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New product development activity during the Covid-19 pandemic in the UK

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Abstract

The introduction of new products is a permanent and important part of the functioning of food supply chains and their companies. Companies introduce new products at an increasing rate to enhance their competitive posture or even to survive. The new products that are launched at a point in time can be considered as representing firms' expectations of what consumers want in terms of different product attributes such as: health, environment, flavours. The Covid-19 pandemic disrupted the operation of supply chains, and the purpose of this paper is to explore what was the reaction of firms (if any) due to the pandemic regarding the introduction of new products. This was done using Mintel's Global New Product Development (GNPD) data for the UK, for the period 2018-20 and considering 155 food and drink categories. Each category was described in terms of the attributes (i.e., marketing claims) of its products. Same groups in different years were compared using measures of similarity between profiles (the profile being represented by the attributes that were present in a category). The results indicate that the most popular attributes within the products launched after March 2020 were those related to health and nutrition; however, comparison with previous trends indicate that firms may not have change their path when launching new products.

Keywords: New product development, Covid-19, UK

I. Introduction

The introduction of new products is a permanent and important part of the functioning of food supply chains and their companies. Companies introduce new products at an increasing rate to enhance their competitive posture or even to survive (Fuller, 2004).

The new products that are launched at a point in time can be considered as representing firms' expectations of what consumers want in terms of different products and their attributes such as: health, environment, flavours.

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As it is documented in the literature, the Covid-19 pandemic disrupted the operation of supply chains in different ways such as sudden changes in the demand or affecting the labour force (Costa-Font and Revoredo-Giha, 2020). Most of the literature in developed countries focused on highlighting changes in consumption patterns and the efforts of supply chains to continue producing. However, it may also provide opportunities for firms to introduce products and take advantage of the anomalous situation that households, e.g., contraction of their demand for eating out, staying significantly more time at home as part of the lockdown periods. Thus, firms had the possibility to take advantage of different consumer trends in order to capture an increasing share of the market. On the one hand, they could have, for instance, launched or modified existing products to make them more sustainable or healthier. On the other hand, they could have possibly launched products with similar attributes (e.g., just modifying flavours) aiming just to please consumers.

The purpose of this paper is to explore what the reaction of firms (if any) was due to the pandemic when launching of new products. Of particular interest is whether they focused on launching products with improved health and nutritional characteristics as well as towards sustainability.

The structure of the paper is as follows: it starts with a brief literature review focused on the topic of launching of new food products during the COVID-19 period. It is followed by the methodology of the paper, which describes the data and the statistical methods of the analyses. Next, the results are presented and finally the conclusions of the analysis are reported.

II. Literature review

According to Rudder (2003) food manufacturers [including not only those providing own brands but also producing retailers' private labels] strive to meet the changing needs of food consumers who are increasingly demanding new and better products. It is not longer possible for a company to rely solely on its existing products. If a company will not provide new product developments (NPDs) there are plenty of competitors that will do their best to fill the gap (p. 460).

The period associated with the lockdown in the UK (which in this paper is assumed from March 2020 onwards) has been one with significant changes for both, food supply chains and consumers. The period has been characterised by movement restrictions and spontaneous reduction of social interaction determined the substitution of food services (such as restaurants and catering) with at-home consumption.

Uncertainty regarding grocery shortages triggered stockpiling behaviour (Wang et al., 2020; Costa-Font and Revoredo-Giha, 2020). Nicola et al. (2020) reported that "panic-buying has resulted in an increase of £1bn worth of food in UK homes". The combination of different effects (e.g., stockpiling) might explain the surge in home consumption during the outbreak period, and the declining trends thereafter. During the lockdown period the stockpiling effect faded, as home stocks were full and the perceived risk of food supply

disruption declined, but movement restriction sustained home consumption as a substitute for away-from-home meals. In the post-lockdown periods, only the voluntary reduction of social interaction remained, and consumption trends slowly were reverting to pre-emergency levels (Revoredo-Giha and Russo, 2021).

Revoredo-Giha et al. (2022) analysed fruit and vegetable purchases (fresh and processed) by type of outlet using the Impact-Reaction framework (OECD, 1993). According to it reaction to psychological pressure triggered changes in consumer mood and attitude, resulting in new purchasing behaviour. In the early stages of the pandemic, even before the national emergency was declared, UK consumers displayed panic buying, and stockpiling behaviour (e.g., Naeem, 2020; Chronopoulos, Lukas, & Wilson, 2020), which may be interpreted as a precautionary response to the fear of future scarcity and restrictive measures on mobility.

Concerns about future food availability, leading to hoarding and stockpiling behaviour (Naeem, 2020; Yuen et al., 2020), may result in a relative preference toward non-perishables processed fruit and vegetables over fresh ones. O'Connell, De Paula, and Smith (2021) analysed a balanced panel data of 17,093 UK households from January 1, 2019, to August 9, 2020, and found that, there was a spike in household purchases prior to the first nationwide lockdown in March 23, 2020. The authors observed sharp increase in staples (including canned products) purchases relative to perishable products (including fresh fruit and vegetables) which showed a moderate increase only.

Psychological pressure can affect dietary choices in other ways as well. On the one hand, health concerns may result in a relative preference toward fresh fruit and vegetables due to a focus on healthy nutritional balance, hoping to boost human immune system and possibly the resistance to contagion (Muscogiuri et al., 2020, Jayawardena, & Misra, 2020; Aman & Masood, 2020). On the other hand, anxiety and fear may lead to an increase in consumption of comfort food such as snacks, confectionery, sweets, alcohol (Salazar-Fernandez et al., 2021) to the possible detriment of fruit and vegetables.

