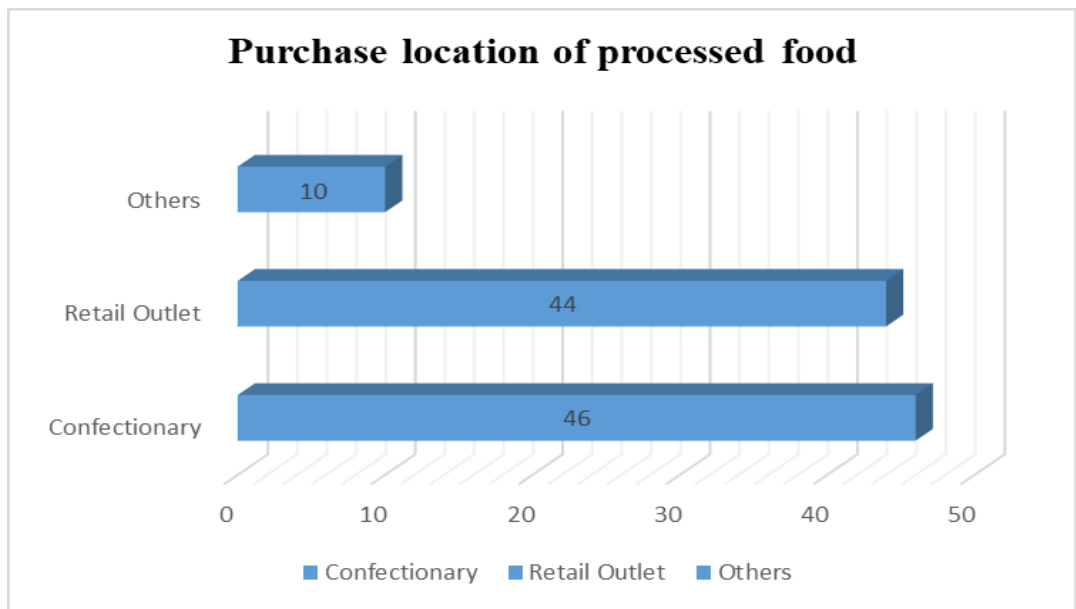
Figure 9: The respondent's purchase location of processed food

Here, most of the respondent purchase processed food items from confectionary which is 46% and then purchase from retail outlet which is 44%. 10% respondent said they purchase from other places. As any supermarkets (Agora, Meena Bazar, Shwapno, Unimart) are not here in the study area. So people mostly dependent on confectionary and retail outlets.

5.2 Compare Means and Standard Deviations:

Analyze this section and to determine the relationship between the dependent and independent variables, there are a total of 25 questions divided into three sections (that is in the appendix part). Under certain portions, there are sub-questions. The buying decision is one of three heading portions, and there are nine sub questions under this heading, as mentioned in questionnaires 15 to 23. Consumer satisfaction and perception are two independent factors. There are 16 sub-questions under these two. To classify these sub-questions into the three topics, the average value is calculated using Microsoft excel. To calculate the maximum, minimum, mean, and standard deviation, the dependent and independent variables, as well as sub-question data, must be entered into descriptive statistics in SPSS. After that, just the three headers are used to compute correlations, linear regressions, with one serving as a dependent variable and the other two as independent variables.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
QCP3	100	1.00	5.00	3.6200	0.94045
QCP4	100	1.00	5.00	2.8600	1.00524
QCP5	100	1.00	5.00	3.6400	1.12385
QCP6	100	1.00	5.00	3.4800	0.89307
QCP7	100	1.00	5.00	3.6100	0.91998
QCS1	100	1.00	5.00	2.7800	1.01085
QCS9	100	1.00	5.00	2.7800	1.01085
QCS10	100	1.00	5.00	3.6200	1.11718
QCS11	100	1.00	5.00	3.4800	0.89307
QCS12	100	1.00	5.00	3.6100	0.91998
QCS13	100	1.00	5.00	3.6400	1.12385
QCS24	100	1.00	5.00	3.4800	0.89307
QCS25	100	1.00	5.00	3.6100	0.91998
QBD15	100	1.00	5.00	3.8000	0.91010
QBD16	100	1.00	5.00	3.8800	0.91320
QBD17	100	1.00	5.00	3.5200	1.03942
QBD18	100	1.00	5.00	2.7800	1.01085
QBD19	100	1.00	5.00	3.2000	0.87617
QBD20	100	1.00	5.00	3.0400	0.95261
QBD21	100	1.00	5.00	3.6000	0.96400
QBD22	100	1.00	5.00	3.4900	1.26726
QBD23	100	1.00	5.00	3.6200	1.11718
Valid N (listwise)	100				

