STUDY OF BUYING PROCESSED FOODS AND DRINKS IN MAHARASHTRA STATE DISTRICT OF BEED

Amarsingh Udhavrao Solanke
Research Scholar, Department of
Management, Shri JJT University,
Jhunjhunu, Rajasthan, India
amarsolanke24@gmail.com

Dr.Swati Padoshi
Research Guide, Department of
Management, Shri JJT University,
Jhunjhunu, Rajasthan, India.

Abstract:

Indians overeat and undereat. The Food Safety and Standards Authority of India hired the World Health Organization to analyze 2010–2020 packaged processed food and drink sales and anticipate 2030 growth. It will estimate how much processed food and drinks will sell and how much customers will buy and eat. diet-related disease.

Secondary data and analysis will illustrate how much American families spend on processed food and beverages at home, restaurants, and on-the-go. The study will examine urban, rural, middle-class, and wealthy processed food and beverage sales and purchases throughout time and place. Studying rural and urban Indian income groups' retail distribution networks. The research will examine packaged processed food and beverage sales due to state-level sales and consumption disparities. A Linear Regression model will evaluate Beed District, Maharashtra's processed food and drink delivery system and suggest changes.

powdered drinks Breakfast cereals Milk, butter, melted butter, cheese, yoghurt, cottage cheese, and other dairy products Frozen meals, canned soups, pickles, ketchup, and sauces. Ghee, butter, vegetable oil, and vanaspati are culinary fats. Food frozen. Crystal, refined, and reduced sodium salts.

Keywords: Diet Illness Analysis, Drinks, Prepared Meals, Beed District and Maharashtra.

1. Introduction

Meat may include useful, harmful, or decaying bacteria depending on its source and diet. After meat processing, decontamination agents include chlorine, organic acid, artificial phosphates, benzoates, propionates, bactericides, and oxidizers. Standard cleaning methods reduce the nutritional value of raw carcasses and processed meat [1]. Manufacturers have increased food shelf life because consumers demand long-lasting foodstuffs that can be maintained longer between grocery shop visits. Consumers are migrating from "just in time" (or "for now") things to "just in case" ones, a trend that will continue beyond the outbreak. Using the NOVA taxonomy, examine Brazilian household food expenditure from 1987–1988 through 2017–2018. METHODS We examined Brazilian households' food expenditure from the Instituto Brasileiro de Geografia e Estatstica's Pesquisas de Orçamentos Familiares (Household Budget Surveys) in 1987–1988, 1995–1996, 2002–2003, 2008–2009, and 2017–2018. [2, 3] The NOVA food categorization system included all suggestions. In the most recent period, urban areas had 3.94 g/p/d and rural areas 3.60, and wealth increased non-linearly. Table salt's contribution grew from 60.2% to 64.8% and condiments without added salt from 9.3% to 11.7% from 2004 to 2019. This is a large rise in sodium from salt-based condiments. Between 2012-2013 and 2018-2019, ready-made meal consumption fell from 7.2% to 2.8%, while processing and extensively processed food with salt grew from 14.2% to 16.9%. Salt intake in Costa

AIJRRLSJM   **VOLUME 8, ISSUE 8 (2023, AUG)**   **(ISSN-2455-6602)ONLINE**

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

Rica has plateaued after rising by 12% between 2004–2005 and 2012–2013 [4] to double the recommended level. Meat shoppers consider several factors. European rabbit consumption has declined due to lifestyle and nutrition changes and the increased appeal of rabbits as pets. Animal welfare principles are being considered increasingly. Understanding client perceptions of rabbit meat is essential to improving marketing. [5] Manufacturers must continuously create new items to preserve market share and avoid consumers rejecting them out of fear of the unknown as culinary trends become more competitive. Food neophobia makes adopting new foods, social norms, and conflicting dietary goals difficult. Effective steps are needed to avoid neophobia from rising dietary trends.Avoiding food neophobia [6] supports sustainability, which increases food variety to reduce shortages. The food industry is under pressure to provide healthy, natural meals.

