

Topic Direct Observations of Supermarket, Understanding the frequency of food and the correlation to allergens.

Knowledge Justification

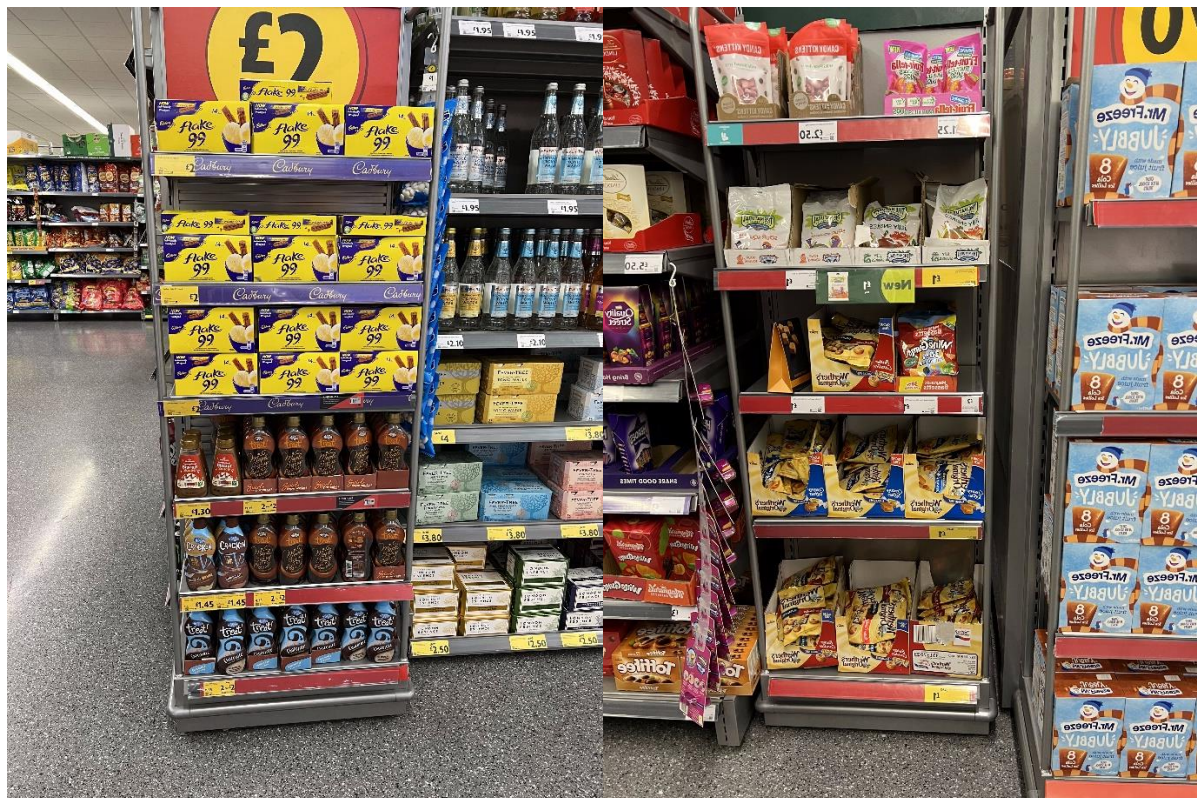
The observation of product analysis in a market supermarket environment will give us insight into what types of food have allergens and how convenient it is for customers to find out if said product contains allergens, thus specifically tailoring the diet aware shopping assistant to their needs.

Data Collection Plan

Location of data collected: A systematic sampling of all the “promotion” stands in Morrisons (every 3rd location) – The justification for this is that these are most exposed areas to customers, which would mean a higher frequency of customer interaction. ALL PHOTOS TAKEN WERE TAKEN AFTER CLOSING TIMES TO AVOID GENERAL PUBLIC

Metrics to Analyse:

Observational: Food Category, Environmental Quality, Quantity Left and Nutritional: Health Rating (5), Diets Inclusive, Number of Allergens Present, Difficulty of Allergens (5).





Figures 1a-1f. Show the locations where food was analysed.