Table 5: Compare mean and Standard deviation

From this table we can see that QCP5(Questionnaire 5 about Consumer Perception, available at appendix part) has the highest mean (3.6400) and Standard deviation (1.12385) which connotes that consumer mostly prefer their food following to the factor of convenience, locally found and freshness. Same as QCS13 (Questionnaire 13 about Consumer Satisfaction, available at appendix part) has the highest mean (3.6400) and Standard Deviation (1.12385) which implies that customers are highly satisfied with the same branded processed food so they buy repeatedly even though others given discount on the similar item. Lastly QBD16 (Questionnaire 16 about Buying Decision, available at

appendix part) has the highest mean (3.8800) which indicates that advertisement influences the customer more while purchasing and at the same time QBD22 (Questionnaire 22 about Buying Decision, available at appendix part) has the highest Standard Deviation (1.26726) that means time saving and life style of the customer influence them more while they take buying decision of processed food item.

5.3 Correlation

5.3.1 Correlation Analysis of Consumer Perception, Consumer Satisfaction and Buying Decision:

Correlations

		Consumers' Perception	Buying Decision	Consumer Satisfaction
Consumers' Perception	Pearson Correlation	1	.771**	.887**
	Sig. (2-tailed)		0.000	0.000
	N	100	100	100
Buying Decision	Pearson Correlation	.771**	1	.840**
	Sig. (2-tailed)	0.000		0.000
	N	100	100	100
Consumer Satisfaction	Pearson Correlation	.887**	.840**	1
	Sig. (2-tailed)	0.000	0.000	
	N	100	100	100
**. Correlation is significant at the 0.01 level (2-tailed).				

Table 6: Correlation

Pearson correlation: These values indicate the degree and direction of the linear relationship between the two variables. The correlation coefficient can range from -1 to +1,

with -1 indicating perfect negative correlation, +1 indicating perfect positive correlation, and 0 indicating no correlation at all. (A variable having a correlation coefficient of 1 is correlated with itself.)

Here,

Correlation coefficient of Consumer perception and consumer satisfaction is 0.887 that means consumer perception has strong positive relationship with consumer satisfaction.

Correlation coefficient of Consumer perception and buying Decision is 0.771 which means consumer perception has strong positive relationship with buying decision.

Again Buying Decision has strong positive relation with Consumer Satisfaction as the correlation coefficient is 0.840.

5.4 Regression Analysis:

5.4.1 Multivariate Regression:

Variables Entered/Removed a			
Model	Variables Entered	Variables Removed	Method
1	Consumers' Perception, Consumer Satisfaction b		Enter
a. Dependent Variable: Buying Decision			
b. All requested variables entered.			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.841ᵃ	0.708	0.702	0.36607
a. Predictors: (Constant), Consumers' Perception,				

The table represents the multiple linear regression model summary and the overall fitness of the statistics. Here the co-efficient of correlation, R is .841, so there is a strong positive relationship between the variables. The co-efficient of determination, R Square is .708 or

70.8% and the adjusted co-efficient of determination, adjusted R Square of this model is .702 or 70.2%.