Plant-based diets are a food-based strategy to reducing diet-related illnesses, climate change, and environmental impact.

Increasing processed food nutritional density may help meet WHO sustainable development targets.[7, 8] Nutrient profiling (NP) is now used to evaluate new and reformulated products. This research compared street food vendor (SFS) meal and drink offerings by neighborhood income in Mexico City. Cross-sectional design. Mexico City's socioeconomic diversity was shown in 20 neighborhoods. [9, 10] Participants: Direct SFS observations (n=391). Data reveals a global trend toward processed food. A country's income impacts the percentage of ultra-processed foods consumed, while individuals' socioeconomic status affects their dietary choices and consumption habits (11, 12, 13). Background Nonalcoholic fatty liver disease (NAFLD) includes several liver abnormalities, some deadly. Ultra-processed foods (UPF) may cause obesity and associated problems. UPF-NAFLD study is inconclusive. [14, 15]

a.   Objectives

The proposed study has some objectives and that are given below:

1.   To explore the consumer buying behavior for processed food products in Beed.
2.   To find the factors that affecting the buying decision for food products decision
3.   To explore the factors responsible for buying processes food in Beed District.

The self-administered survey was taken and convenience sampling techniques was used i.e. data collected from the 150 respondent all over different areas of Beed. The collected data is analyzed through SPSS and Factor analysis was conducted.

2. Literature Review

Roobab, U., et, al., (2022) [16] address the meat industry has used ozone, high-pressure regions, cold atmospheric plasma, and active and clean label substances to decontaminate carcasses. For each matrix, exposure period and processing intensity have been examined to reduce spoilage microbe counts as much as possible without affecting beef products' organoleptic, physicochemical, or functional properties. To understand decontamination effectiveness without harming meat products, combined effect (hurdle concept) was examined. These solutions are simple, non-toxic, ecologically benign, and prevent packaged food from infection. When paired with other obstacles, they may help replace chemical-based food preservatives, which most consumers currently appreciate. Some of these solutions have storage concerns, no business use certification, and high setup costs. Most of them lack sufficient evidence on their mechanism of action for eliminating microorganisms and extending shelf life.

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

EMAILID:anveshanaindia@gmail.com,WEBSITE:www.anveshanaindia.com

25

AIJRRLSJM   VOLUME 8, ISSUE 8 (2023, AUG)   (ISSN-2455-6602)ONLINE

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

Marrón-Ponce, J.A., et, al., (2018) [17] based on Global trade agreements' food chain impacts have changed ready-to-eat meal availability, accessibility, affordability, and attractiveness. We examined Mexican households' ultra-processed meal utilization from 1984 to 2016. Cross-sectional Nation's Income and Expenditure Survey data was studied. 1984, 1989, 1991, 1994, 1996, 1997, 2000, 2002, 2004, 2005, 2008, 2010, 2012, 2014, and 2016 polls were done. The NOVA food paradigm categorized food and drink purchases throughout seven days of the instrument by processing stage. First, there are minimally or non-processed meals, then cooking materials, processed food, ultra-processed food, etc. From 1984 to 2016, consumers purchased more processed foods (5.7% to 6.5% kcal) and severely processed foods (10.1% to 23.1% kcal) than unprocessed or light processed food (69.8% to 61.4% kcal) and processing culinary components (14.0% to 9.0% kcal). Due to a twofold rise in ultra-processed food consumption compared to non-processed food usage over the previous three decades, Mexico should promote raw or minimally processed foods and discourage their accessibility and availability.

3. Research Methodology

A. Data Collection

The interviewer or household members recorded all food and drink purchases for in-house consumption in a notebook for seven days. Given the limited data collection period, sample strata were used to offer a more realistic picture of yearly food expenses. The stratum level reduces excessive discrepancies between households by taking into consideration typical Brazilian houses, such as those who did not make any purchases during the collecting week or those who made purchases for the full month. Per capita family income was calculated by dividing income by population.