Data Collected

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Product	Food Category	Environment	Availability	Difficulty Inger	High Sugar	High Salt	Vegan	Vegetarian	Halal	Frequency All	No Allergy	Milk Allergy	Egg Allergy	Nut Allergy	Seafood Allergy	Wheat Allergy	Soya Allergy
2	Cadbury Flake 99 Chocolate Bar 14 Pack	Chocolate and Sweets	5	5	3	YES	NO	NO	YES	YES	1		YES					
3	Askleys Treat Chocolate Flavour Topping	Chocolate and Sweets	4	5	4	YES	NO	YES	YES	YES	0	YES						
4	Askleys Crackin Chocolate Chunk Flavour Topping	Chocolate and Sweets	4	1	3	YES	NO	YES	YES	YES	1							YES
5	Askleys Crackin Chocolate Orange Flavour Topping	Chocolate and Sweets	4	1	4	YES	NO	YES	YES	YES	1							YES
6	Frutella Sugarfree Fruit Jellies Duo	Chocolate and Sweets	3	2	4	YES	NO	NO	NO	NO	0	YES						
7	Candy Killers Wild Strawberry	Chocolate and Sweets	4	2	4	YES	NO	YES	YES	YES	0	YES						
8	The Natural Confectionery Co. Jelly Snakes	Chocolate and Sweets	2	3	4	YES	NO	NO	NO	NO	0	YES						
9	The Natural Confectionery Co. Sour Squirms Sweet Bar	Chocolate and Sweets	2	3	4	YES	NO	NO	NO	NO	0	YES						
10	Maynards Wine Gums Sweet Bag	Chocolate and Sweets	3	2	4	YES	NO	NO	NO	NO	0	YES						
11	Worther's Original Butter Candles Sugar Free	Chocolate and Sweets	2	5	5	NO	NO	NO	YES	YES	2		YES					YES
12	Worther's Original Sugar Free Toffees	Chocolate and Sweets	2	5	4	NO	NO	NO	YES	YES	2		YES					YES
13	Patat's Korra Sauce	Indian	4	3	4	NO	YES	NO	YES	YES	1		YES					
14	Patat's Butter Chicken Sauce	Indian	4	3	4	NO	YES	NO	YES	YES	1		YES					
15	Patat's Tikka Masala Sauce	Indian	4	3	4	NO	YES	NO	YES	YES	1		YES					
16	Patat's Bati Sauce	Indian	4	3	4	NO	YES	YES	YES	YES	0	YES						
17	Lloyd Grossman Tomato & Basil Pasta Sauce	Italian	4	3	4	NO	YES	YES	YES	YES	0	YES						
18	Lloyd Grossman Tomato & Chili Pasta Sauce	Italian	4	1	4	NO	YES	YES	YES	YES	0	YES						
19	Lloyd Grossman White Lasagne Sauce 30% Less Fat	Italian	4	4	5	NO	YES	NO	YES	YES	2		YES	YES				
20	Lloyd Grossman Lasagne	Italian	4	4	5	NO	YES	YES	YES	YES	0	YES						YES
21	Napolina Spaghetti	Italian	3	4	4	NO	NO	YES	YES	YES	1							YES
22	Napolina Penne Pasta	Italian	4	4	5	NO	NO	YES	YES	YES	1							YES
23	Napolina Rigatoni Pasta	Italian	3	4	5	NO	NO	YES	YES	YES	1							YES
24	Heinz Classic Tomato Soup 4 Pack	Food Pantry	3	2	3	YES	NO	NO	YES	YES	1		YES					
25	Heinz Classic Chicken Soup 4 Pack	Food Pantry	3	2	3	YES	NO	NO	NO	NO	2		YES					