Using the R Square .708 we can say that changes of the variance in the dependent variable, can be explained from independent variables by 70.8%. It means 70.8% of the variance in buying decision of consumers can be explained from independent variables- consumer perception, consumer satisfaction.

Adjusted R Square of model is .702, which means if more variables are added in the model, it can explain variance in the dependent variable consumers' buying decision from independent variables by 70.2%.

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regressio N	31.526	2	15.763	117.626	.000^b
	Residual	12.999	97	0.134		
	Total	44.525	99			
a. Dependent Variable: Buying Decision						
b. Predictors: (Constant), Consumers' Perception, Consumer Satisfaction						

Table 7: ANOVA Table of Consumer Perception, Consumer Satisfaction

ANOVA is used to determine if there is any influence of independent variables on dependent variable. The overall significance of for a regression mode is tested using F-test, to compare the fits of different models and to test the equity of mean.

Here the p value is less than 0.05 ($p<0.05$) so, the model is significant (at 5% level of significance). We can reject the null hypothesis in favor of the alternative hypothesis. So independent variables consumer perception, consumer satisfaction have statistically significant influence on dependent variable buying decision of consumers towards branded processed food.

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	0.654	0.190		3.444	0.001
Consumer Satisfaction	0.702	0.114	0.730	6.133	0.000
Consumers' Perception	0.120	0.116	0.124	1.042	0.300

a. Dependent Variable: Buying Decision

Here the beta co-efficient (constant) is 0.654, and co-efficient of consumer satisfaction is 0.702, co-efficient of consumer perception is 0.120.

We can present the regression equation as

Consumer Buying Decision predicted= 0.654 + 0.702*consumer satisfaction + 0.120*consumer perception.

5.5 Cross Tabulation Analysis:

5.5.1 Cross Tabulation Analysis of Age and Preferred Food Items

Age * Preferred food items Crosstabulation					
Count					
		Food_Items_prefer_more			
		Package & Branded	Package & Non-branded	Unpackage & non-branded	Total
Age	Below 15	3	0	0	3
	15 – 20	4	1	0	5
	21 – 25	12	2	0	14
	26 – 30	14	1	0	15
	31 – 35	13	2	0	15
	36 – 40	22	5	0	27
	41- 45	9	1	2	12
	More than 45	4	3	2	9
Total		81	15	4	100

Table 8: Contingency table of age and preferred food items

From this contingency table we can see that (36-40) age group preferred 81.48% of package and branded food while other 18.51% prefer packaged and non-branded food. Again (26-30) and (31-35) age group has the second highest percentage of preference. (31-35) age group prefer 86.66% of packaged and branded food, other 13.33% prefer package and non-branded food.

(26-30) age group prefer 93.33% of packaged and branded food while other 6.66% prefer package and non-branded food.

So by using marginal distribution of contingency table we find that (36-40) age group preferred percentage is highest than other age group.

5.5.2 Cross Tabulation of Age and Purchase Frequency:

Age * Purchase frequency of packaged branded processed food

Count

		How often I buy packaged branded processed food					
		Never	Twice in a week	Once in a week	Once in a two days	Daily	Total
Age	Below 15	0	0	3	0	0	3
	15 - 20	1	0	4	0	0	5
	21 - 25	0	0	13	1	0	14
	26 - 30	0	1	14	0	0	15
	31 - 35	0	1	12	2	0	15
	36 - 40	0	4	21	1	1	27
	41- 45	0	1	10	1	0	12
	More than 45	0	2	6	1	0	9
Total		1	9	83	6	1	100