After removing inedible components and diluting powdered drinks, the total quantity of each dietary item was converted to grams or milliliters/per capita/day. After categorizing all goods using the NOVA classification method (1), subcategories of beverages (the food category of interest) were chosen for further investigation. Since fruit is typically bought separately before being juiced, natural juices were not examined.

Skim milk, whole milk, and homemade yogurt were less processed than regular and diet/light soft drinks and other beverages (like dairy drinks without milk products, regular artificial fluids or beverages, usual and diet/light soy beverage powder form, diet/light yogurts, milk-based beverages, and artificial fluids and teas).

The percentage of daily energy intake from each UPF category (foods) was computed by converting the total daily per capita quantity of every dietary item bought into energy (kilocalories).

B. Food Groups

It would be difficult to grasp the general shifts in the purchase of processed food and beverages if we tried to analyze purchase patterns at the product level due to the great diversity of goods reported in the data. Based on their characteristics (sweet, savory) and intended uses (main ingredient, snack, meal component, etc.), the following eight food groups were established. We were unable to determine which items within each category were healthier due to a lack of information on their particular nutritional composition.

AIJRRLSJM **VOLUME 8, ISSUE 8 (2023, AUG)** **(ISSN-2455-6602)ONLINE**

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

- Sweet snacks: Sugary foods such as chocolate, honey from bees cookies, biscuits, jams, peanut butter and chocolate spread, and rusk (but not baked goods)
- Salty snacks: foods such as chips, crackers, and pretzels;
- Soft drinks: beverages made from carbonated sugar water, fruit juices, milk, squashes, and powders;
- Milk: Milk, both in liquid and powdered form;
- Dairy products : Casein, lard, and ghee (clarified butter)
- Edible oils: cooking oils, such as vanaspati (a partially hydrogenated vegetable oil);
- Processed wheat: wheat flour (atta) bread, vermicelli, and pasta;
- Additional Packaged Goods: Soup, meals that are ready to eat, ready-to-cook mixtures, frozen foods, cereal, noodles, ketch up. and table sauces are all examples of packaged foods.

There are at least 1,000,000 purchase data for each of the 8 food categories.

C. Linear Regression Model

The use of linear regression in predictive modeling is widespread. This connection is expressed by the formula $Y = a + bX + e$, wherein a represents the line's intercepts, b is the slope of the line, and e is an error factor. Using this formula, we may infer the value for the dependent (or target) variable given the predictor variables.

Beed. overall and by income quintiles over the three time periods (2017-2021) to describe hardly processed and ultra-processed food volume (milliliters/per capita/day). Linear regression models investigated the statistical significance of changes in estimates across time.
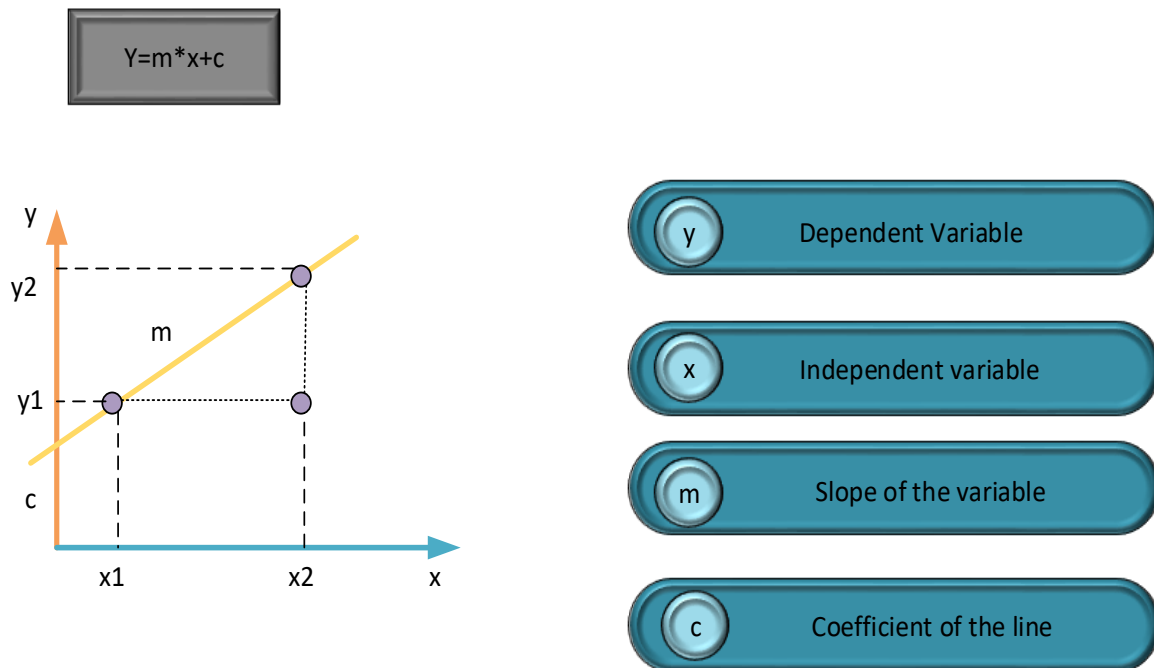