26	Heinz Classic Vegetable Soup 4 Pack	Food Pantry	4	1	3	YES	NO	NO	YES	YES	1							YES
27	Heinz Baked Beans in a Rich Tomato Sauce	Food Pantry	4	1	5	YES	NO	YES	YES	YES	0	YES						
28	Heinz No Added Sugar Baked Beans in a Rich Tomato	Food Pantry	4	3	5	NO	NO	YES	YES	YES	0	YES						
29	Morrison's Ready To Serve Custard	Puddings and Dessert	4	5	3	YES	NO	NO	YES	YES	1		YES					
30	Ambrosia Devon Custard Can	Puddings and Dessert	5	5	2	YES	NO	NO	YES	YES	1		YES					
31	Del Monte Fruit Cocktail in Syrup	Puddings and Dessert	5	5	4	YES	NO	YES	YES	YES	0	YES						
32	Del Monte Fruit Cocktail in Juice	Puddings and Dessert	5	5	4	YES	NO	YES	YES	YES	0	YES						
33	Morrison's The Best Meringue Nests	Puddings and Dessert	5	5	4	YES	NO	NO	YES	YES	1			YES				
34	Morrison's Sponge Fingers	Puddings and Dessert	5	4	4	YES	NO	NO	YES	YES	2			YES				YES
35	Num Num Spicy Pad Thai Noodles	International	4	3	4	NO	YES	NO	YES	YES	3				YES			YES
36	Regal Original Fusk Cake	International	3	3	2	YES	NO	NO	YES	YES	3		YES	YES				YES
37	Fudco Almonds	International	3	2	2	NO	YES	YES	YES	YES	1				YES			
38	Fudco Deluxe Assorted Nuts	International	3	2	2	YES	YES	YES	YES	YES	1				YES			
39	Fudco Nut and Raisin Mix	International	3	2	5	YES	YES	YES	YES	YES	1				YES			
40	WTO Vermicelli	International	3	3	5	NO	NO	YES	YES	YES	1							YES
41	Rubicon Still Passion Fruit Juice Drink	Water and Drink	3	1	4	YES	NO	YES	YES	YES	0	YES						
42	Rubicon Still Pineapple Juice Drink	Water and Drink	4	1	5	YES	NO	YES	YES	YES	0	YES						
43	J2O Apple & Raspberry Cans	Water and Drink	4	3	4	YES	NO	YES	YES	YES	0	YES						
44	Rubicon Spring Black Cherry & Raspberry Sparkling Fl	Water and Drink	5	2	3	YES	NO	YES	YES	YES	0	YES						
45	Rubicon Spring Orange & Mango Sparkling Flavoured W	Water and Drink	5	2	3	YES	NO	YES	YES	YES	0	YES						
46	KA Sparkling Pineapple Juice Soft Drink	Water and Drink	2	2	3	YES	NO	YES	YES	YES	0	YES						
47	KA Sparkling Fruit Punch Soft Drink	Water and Drink	2	3	4	YES	NO	YES	YES	YES	0	YES						
48	KA Sparkling Black Orange Juice Soft Drink	Water and Drink	5	4	2	YES	NO	YES	YES	YES	0	YES						
49	Nestle Shredded Wheat Honey Nut Cereal	Cereal	5	5	5	YES	NO	YES	YES	YES	1							YES
50	Nestle Elitenize Shredded Wheat Cereal	Cereal	5	5	5	NO	NO	YES	YES	YES	2				YES			YES
51																		
52	Missing: 3												22	12	4	5	0	11
53																		5