Table 9: Contingency table of Age and purchase frequency of packaged branded processed food
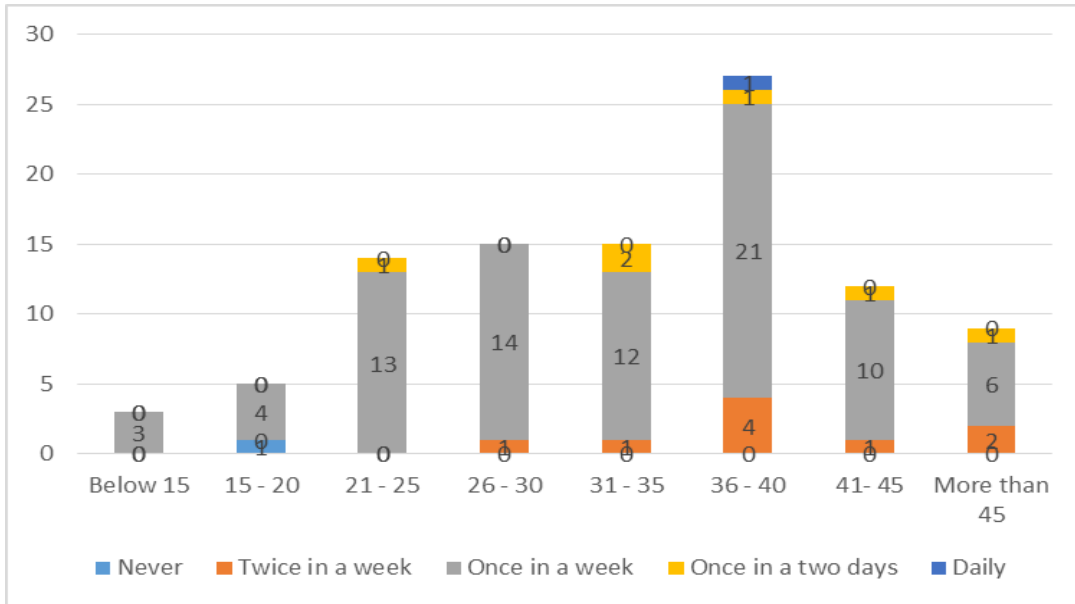
Figure 10: Contingency table of Age and purchase frequency of packaged branded processed food

From this contingency table we can see that (36-40) age group purchase frequency is higher than other age group .Their purchasing percentage of package branded processed food are 14.81% (twice in a week), 77.77%(once in a week), 3.70% (once in two days), 3.70% (daily).

Again (31-35) and (26-30) age group has the second highest percentage of purchase frequency.

(31-35) age groups' purchasing percentage are 6.66% (twice in a week), 80% (once in a week), 13.33% (once in two days).

(26-30) age groups' purchasing percentage are 6.66% (twice in a week), 93.33% (once in a week).

 So by using marginal distribution of contingency table we find that (36-40) age groups' purchasing percentage is highest than other age group.

5.5.3 Cross Tabulation of Gender and Preferred Food Items

Gender * Preferred food items Crosstabulation

Count

		Food_Items_prefer_more			
		Package & Branded	Package & Non-branded	Unpackage & non-branded	Total
Gender	Male	36	13	0	49
	Female	42	6	3	51
Total		78	19	3	100