Fig.1.Predicting Consumer Behavior Using a Linear Regression Model

AIJRRLSJM   **VOLUME 8, ISSUE 8 (2023, AUG)**   **(ISSN-2455-6602)ONLINE**

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

Expected values (values anticipated by the model) for the mean modified by income (as an ongoing variable) were determined after taking into account the correlation between food intake and income using linear regression models. For every group of moderately processed and ultra-processed beverages, means (obtained in the predicted model) and associated 95% CI of volume were supplied for the three time periods investigated. Each percent of UPF energetic contribution was analyzed descriptively in the same way.

95% confidence intervals showed large variations between survey times. A 5% threshold of significance was applied to the assumption that there was a significant difference when the intervals did not overlap. Observations made and types of food represented for each food category.

Table.1Number of Food Groups

Types of Food	No of purchase records	Food items
Sweet snacks	1000002	Chocolate
		Honey
		Biscuits
		Jams
		Peanut butter
		Chocolate spread
		Rusk
Salty snacks	423,632	Crackers
		Banana chips
		Potato chips
		Other salty snacks
Soft drinks	341,924	Fizzy drinks
		Juices
		Drinks made from milk
		Juices and drink mixes
Milk	7,048,570	Fluid milk
		Dry milk
Edible oils	582,521	Edible oils
		vanaspati
Dairy products	868,296	Butter
		Ghee (Clarified butter)
		Cheese
Processed wheat	1,696,969	Atta
		Bread
		Vermicelli
		Pasta
	1,95,869	Soup

AIJRRLSJM   **VOLUME 8, ISSUE 8 (2023, AUG)**   **(ISSN-2455-6602)ONLINE**

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

Other processed foods		Ready to eat meal
		Ready to cook mix
		Frozen food
		Breakfast cereals
		Noodles
		Ketchup
		Table sauces*

4. Results and Discussion

Many processed foods, including beverages, snacks, and ready-to-eat meals, have been targeted by public health initiatives due to their known detrimental impacts on human health. Their intake is also a risk factor for overweight and numerous noncommunicable illnesses. The population-level average for purchases of processing foods and drinks was found to be low in our investigation of take-home purchase of processed and packaged foods in urban India, with the exception of basics like packaged milk, processed wheat, or edible oils
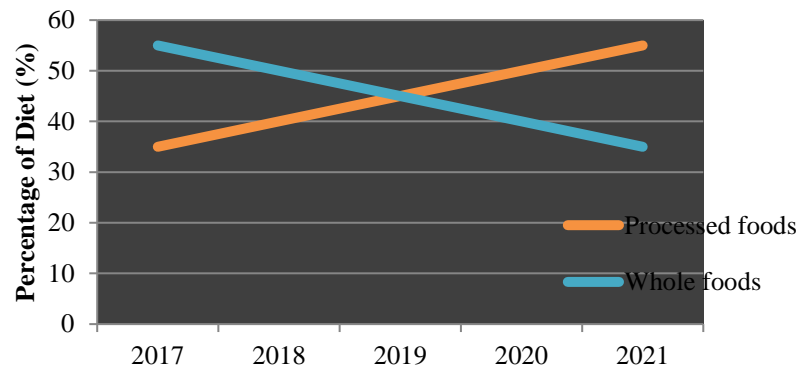
The increase in processed food in Beed district