Based on the literature, it is possible to conclude that changes in consumer mood and attitude due to psychological pressure may drive consumption of fruit and vegetables into different directions and the net effect depends on which component prevails.

Reactions to the COVID-19 impact include adopting a stay-home lifestyle. Due to fear of contagion, restrictive measure, at-home working or involuntary unemployment, UK consumers spent more time at home than they did before the pandemics. The obvious consequence was a sharp decrease in the number of times consumer ate out and an increase in the budget expenditure for grocery product. Studies about the effect of stay-home lifestyle on dietary habits found conflicting results (Bennet et al., 2021). On the one hand, it was associated with healthy eating due to home cooking (e.g., Flanagan et al., 2021). On the other hand, confinement was found to lead to increase in

consumption of comfort food, less exercise and more TV (Ruiz-Roso et al., 2020). The net effect of the two trends is an empirical question to be addressed. Furthermore, it must be noted that changes in employment status may affect consumer reaction deeply.

Revoredo-Giha et al. (2022) also found that UK consumers reacted to the impact of COVID-19 by adjusting their shopping behaviour, that is the way they purchased food. Online purchases increased during the pandemics both from de-specialized retailers (such as Amazon) and specialised food retailers developing online services along their traditional “brick and mortar” stores (such as Tesco online) (e.g., Sheth, 2020; Dannenberg et al., 2020). Consumers optimized shopping frequency and store choice given the new sets of constraints to mobility and accounting for the possibility of contagion (e.g., Janssen et al., 2021). The emerging shopping behaviour is expected to affect consumption in two main ways. Firstly, changing food source (for examples, from far, large supermarket to local stores or to online), consumers are exposed to different assortments, and this may result in an adjustment in purchases. Secondly, the objective of reducing shopping frequency may lead to a preference for non-perishable goods in order to avoid waste and extend the time before a new trip to the store is needed.

To our knowledge there have been no attempt to explore the behaviour of NPD on the food sector in the UK. Given the number of consumer reactions to the COVID related situations, it would be interesting how the launching of products was adapted to try to capture changes in consumers’ preferences. This is the purpose of the paper.

III. Methodology

III.1 Data

The analysis was carried out using Mintel’s Global New Product Development (GNPD), which is a database that records the launching of new products at the retail level (Solis, 2016).

The data include information about the firm launching the product, the sector and subsector, the type of launching (e.g., it was a new product, a re-launching, new packaging). In this sense, the products launched by firms include not just those that are new products but also those with new packaging, reformulated, relaunched, etc. This is the same approach suggested by Fuller (2003).

The data used was for the UK, for the period 2018-20 and considered 155 food and drink categories and 95 attributes (i.e., marketing claims). Each food category was described in terms of the attributes of its products (i.e., the profile of the category). Two measures were considered: (1) for each food and drink category the percentage of products containing a particular attribute was computed (relative) and (2) the number of products with a particular attribute within a category.

III.2 Statistical methods

Two statistical analyses were carried out: first, the same categories in different years were compared using measures of similarity between profiles (the profile being represented by the attributes that were present in a category).

The indicators used were correlation indicators such as those use in psychology to compare the characteristics of two individuals (Abdel-Aty, 1960). Due to its straightforward implementation and interpretation the intraclass Fisher correlation was estimated to compare the profiles between categories in two years. The correlation coefficient is defined as:

$$r_{in} = \frac{\sum_{j=1}^p (x_{1j} - \bar{x})(x_{2j} - \bar{x})}{0.5 \sum_{i=1}^2 \sum_{j=1}^p (x_{ij} - \bar{x})^2}$$

Where x_{1j} and x_{2j} are two profiles for a food and drink categories in two years, for $j=1$ to p (attributes). \bar{x} is the mean of the two sets of scores (both years) and the denominator of the expression is the average of the variances.

The second analysis consisted of the following simple panel data model where y_{it} is either the proportion of products launched on food product category in 2019 and 2020 or the total number of products launched within a food category with a particular attribute. Hence, there are two observations for each food category. The following regression were then estimated:

$$y_{it} = \beta_0 + \beta_1 d_{20}$$

Where d_{20} is a dummy that takes the value of 1 is the observation is of 2020 and 0 otherwise. In addition, in order to identify particular categories where a particular attribute was introduced or significantly increased the following regression was estimated, where d_j is a dummy that takes the value of 1 for the category j and 0 otherwise.