Table 10: Contingency table of gender and preferred food items
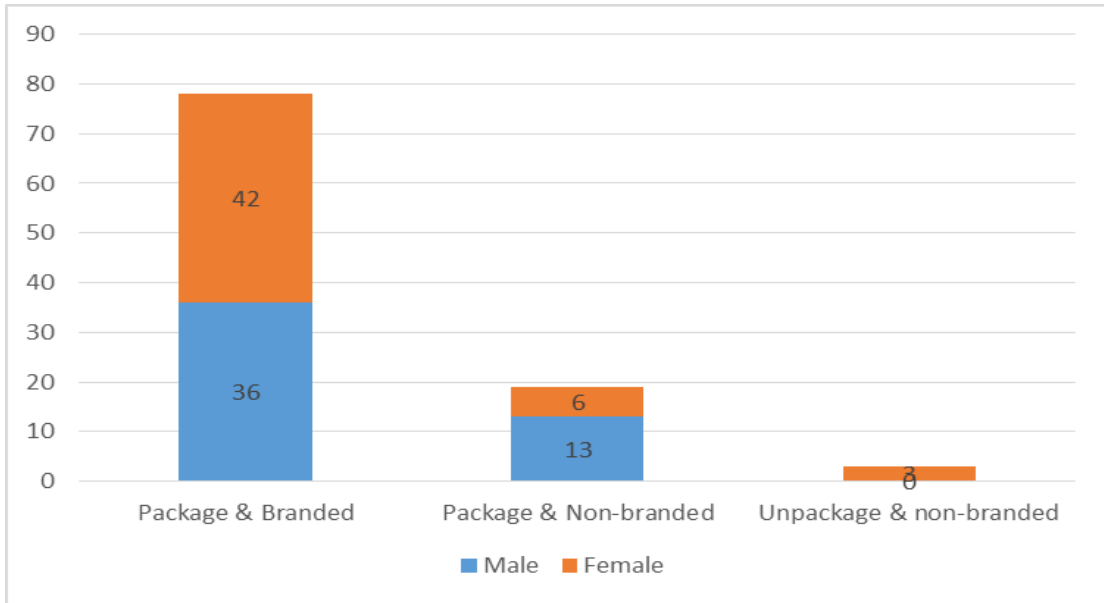
Figure 11: Contingency table of gender and preferred food items

From this contingency table we can say that Female respondents preferred percentage of package and branded items is 82.35% and percentage of package and non-branded items is 11.76%.

Male respondents prefer73.46% of package and branded items while 26.53% prefer package and non-branded.

5.5.4 Cross Tabulation of Monthly Income and Preferred Food Items:
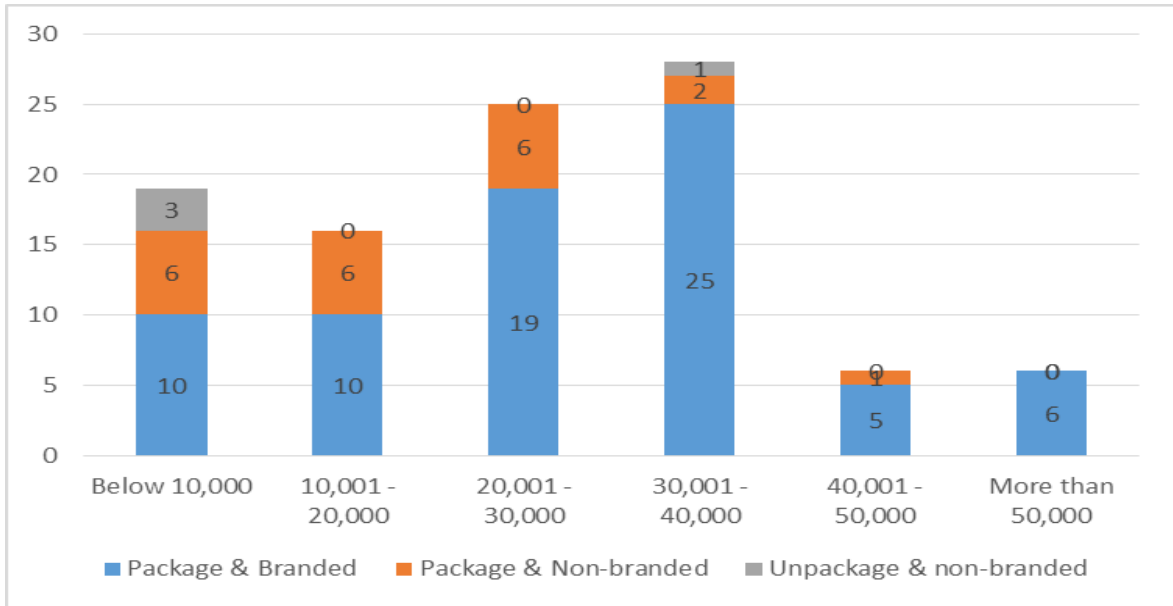
Figure 12: Contingency table of monthly income and preferred food items

This contingency table implies that the respondents whom income level are 30.001-40,000 Tk. Their preference level is high than the other income level group. So, their preferred percentage of package and branded items is 89.28%, percentage of package and non-branded items is 7.14% and percentage of un-package and non-branded item is 3.57%.