Fig.2.Statistical Analysis of Beed District, Maharashtra's Diet

Table.2.Share of families that have purchased items from the specified food category

	2017	2018	2019	2020	2021	Quarterly average from 2017 to 2021
Sugary treats	0.95	0.95	0.95	0.96	0.97	0.89
Salted treats	0.91	0.92	0.92	0.92	0.92	0.80
Fizzy drinks	0.72	0.71	0.69	0.70	0.69	0.46
Cream Fatty Oils	0.99	0.98	0.99	0.98	0.99	0.96
Dairy goods	0.91	0.92	0.92	0.91	0.91	0.90
Denatured wheat	0.73	0.72	0.72	0.73	0.74	0.53

AIJRRLSJM   **VOLUME 8, ISSUE 8 (2023, AUG)**   **(ISSN-2455-6602)ONLINE**

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

Differently Prepared Foods	0.95	0.96	0.94	0.96	0.96	0.90
Sugary treats	0.91	0.90	0.86	0.87	0.90	0.73

.

6. Conclusion

Technological advances, consumer behavior changes, the predominance of two-income households, a demand for convenience, a preference for better taste, a focus on health, and a dedication to product quality all drive consumers to buy processed food. Most responders are middle-aged women who consume processed meals. Working women like convenient meals. Nuclear families consume more convenience foods. The respondent said department stores are ideal for shopping. This study examines how beed inhabitants spend money on processed meals and drinks using linear regression.

Processed food is considered unhealthy because businesses conceal nutritional information. Producers must convince buyers that their processed food is safe and worth buying.

7. Acknowldegements

References

1. Tan, D., Olden, A., Orengo, A., Francey, C., Campos, V.C., Fayet-Moore, F., Kim, J.E., & Lê, K. (2020). An Assessment of Three Carbohydrate Metrics of Nutritional Quality for Packaged Foods and Beverages in Australia and Southeast Asia. Nutrients, 12.

2. Kyaw, K.S., Adegoke, S.C., Ajani, C.K., Nwabor, O.F., & Onyeaka, H. (2022). Toward in-process technology-aided automation for enhanced microbial food safety and quality assurance in milk and beverages processing. Critical reviews in food science and nutrition, 1-21 .

3. Madigan, C.D., Hill, A.J., Caterson, I.D., Burk, J., Hendy, C., & Chalkley, A.E. (2023). A Qualitative Process Evaluation of Participant Experiences in a Feasibility Randomised Controlled Trial to Reduce Indulgent Foods and Beverages. Nutrients, 15.

4. Martínez, X.D., Zapata, Y., Pinto, V.R., Cornejo, C., Elbers, M., van der Graaf, M., Villarroel, L., Hodgson, M.I., Rigotti, A., & Echeverría, G. (2020). Intake of Non-Nutritive Sweeteners in Chilean Children after Enforcement of a New Food Labeling Law that Regulates Added Sugar Content in Processed Foods. Nutrients, 12.

5. Franco-Arellano, B., Kim, M.A., Vandevijvere, S., Bernstein, J.T., Labonté, M., Mulligan, C., & L'Abbé, M.R. (2019). Assessment of Packaged Foods and Beverages Carrying Nutrition Marketing against Canada's Food Guide Recommendations. Nutrients, 11.

6. McGowan, C., O'Sullivan, E., Kehoe, L., Muldoon, A., O'Kane, N., Woodside, J.V., Watson, S., Nugent, A.P., Buffini, M., Kearney, J., McNulty, B.A., Flynn, A., & Walton, J. (2021).