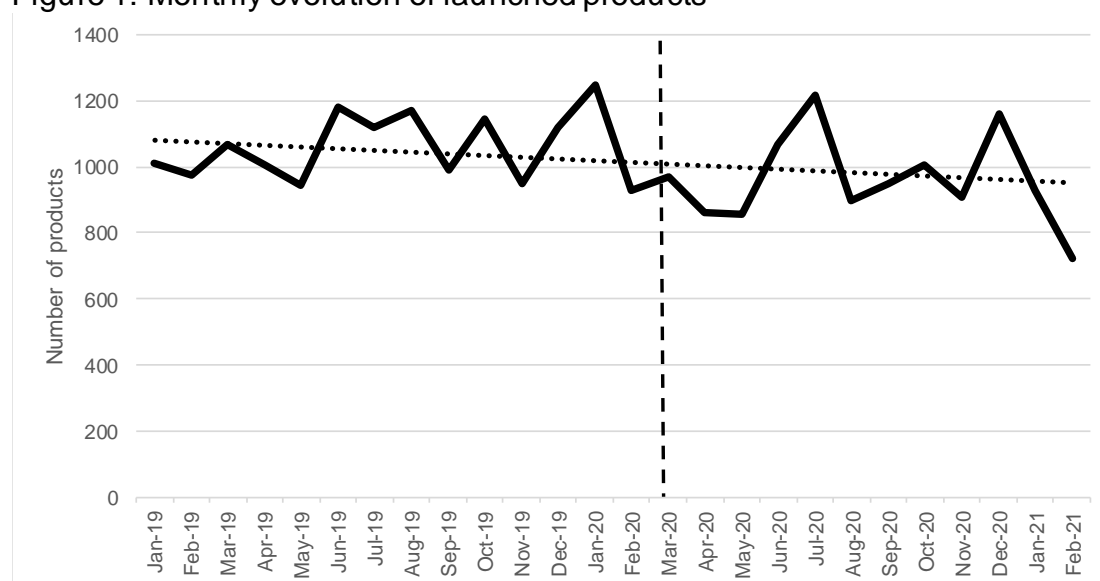
$$y_{it} = \beta_0 + \beta_1 d_{20} + \beta_2 d_{20} \cdot d_j$$

β_2 that is positive and statistically significant indicates that in 2020 an increasing share or number of products containing the attribute was present for the category.

IV. Results

The first step is to show the trend of the number of products launched in 2019 and 2020. Figure 1 shows that despite the disruption created by the lockdown due to COVID-19 the launching of product continued although with a decreasing trend.

Figure 1: Monthly evolution of launched products

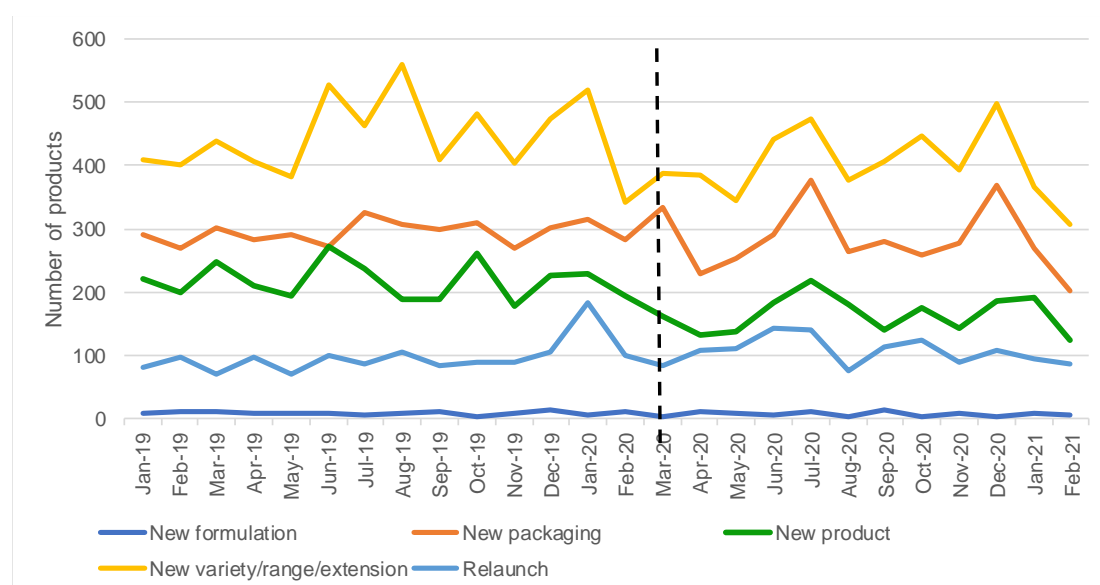


Source: Mintel's GNPD data.

Note: Dotted line indicates the approximate data of the lockdown in the UK.

Figure 2 shows that the trend by launch category has continued similar in 2020 with respect to the levels of 2019. The total number of products launched by food category are presented in Table A.1 in the Annex.

Figure 2: Monthly evolution of launched products by type of launching



Source: Mintel's GNPD data.

Note: Dotted line indicates the approximate data of the lockdown in the UK.

Figure 3, which uses the correlation coefficients, shows that the attributes that about 50 per cent of the food and drink categories have high correlation on the profiles (i.e., comparing the 2018-19 and 2019-20 coefficients).

Figure 3: Distribution of food and drink categories according to correlation coefficient