CHAPTER 6: FINDINGS

From the table of compare mean and standard deviation (table), this research develops the theory that the freshness and quality of processed food are the most significant aspects that buyers consider when purchasing processed meals. Customers value freshness of packaged items above all other factors, followed by locally found and finally convenience. Freshness, Convenience, locally found, quality are virtually neck and neck, indicating that all three have a significant weight in a customer's selection. The time- saving factor and life style are the undeniable reasons for preferring processed foods; individuals or groups who do not have enough time to cook meals prefer processed foods; additionally, organic food, once cooked, expires after a certain period of time and must be consumed or the food will go to waste. In this regard, processed foods have the benefit of preserving freshness for a longer period of time than normal meals. Traditional foods need the purchase of a number of cooking components individually, and when the cost of gasoline and other cooking gear is considered, processed foods appear to be a more cost- effective option. These elements are what entice the greatest amount of clients. Whereas Income and Price have a very low score, it is discovered that these elements play nearly a neglectful role as they give the least weight on client preferences.

The printed information on products such as nutritional value, flavors, preservatives etc. has been found on the packet perform a tight preface while ascertaining buying decision. Most customers are so satisfied with the same brand that they purchase repeatedly. Advertisement influences the customer more while purchasing. This connotes that customers of today are well educated and make purchasing decisions based on the facts at hand, in this example, the information written on the goods. This reinforces the assumption that buyers compare numerous items based on the written information in order to reach a conclusion or make an educated selection. Although comparable or identical items can be obtained in numerous locations, confectionary have been discovered to be the most favored venue. As supermarkets are not here in the study area people mostly depend on confectionary and retail outlet. Though supermarkets have strong popularity and provide a diverse choice of comparable items but people are getting deprived from this chances. Shoppers will always attempt to get the most bang for their buck; in this regard,

supermarkets allow customers to examine and liken several items from various brands all under one roof. This encourages their belief in making the most of their money and provides some kind of enjoyment. On the other side confectionary or retail outlet have very limited item and also price vary from shop to shop.

The success of a brand is heavily reliant on meeting the requirements and desires of its customers. This outcome was achieved across a wide extent of product categories, including packaged and branded, packaged and unbranded, unbranded and unpacked, and so on. However, in some form or another, all of these goods have succeeded in gratifying clients. Distinct consumers have different requirements that must be satisfied in order to properly please a client. No one product can have all of the traits that a buyer searches for in a product. As a result, shoppers diversify their product searches. In this regard, processed meals have a very high percentage of satisfaction exactly because there are so many versions accessible on the market. This essentially translates to "there is something for everyone," which interprets why processed food has a high level of gratification.

This research also develops that null hypothesis 1 and 2 has been rejected in favor of alternative hypothesis 1 and 2 from the calculation of multivariate regression analysis. It has been found that consumer perception and satisfaction have positive influence on buying decision of consumer. So the seller of processed foods should emphasis more on the improvement of the factors that are related to the consumer perception as a result this will increase the consumer satisfaction and at the same time will increase the sales.

From this study we can also find that the service holder and students are the key user of processed food with the age group of 21-40. This age group preferred branded packaged or non-branded packaged processed food more depending on their income level and others factor. This also clear that because of their life style and time management purpose they purchase processed foods more. Others age group also buy processed foods for changing their food habit or test or some other factors related.