Figure 2. Shows the data collected in a spreadsheet.

Insightful graphs

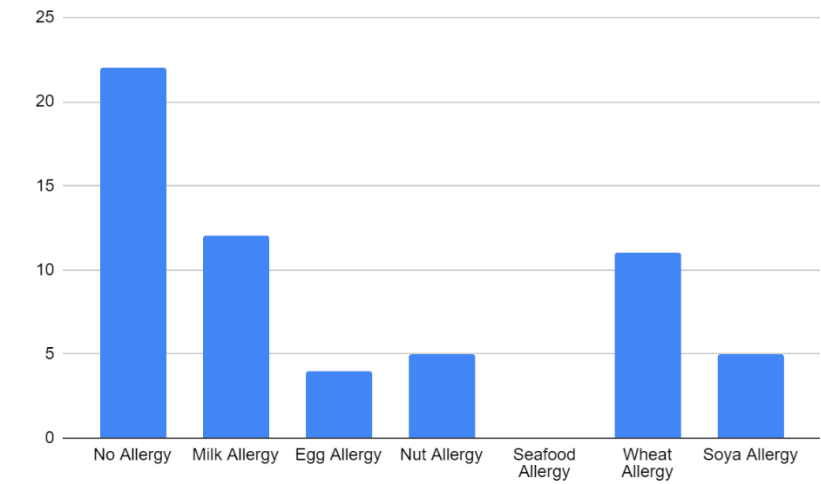


Figure 3a. Most Frequent Allergen

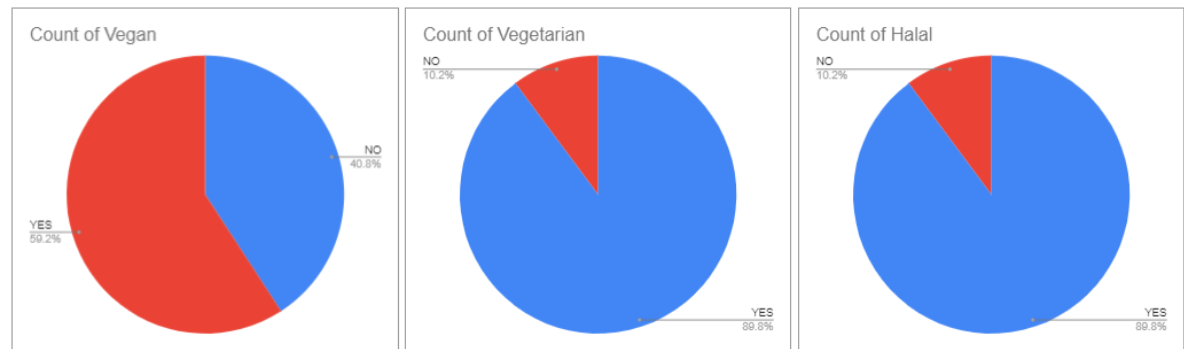


Figure 3b. Percentage of that is Vegan, Vegetarian, Halal

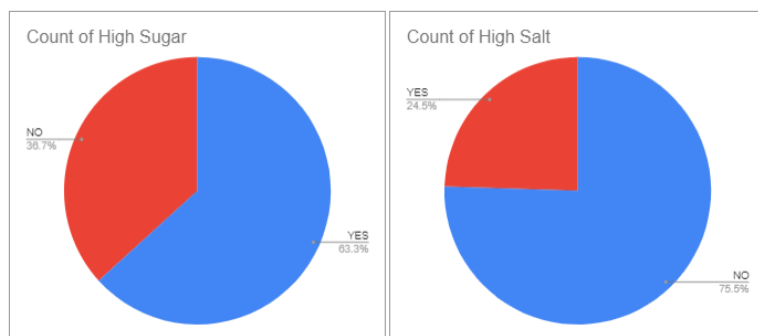


Figure 3c. Percentage of food that is high in sugar or salt

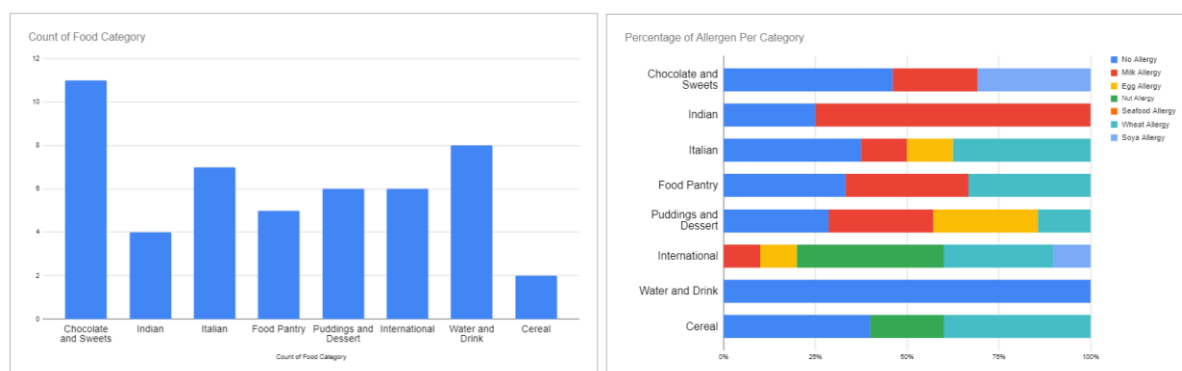


Figure 3d. Food Category relationship with allergen

Data Analysis

Figure 3a and 3d. Shows that that majority of all products in the sampled data has no allergens however altogether, the other side of the data shows that nearly half of the products had at least one allergen, mostly either milk or wheat based. A limitation however is that only the top 6 allergies were used to rate the food, there may be many allergens that are very niche to certain individuals which can cause a drastic increase to the amount of food with zero allergies. Figure 3d elaborates on these findings buy showing the percentage/prevalence of allergies within a given category. Chocolate and sweets contain 20% soya buy far the highest in all the categories, Indian contains milk as the only allergen. Italian is high in wheat allergens. Puddings have an even amount of milk, eggs and wheat allergens, while International is the only category that has all the food have at least one allergen.

Figure 3b-3c. Shows that 40% of the food available to a vegan cannot be eaten which is a notable decrease from vegetarian which is the exact same percentage as halal, around about 80% which can be eaten. Also high sugar foods are more prevalent as 63% is high sugar, whereas only 24% is high salt. Overall, this means that people who adhere to a vegan diet and are diabetic could for example be limited to 24%.

Kess Ahmed (210177695) – My contribution to the project was through the analysis and observation of in-person and online shopping data of the types of food that will be alerted using the diet aware shopping assistant system. Using this data, I have been able to visualize the scope of frequency of how prevalent certain allergens are in the food that is available and the difficulty for a customer to find out if said product had allergens. This was done in-person using a systematic sampling method at my place of work Morrisons, of 49 random products as well as the online counterparts of the official website. This should improve and help tailor the system to assist certain users when making their food choices.