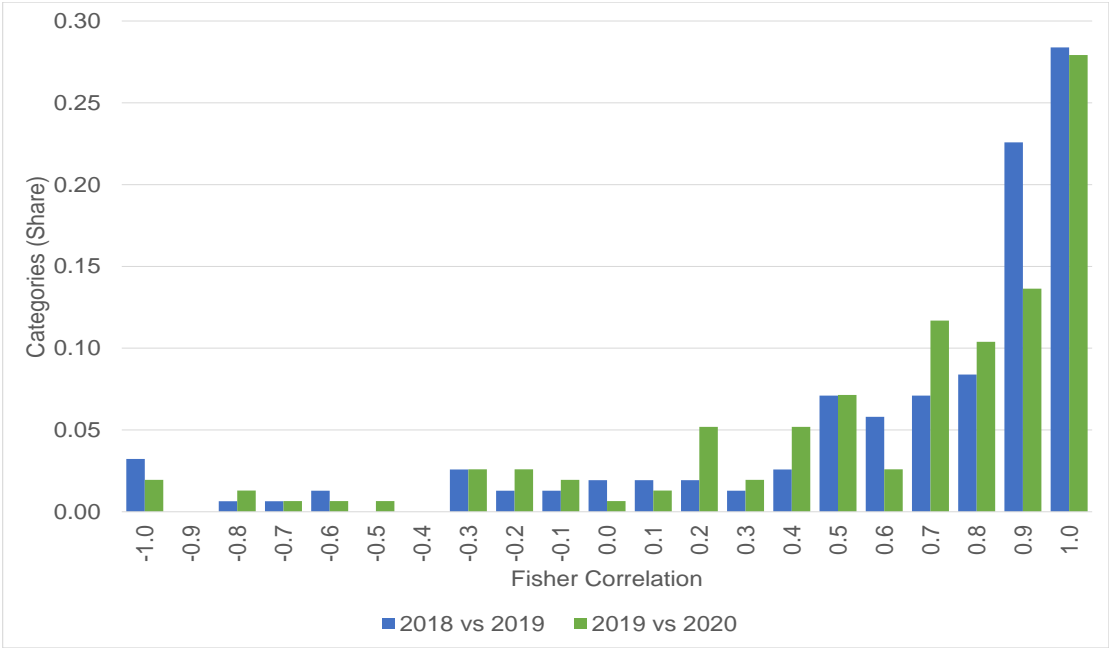


Figure 4 shows the information of Figure 3 in an XY graph trying to identify patterns. Clearly the high degree of similarity is given by the number of product categories on the diagonal. Table 1 shows an analysis of those attributes by product category that shown an increase in the share or products in 2020 with respect to 2019. As shown in the table there is high heterogeneity in the results and the attributes shown by analysing shares not necessarily match with the analysis by products.

Figure 4: Food and drink categories according to correlation coefficient 2018-19 and 2020-21.

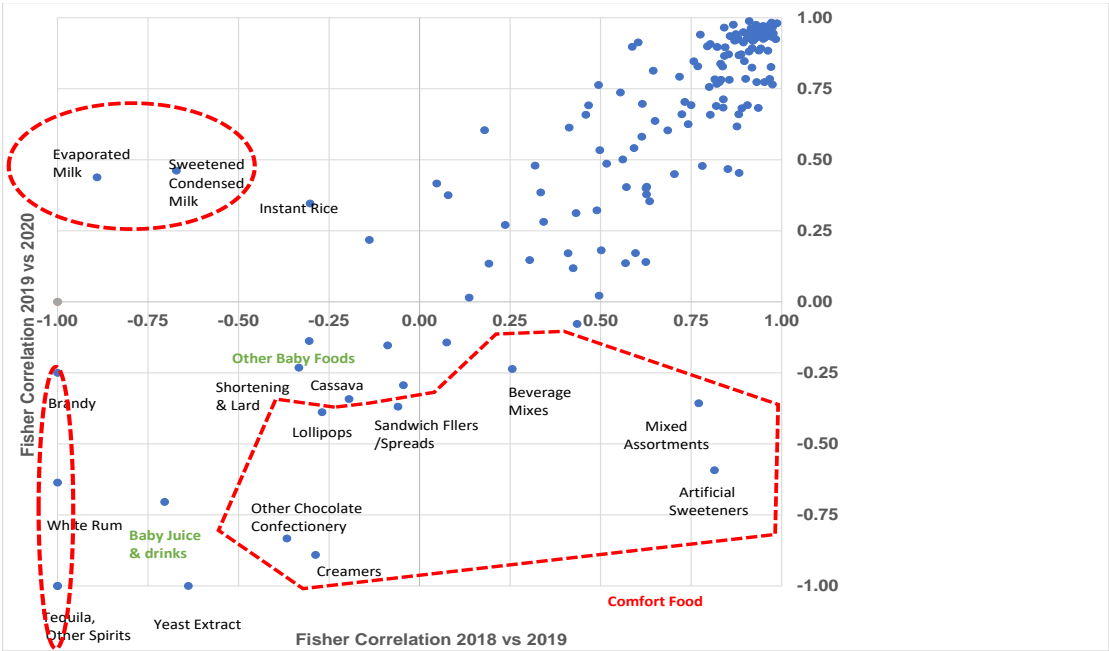


Table 1: Increased attributes in 2020 with respect to 2021 by product category

Based on shares	Based on number of products
All the products	
Economy	Economy
Limited Edition	
Baby Biscuits & Rusks	
Ethical - Environmentally Friendly Package	
Ethical - Recycling	
Ethical - Sustainable (Habitat/Resources)	
Baby Cereals	
Carbon Neutral	Babies & Toddlers (0-4)
	Carbon Neutral
	Vitamin/Mineral Fortified
Baby Formula (0-6 months)	
Carbon Neutral	Babies & Toddlers (0-4)
Ethical - Animal	Carbon Neutral
Functional - Eye Health	Functional - Eye Health
Palm Oil Free	
Baby Formula (6-12 months)	
Added Calcium	Added Calcium
Ethical - Toxins Free	Babies & Toddlers (0-4)
Functional - Bone Health	Functional - Bone Health
Functional - Eye Health	Functional - Eye Health
Functional - Immune System	Functional - Immune System
Functional - Other	
Palm Oil Free	
Baby Fruit Products, Desserts & Yogurts	
	Babies & Toddlers (0-4)
Baby Savoury Meals & Dishes	
Microwaveable	Babies & Toddlers (0-4)
Baby Snacks	
Functional - Other	Babies & Toddlers (0-4)
Bean-Based Snacks	
Ethical - Charity	
Female	
Male	
Palm Oil Free	
Beverage Concentrates	
Economy	
Beverage Mixes	
Functional - Bone Health	
Limited Edition	
Vitamin/Mineral Fortified	
Brandy	
Limited Edition	
Premium	
Bread & Bread Products	
	Economy
	Functional - Bone Health
	Prebiotic
Cakes, Pastries & Sweet Goods	
	Ethical - Environmentally Friendly Package
	Ethical - Recycling
	Limited Edition
Cassava & Other Root-Based Snacks	
Carbon Neutral	Carbon Neutral
Ethical - Charity	