CONCLUSION AND RECOMMENDATION

Consumer preferences and tests are changing on a daily basis in the present day as a result of the fast-changing lifestyle and economics. And this changing lifestyles have prompted them to seek out more health-conscious processed foods. The aim of this study was to analyze the consumer preference, assess their buying decision depending on some factors and find out the age group. The study is successful in fulfilling its aim as it has statistically identified the preference level of branded and non-branded processed food consumer, how their satisfaction level leads to the buying decision, the factors which plays a significant role as depending on them the consumers has taken their decision and lastly using cross tabulation we have find out the most preferred processed foods consumers' age group.

The analysis of demographic factors indicates that most consumers are service holder and students, aged 21-40 years old and most of their income level is 30,001-40,000 Tk. It is also observed that consumers who mostly purchase processed foods have done their bachelor's degree.

With the rise of supermarket and hypermarket culture, customers are more exposed to a diverse selection of multinational brands and goods, which, in turn, triggers consumers' latent need for processed food items.

The success of a processed food product is determined by the value and satisfaction of the client. When purchasing processed food, various aspects such as quality, flavor, freshness, and convenience impact customer purchasing decisions. The brand name is also an important aspect in the decision-making process when purchasing processed foods. Advertising, friends, and coworkers are examples of external variables that impact customers' consumption patterns or purchasing decisions.

Food is an industry that will never experience a downturn. As the world's population grows, so does the need for food, including processed foods. This increased demand presents a significant problem for marketing organizations, since they must develop a broad selection of items to meet such a large market. Consumers enjoy the competition between advertisers. Various circumstances, such as shifting tastes and preferences, growing urbanization, and a growth in the working population among women, have colored this

enjoyment. Certain institutional limits, however, may prove to be a stumbling block to expansion. Still, the processed food business is a bright spot in the economy, as well as a big spend in the ordinary Bangladeshi consumer's household.

Socio-economic impact:

In recent years, Bangladesh has seen a fast increasing consumer market. This expansion is said to be owing to Bangladesh's enormous population, which has raised demand for food goods (Ferdous, & Hossain, 2015). Over the previous decade, the market and product variety have changed dramatically, and many new enterprises have entered the food industry. According to some industry observers, Bangladesh's food processing business is worth 4.5 billion dollars. Bangladesh exported processed foods and drinks worth over $700 million in 2010. Processed food is the economy's next big thing. In contrast to other industries, economic expansion, urbanization, greater female labor force participation, and related lifestyle changes have all contributed to the food processing industry's ascent. The food processing industry is critical to an economy's overall growth because it offers an obligate leash and synergy between agriculture and industry. It contributes to agricultural diversification and commercialization.

Improvement of this industry will be helpful for development like

- Farmers' incomes will be increased
- Markets for agro-food exports will be created and
- More jobs will be created.

Recommendations

Bangladesh has a large potential for the food processing business, which is mostly generated from the country's agriculture sector. Production and distribution are the two divisions of the food processing business. The processing of meats and cheeses, as well as the creation of soft drinks, alcoholic beverages, packaged meals, and other modified foods, fall within the production division. The outgiving process subsumes getting completed food products into the hands of customers. Since 2000, the food processing sector has been Bangladesh's fastest expanding industry. A large number of entrepreneurs have emerged in the food processing business as a result of recent developments. Bangladeshi people's changing likes and preferences are to blame for this trend. People in Bangladesh now

choose to buy packaged food goods and processed food items from grocery stores and department stores.

A few obvious difficulties were discovered throughout the research. To begin, according to study data, more than half of processed food consumers are between the ages of 21 to 40. This suggests that the product's major buyers are our country's young generation. As a result, businesses require fresh inventive conceptions to attract both spectrums of the target group, namely the young teenager and the elderly, without alienating the present client base.

Second, it has been discovered that buyers value the quality of processed foods over all other variables. As a result, businesses must set the goal of either maintaining or exceeding the perceived level of quality. Any activity that has the potential to harm or impair public opinion must be approached with prudence.

Third, confectionery should be targeted more actively as a distribution method, similar to supermarkets, because they have a higher concentration of potential purchasers and rank best in terms of profitability. It's high time for supermarkets owner to increase their number of outlets all over Bangladesh.