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

EMAILID:anveshanaindia@gmail.com,WEBSITE:www.anveshanaindia.com

30

AIJRRLSJM   VOLUME 8, ISSUE 8 (2023, AUG)   (ISSN-2455-6602)ONLINE

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

Intakes of top shelf foods and contribution to energy and nutrients in a representative sample of school-aged children (5–12y) in Ireland. Proceedings of the Nutrition Society, 80.

7. Meza-Hernández, M., Villarreal-Zegarra, D., & Saavedra-Garcia, L. (2020). Nutritional Quality of Food and Beverages Offered in Supermarkets of Lima According to the Peruvian Law of Healthy Eating. Nutrients, 12.

8. Cuadrado-Soto, E., Peral-Suárez, Á., Aparicio, A., Perea, J.M., Ortega, R.M., & López-Sobaler, A.M. (2018). Sources of Dietary Sodium in Food and Beverages Consumed by Spanish Schoolchildren between 7 and 11 Years Old by the Degree of Processing and the Nutritional Profile. Nutrients, 10.

9. Li, Y., Wang, H., Zhang, P., Popkin, B.M., Coyle, D.H., Ding, J., Dong, L., Zhang, J., Du, W., & Pettigrew, S. (2022). Nutritional Quality of Pre-Packaged Foods in China under Various Nutrient Profile Models. Nutrients, 14.

10. Monsalve-Atencio, R., Montaño, D.F., & Contreras-Calderón, J. (2022). Molecular imprinting technology and poly (ionic liquid)s: Promising tools with industrial application for the removal of acrylamide and furanic compounds from coffee and other foods. Critical reviews in food science and nutrition, 1-20.

11. Bertoni Maluf, V.A., Bucher Della Torre, S., Jotterand Chaparro, C., Belle, F.N., Khalatbari-Soltani, S., Kruseman, M., Marques-Vidal, P.M., & Chatelan, A. (2022). Description of Ultra-Processed Food Intake in a Swiss Population-Based Sample of Adults Aged 18 to 75 Years. Nutrients, 14.

12. Romero Ferreiro, C., Cancelas Navia, P., Lora Pablos, D., & Gómez de la Cámara, A. (2022). Geographical and Temporal Variability of Ultra-Processed Food Consumption in the Spanish Population: Findings from the DRECE Study. Nutrients, 14.

13. Gyimah, E.A., Iannotti, L., Waters, W.F., Nicholas, J.L., Gallegos-Riofrío, C.A., Chapnick, M., Douglas, K.E., & Blackmore, I. (2022). Child Ultra-Processed Food Consumption in a Mixed Indigenous Rural Community in Ecuador: Associations with Linear Growth, Weight Status, and Bone Maturation. Current Developments in Nutrition, 6, 904 - 904.

14. Richonnet, C., Mosser, F., Favre, E., Robert, M., Martin, F., & Thiébaut, I. (2021). Nutritional Quality and Degree of Processing of Children's Foods Assessment on the French Market. Nutrients, 14.

15. Morales-Avilez, D., Cruz-Casarrubias, C., Tolentino-Mayo, L., Encalada-Torres, L., & Abril-Ulloa, V. (2020). Evaluation of the Accurateness of the Nutritional Labels of Processed and Ultra-Processed Products Available in Supermarkets of Ecuador. Nutrients, 12.

16. Roobab, U., Chacha, J.S., Abida, A., Rashid, S., Muhammad Madni, G., Lorenzo, J., Zeng, X., & Aadil, R.M. (2022). Emerging Trends for Nonthermal Decontamination of Raw and Processed Meat: Ozonation, High-Hydrostatic Pressure and Cold Plasma. Foods, 11.

17. Marrón-Ponce, J.A., Tolentino-Mayo, L., Hernández-F, M., & Batis, C. (2018). Trends in Ultra-Processed Food Purchases from 1984 to 2016 in Mexican Households. Nutrients, 11.

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices

EMAILID:anveshanaindia@gmail.com,WEBSITE:www.anveshanaindia.com

31

Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices
EMAILID:anveshanaindia@gmail.com,WEBSITE:www.anveshanaindia.com

32