Table 1: Increased attributes in 2020 with respect to 2021 by product category (cont.)

Based on shares	Based on number of products
Chilled Desserts	
	Ethical - Environmentally Friendly Package Ethical - Recycling
Coffee	
Ethical - Sustainable (Habitat/Resources)	Carbon Neutral Limited Edition
Cold Cereals	
Female	Functional - Bone Health
Male	Functional - Cardiovascular Functional - Immune System Functional - Other Prebiotic Vitamin/Mineral Fortified
Confiture & Fruit Spreads	
	Diabetic
Curd & Quark	
Economy	
Dairy Based Ice Cream & Frozen Yogurt	
	Limited Edition
Drinking Yogurt & Liquid Cultured Milk	
Functional - Immune System	Functional - Immune System Prebiotic
Dry Soup	
Economy	
Eggs & Egg Products	
Ethical - Animal	Ethical - Animal
Energy Drinks	
	Vitamin/Mineral Fortified
Evaporated Milk	
Economy	
Ethical - Environmentally Friendly Package	
Ethical - Recycling	
Fish Products	
Ethical - Sustainable (Habitat/Resources)	Economy Ethical - Animal Ethical - Environmentally Friendly Package Ethical - Recycling Functional - Eye Health
Flavoured Milk	
Functional - Bone Health Vitamin/Mineral Fortified	Functional - Bone Health
Flavoured Water	
Carbon Neutral	Carbon Neutral
Ethical - Charity	
Functional - Skin	
Nails & Hair	
Frozen Desserts	
Limited Edition	Limited Edition
Premium	
Fruit Snacks	
Convenient Packaging Refill/Refillable	Refill/Refillable
Fruit/Flavoured Still Drinks	
Functional - Immune System	Functional - Immune System
Functional - Skin	
Nails & Hair	
Vitamin/Mineral Fortified	

Table 1: Increased attributes in 2020 with respect to 2021 by product category (cont.)

Based on shares	Based on number of products
Gin	
Premium	Limited Edition
Growing Up Milk (1-4 years)	
Added Calcium	Added Calcium
Carbon Neutral	Babies & Toddlers (0-4)
Functional - Bone Health	Functional - Bone Health
Functional - Eye Health	Functional - Eye Health
Functional - Immune System	Functional - Immune System
Functional - Other	Functional - Other
Palm Oil Free	Vitamin/Mineral Fortified
Gum	
Anti-Bacterial	Anti-Bacterial
Economy	Whitening
Functional - Bone Health	
Whitening	
Hard Cheese & Semi-Hard Cheese	
	Economy
Hot Cereals	
Microwaveable	
Individually Wrapped Chocolate Pieces	
Ethical - Sustainable (Habitat/Resources)	
Limited Edition	
Instant Noodles	
Low/No/Reduced Saturated Fat	
Instant Pasta	
Microwaveable	
Instant Rice	
Ethical - Environmentally Friendly Package	
Ethical - Recycling	
Juice	
Functional - Immune System	Carbon Neutral
Functional - Skin	Economy
Nails & Hair	Functional - Bone Health
	Functional - Cardiovascular
	Functional - Immune System
	Functional - Other
	Functional - Skin
	Nails & Hair
	Vitamin/Mineral Fortified
Liqueur	
Limited Edition	Limited Edition
Margarine & Other Blends	
Ethical - Sustainable (Habitat/Resources)	
Low/No/Reduced Lactose	
Low/No/Reduced Saturated Fat	
Plant Based	
Stanols/Sterols	
Mayonnaise	
Ethical - Animal	
Meal Kits	
Low/No/Reduced Saturated Fat	

Table 1: Increased attributes in 2020 with respect to 2021 by product category (cont.)