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APPENDIX

CONSUMER PERCEPTION ON PROCESSED FOOD: A STUDY FROM GAIBANDHA DISTRICT

Date: _/___/___   SL No: _____

Demographic information:

Name of interviewer:

1. Gender:
   - o   Male (Code=1)
   - o   Female (Code=2)

2. Age:
   - o   Below 15 (code=1)
   - o   15-20 (code=2)
   - o   21-25 (Code=3)
   - o   26-30 (Code=4)
   - o   31-35 (Code=5)
   - o   36-40 (Code=6)
   - o   41-45 (Code=7)
   - o   More than 45 (Code=8)

3. Occupation
   - o   Business (Code=1)
   - o   Home maker (Code=2)
   - o   Student (Code=3)
   - o   Service Holder (Code=4)

4. Monthly income (Tk.)

- o Below 10,000 (code=1)
- o 10,001-20,000 (code=2)
- o 20,001-30,000 (code=3)
- o 30,001-40,000 (code=4)
- o 40,001-50,000 (code=5)
- o More than 50,000 (code=6)

5. Education

- o Primary (Code=10)
- o Higher secondary (Code=2)
- o Bachelor Degree (Code=3)
- o Master degree or Higher (Code=4)

Necessary information

Consumer Perception	Strongly Disagree Code=1	Disagree Code=2	Neither agree nor disagree code=3	Agree code=4	Strongly agree code=5
1. I buy processed food					

2. Which food items do I prefer more

i) Package and branded

ii) Package and non-branded

iii) Un-package and non-branded

iv) Non-branded

v) Un-package

Necessary Information	Strongly Disagree Code= 1	Disagree Code=2	Neither agree nor disagree Code= 3	Agree Code=4	Strongly Agree Code=5
Consumer perception					
3.I buy branded food for credibility, test and quality					
4. I buy branded food because it's more convenient					
5. I prefer unpacked and non- branded items as they are convenient, locally found and fresh					
6. I prefer unpacked and non-branded items for my income					
7. I purchase unpacked and non-branded items for lower price					

8. How often do I buy packaged branded processed food

i) Never

ii) Twice a week

iii) Once in a week

iv) Once in two- days

v) Daily

Consumer satisfaction	Strongly disagree code=1	Disagree code=2	Neither agree nor disagree code=3	Agree code=4	Strongly agree code=5
9. I buy same branded everyday					
10. I switch other brand for better quality and nutrition					
11. I switch other brand for different test					
12. I switch other brand for convenience					
13. I prefer the same brand though others giving discount on the same products					

14. From where do I buy processed food (more than one option can be chosen)

i) Confectionary

ii) Supermarket

iii) Retail outlet

iv) Others

Buying decision	Strongly Disagree code=1	Disagree code=2	Neither agree nor disagree code=3	Agree code=4	Strongly agree code=5
15. Retailer in the shop influences my decision while purchasing processed food					
16. Advertisement influence me more during purchasing					
17. Friends, colleague , spouse and children influence my decision on choice of food products					
18. Packaging and brand name are the features that I like most about branded processed food					
19. Product weight and price are the best features for me to selecting branded processed food					
20. Quality is the best features for me about branded processed food					
21. I appraise the product according to printed information during purchasing					

	Strongly Disagree code=1	Disagree code=2	Neither disagree nor agree code=3	Agree code=4	Strongly agree code=5
22. Time saving and life style is the reason I purchase branded processed food					
23. Food habit change and test is the cause I purchase branded processed food					

Consumer satisfaction	Strongly Disagree code=1	Disagree code=2	Neither disagree nor agree code=3	Agree code=4	Strongly agree code=5
24. I am satisfied with the branded process food					
25. I am apparently to recommend branded process food to others					

Do you have face any problem while purchasing or any suggestion

Thank you so much for assistance.