Based on shares	Based on number of products
Meat Products	
Ethical - Animal	Diabetic
Premium	Economy
	Ethical - Animal
	Ethical - Environmentally Friendly Package
	Ethical - Recycling
	Limited Edition
Meat Snacks	
Ethical - Animal	
Meat Substitutes	
Low/No/Reduced Saturated Fat	
Medicated Confectionery	
Functional - Other	
Low/No/Reduced Lactose	
Mixed Assortments	
Ethical - Environmentally Friendly Package	
Ethical - Recycling	
Nectars	
Functional - Skin	Functional - Immune System
Nails & Hair	
Non-Individually Wrapped Chocolate Pieces	
Innovative Ingredient	Innovative Ingredient
Nut Spreads	
Ethical - Toxins Free	
Nutritional & Meal Replacement Drinks	
Female	Functional - Bone Health
Functional - Other	Functional - Skin
Functional - Skin	Innovative Ingredient
Innovative Ingredient	Limited Edition
Male	Nails & Hair
Nails & Hair	Vitamin/Mineral Fortified
Nuts	
	Diabetic
Oils	
	Diabetic
Other Baby Food	
Ethical - Charity	
Ethical - Sustainable (Habitat/Resources)	
Microwaveable	
Vitamin/Mineral Fortified	
Other Natural Sweeteners	
Convenient Packaging	
Other Snacks	
Low/No/Reduced Lactose	
Pasta	
	Economy
	Ethical - Animal
Pastilles, Gums, Jellies & Chews	
Refill/Refillable	Refill/Refillable
Plant Based Drinks (Dairy Alternatives)	
Added Calcium	Added Calcium
Ethical - Sustainable (Habitat/Resources)	Functional - Bone Health
Functional - Eye Health	Functional - Cardiovascular
Low/No/Reduced Lactose	Functional - Eye Health
Stanols/Sterols	Functional - Immune System
	Vitamin/Mineral Fortified

Table 1: Increased attributes in 2020 with respect to 2021 by product category (cont.)

Based on shares	Based on number of products
Plant Based Ice Cream & Frozen Yogurt (Dairy Alternatives)	
Ethical - Charity	
Plant Based Spoonable Yogurts (Dairy Alternatives)	
Added Calcium	
Low/No/Reduced Lactose	
Potato Snacks	
Premium	
Poultry Products	
Ethical - Animal	Economy
	Ethical - Animal
	Ethical - Environmentally Friendly Package
	Ethical - Recycling
	Limited Edition
Prepared Meals	
Low/No/Reduced Saturated Fat	Ethical - Animal
	Ethical - Environmentally Friendly Package
	Ethical - Recycling
	Functional - Bone Health
	Functional - Cardiovascular
	Limited Edition
	Premium
Processed Cheese	
Convenient Packaging	
Low/No/Reduced Lactose	
Rice	
Convenient Packaging	
Salads	
Functional - Skin	
Nails & Hair	
Sandwich Fillers/Spreads	
Ethical - Animal	
Seasonal Chocolate	
	Ethical - Environmentally Friendly Package
	Ethical - Recycling
	Refill/Refillable
Shortening & Lard	
Economy	
Ethical - Animal	
Snack/Cereal/Energy Bars	
	Vitamin/Mineral Fortified
Soft Cheese Desserts	
Added Calcium	Functional - Bone Health
Functional - Bone Health	
Vitamin/Mineral Fortified	
Spoonable Yogurt	
	Functional - Bone Health
	Limited Edition
	Premium
Sports Drinks	
Functional - Other	Functional - Other
Vitamin/Mineral Fortified	

Table 1: Increased attributes in 2020 with respect to 2021 by product category (cont.)

Based on shares	Based on number of products
Stuffing, Polenta & Other Side Dishes	
	Functional - Eye Health
Sweet Biscuits/Cookies	
	Economy
	Ethical - Environmentally Friendly Package
	Ethical - Recycling
	Premium
Sweetened Condensed Milk	
Economy	
Low/No/Reduced Saturated Fat	
Syrups	
Female	
Low/No/Reduced Lactose	
Male	
Table Sauces	
	Economy
Tea	
	Diabetic
	Ethical - Environmentally Friendly Package
Tequila	
Premium	
Toffees, Caramels & Nougat	
Refill/Refillable	Refill/Refillable
Vegetables	
Functional - Skin	Economy
Microwaveable	Ethical - Environmentally Friendly Package
Nails & Hair	Ethical - Recycling
	Functional - Eye Health
	Functional - Skin
	Nails & Hair
Vodka	
Limited Edition	Limited Edition
Water	
Carbon Neutral	Carbon Neutral
Economy	
Wet Soup	
Functional - Weight & Muscle Gain	Functional - Bone Health
Low/No/Reduced Saturated Fat	Functional - Cardiovascular
Wheat & Other Grain-Based Snacks	
Ethical - Charity	
White Milk	
Ethical - Animal	Functional - Bone Health
Ethical - Environmentally Friendly Package	
Ethical - Recycling	
Ethical - Sustainable (Habitat/Resources)	
Functional - Bone Health	
Functional - Weight & Muscle Gain	
Low/No/Reduced Lactose	
White Rum	
Limited Edition	

Table 1 shows that several categories reinforced in 2020 the number of products both including different ethical dimensions (e.g., animal products carried animal welfare attributes). The health attributes were also present in the form of functional attributes. These were particularly important on baby products.

V. Discussion

In order to explore a bit more the results, Tables 2 to 6 show a selection of product categories namely: cakes, pastries and sweet goods, chilled desserts, frozen desserts, potato snacks and prepared meals. The number in parenthesis is the correlation coefficient between 2019 and 2020 profiles. The choice of categories was due to their importance on the discussion of improving nutritionally products that are high in sugar, salt and saturated fats. The tables compare those attributes present in the period 2018 and 2019 with those that were significantly increased in 2020 with particularly attributes.

Cakes, pastries and sweet goods shows a correlation coefficient of 0.98, which indicates a profile in 2020 very similar to 2019. In 2018-19 the number of attributes in their products were 60 including several ethical and health improving ones. However, in 2020 the firms significantly only increase products with two ethical attributes (one of them related to packaging).

The chilled desserts category showed a lower correlation than the previous case equal to 0.76. The firms used 44 attributes in 2018-19. Similar to the cakes, pastries and sweet goods products with two ethical attributes were increased in 2020 (again packaging).

The frozen dessert category showed a higher correlation (0.94) but they had less attributes in 2020 (32 attributes). None of the increment of products in 2020 brought a significant health or ethical attributes. The situation with potato snacks was similar to chilled desserts.

Prepared meals had a correlation of 0.94 and far more attributes as this is a more heterogeneous category. In terms of the products with attributes increase in 2020, it has several functional and ethical attributes.

Table 2 – Cakes, pastries and sweet goods (0.98)

Cakes, Pastries & Sweet Goods					
Claims present 2018-19					
All Natural Product	Children (5-12)	Cobranded	Convenient Packaging	Dairy Free	Ease of Use
Economy	Ethical - Animal	Ethical - Biodegradable	Ethical - Environmentally Friendly Package	Ethical - Environmentally Friendly Product	Ethical - Human
Ethical - Recycling	Ethical - Sustainable (Habitat/Resources)	Event Merchandising	Female	Free from Added/Artificial Additives	Free from Added/Artificial Colourings
Free from Added/Artificial Flavourings	Free from Added/Artificial Preservatives	Functional - Digestive	Functional - Energy	Functional - Slimming	Gluten Free
GMO Free	Halal	High/Added Fibre	High/Added Protein	Kosher	Limited Edition
Low/No/Reduced Allergen	Low/No/Reduced Fat	Low/No/Reduced Lactose	Low/No/Reduced Saturated Fat	Low/No/Reduced Transfat	Low/Reduced Sugar
Male	Microwaveable	No Added Sugar	No Additives/Preservatives	On-the-Go	Organic
Palm Oil Free	Plant Based	Prebiotic	Premium	Seasonal	Social Media
Time/Speed	Vegan/No Animal Ingredients	Vegetarian	Wholegrain	Diet/Light	Ethical - Charity
High Satiety	Interesting Packaging	Low/No/Reduced Calorie	Low/No/Reduced Glycemic	Portionability	Sugar Free
Claims increased after COVID					
Using shares	Using products				
	Ethical - Environmentally Friendly Package				
	Ethical - Recycling				
	Limited Edition				

Table 3 – Chilled desserts (0.76)

Chilled Desserts					
Claims present 2018-19					
All Natural Product	Cobranded	Dairy Free	Diet/Light	Ease of Use	Economy
Ethical - Biodegradable	Ethical - Charity	Ethical - Environmentally Friendly Package	Ethical - Environmentally Friendly Product	Ethical - Human	Ethical - Recycling
Ethical - Sustainable (Habitat/Resources)	Event Merchandising	Free from Added/Artificial Additives	Free from Added/Artificial Colourings	Free from Added/Artificial Flavourings	Free from Added/Artificial Preservatives
Functional - Energy	Gluten Free	GMO Free	Kosher	Limited Edition	Low/No/Reduced Allergen
Low/No/Reduced Fat	Low/No/Reduced Lactose	Low/No/Reduced Transfat	Low/Reduced Sugar	Microwaveable	No Additives/Preservatives
Organic	Plant Based	Premium	Seasonal	Social Media	Vegan/No Animal Ingredients
Vegetarian	Wholegrain	Ethical - Animal	Functional - Cardiovascular	High/Added Protein	Low/No/Reduced Calorie
No Added Sugar	On-the-Go				
Claims increased after COVID					
Using shares	Using products				
	Ethical - Environmentally Friendly Package				
	Ethical - Recycling				

Table 4 – Frozen desserts (0.94)

Frozen Desserts					
Claims present 2018-19					
Diet/Light	Ease of Use	Ethical - Environmentally Friendly Package	Ethical - Recycling	Ethical - Sustainable (Habitat/Resources)	Free from Added/Artificial Colourings
Free from Added/Artificial Flavourings	Free from Added/Artificial Preservatives	Gluten Free	Low/No/Reduced Allergen	Low/No/Reduced Fat	Low/No/Reduced Transfat
Microwaveable	No Additives/Preservatives	Palm Oil Free	Premium	Seasonal	Social Media
Time/Speed	Vegan/No Animal Ingredients	Vegetarian	Children (5-12)	Dairy Free	Ethical - Animal
Ethical - Environmentally Friendly Product	Ethical - Human	Event Merchandising	Female	GMO Free	Limited Edition
Low/No/Reduced Cholesterol	Male				
Claims increased after COVID					
Using shares	Using products				
Limited Edition	Limited Edition				
Premium					

Table 5 – Potato snacks (0.88)

Potato Snacks					
Claims present 2018-19					
All Natural Product	Ethical - Environmentally Friendly Package	Convenient Packaging	Diet/Light	Economy	Cobranded
Ethical - Human	Ethical - Environmentally Friendly Product	Ethical - Recycling	Ethical - Sustainable (Habitat/Resources)	Event Merchandising	Free from Added/Artificial Additives
Free from Added/Artificial Colourings	Free from Added/Artificial Flavourings	Free from Added/Artificial Preservatives	Gluten Free	GMO Free	Kosher
Limited Edition	Low/No/Reduced Allergen	Low/No/Reduced Cholesterol	Low/No/Reduced Fat	Low/No/Reduced Lactose	Low/No/Reduced Saturated Fat
Low/No/Reduced Sodium	Low/No/Reduced Transfat	No Added Sugar	No Additives/Preservatives	Palm Oil Free	Premium
Seasonal	Social Media	Vegan/No Animal Ingredients	Vegetarian	Children (5-12)	Dairy Free
Ease of Use	Ethical - Animal	Ethical - Biodegradable	Ethical - Charity	Halal	Low/No/Reduced Calorie
On-the-Go	Portionability				
Claims increased after COVID					
Using shares	Using products				
Premium					

Table 6 – Prepared meals (0.94)

Prepared Meals					
Claims present 2018-19					
All Natural Product	Carbon Neutral	Children (5-12)	Cobranded	Convenient Packaging	Dairy Free
Diet/Light	Ease of Use	Economy	Ethical - Animal	Ethical - Biodegradable	Ethical - Charity
Ethical - Environmentally Friendly Package	Ethical - Environmentally Friendly Product	Ethical - Human	Ethical - Recycling	Ethical - Sustainable (Habitat/Resources)	Ethical - Toxins Free
Free from Added/Artificial Additives	Free from Added/Artificial Colourings	Free from Added/Artificial Flavourings	Free from Added/Artificial Preservatives	Functional - Bone Health	Functional - Brain & Nervous System
Functional - Cardiovascular	Functional - Digestive	Functional - Energy	Functional - Immune System	Functional - Other	Functional - Slimming
Functional - Weight & Muscle Gain	Gluten Free	GMO Free	Halal	High Satiety	High/Added Fibre
High/Added Protein	Hormone Free	Kosher	Low/No/Reduced Allergen	Low/No/Reduced Calorie	Low/No/Reduced Fat
Low/No/Reduced Saturated Fat	Low/No/Reduced Sodium	Low/No/Reduced Transfat	Low/Reduced Sugar	Microwaveable	No Added Sugar
No Additives/Preservatives	On-the-Go	Organic	Palm Oil Free	Plant Based	Premium
Seasonal	Social Media	Time/Speed	Vegan/No Animal Ingredients	Vegetarian	Vitamin/Mineral Fortified
Wholegrain	Antioxidant	Babies & Toddlers (0-4)	Female	Functional - Eye Health	Limited Edition
Low/No/Reduced Glycemic	Male				
Claims increased after COVID					
Using shares	Using products				
Low/No/Reduced Saturated Fat	Ethical - Animal				
	Ethical - Environmentally Friendly Package				
	Ethical - Recycling				
	Functional - Bone Health				
	Functional - Cardiovascular				
	Limited Edition				
	Premium				

VI. Conclusions

The new product development continued during the lockdown with firms trying to capture the attention of consumers. The preliminary results show that for about 70 per cent of the product categories the similarities of the profiles in 2019 and 2020 were very high (e.g., correlation coefficients above 90 per cent).

The analysis of the dynamics of attributes indicated that when comparing 2019 and 2020 (considering the period March to December), health and nutrition attributes were the ones with the higher movements (attributes that left, remain and new), followed by ethical products (e.g., environmental packaging).

The results indicate that the new product launched during the COVID-19 period lockdown in 2020 kept growing as firms were trying to capture the attention of consumers; this happened despite the disruptions on food supply chains due to the pandemic.

The most popular attributes within the products launched after March 2020 were the health and nutrition attributes (functionals), showing that firms may have been reacting to consumers interest during the lockdown. However, it should be noted that this trend was a continuation from previous paths and not a change due to the pandemic.

VII. References

Abdel-Aty, S.H., 1960. Techniques of testing similarity between profiles. ETS Research Bulletin Series, 1960(2), pp.i-26.

Costa-Font, M. and Revoredo-Giha, C. (2020). Covid-19: the underlying issues affecting the UK's food supply chains. London School of Economics blog, LSE Business Review, March 25th, Available online at: <https://blogs.lse.ac.uk/businessreview/2020/03/25/covid-19-the-underlying-issues-affecting-the-uks-food-supply-chains/>

Chronopoulos DK, Lukas M, Wilson JO. Consumer spending responses to the COVID-19 pandemic: An assessment of Great Britain. Q19 (2020). doi: 10.2139/ssrn.3586723

Fuller, G.W., 2004. New food product development: from concept to marketplace. CRC Press.

Lucas, S., Soler, L.-G. & Revoredo-Giha, C. 2021. Trend analysis of sustainability claims: The European fisheries and aquaculture markets case. Food Policy, 104, 102141.

Keane M, Neal T. Consumer panic in the COVID-19 pandemic. J Econom. (2021) 220:86–105. doi: 10.1016/j.jeconom.2020.07.045

Naeem M. The role of social media to generate social proof as engaged society for stockpiling behaviour of customers during Covid-19 pandemic. *Q Market Res.* (2020) 24:281–301. doi: 10.1108/QMR-04-2020-0050

O'Connell M, De Paula Á, Smith K. Preparing for a pandemic: spending dynamics and panic buying during the COVID-19 first wave. *Fisc Stud.* (2021) 42:249–64. doi: 10.1111/1475-5890.12271

Palma, M. A., Ribera, I. A. & Knutson, R. D. 2016. The era of the functional consumer. *Journal of Food Products Marketing*, 22, 555-570.

Rees, W., Tremma, O. & Manning, I. 2019. Sustainability cues on packaging: The influence of recognition on purchasing behavior. *Journal of Cleaner Production*, 235, 841-853.

Revoredo-Giha, C. and Russo, C., 2021. Purchases of meats and fish in Great Britain during the Covid-19 lockdown period. *Frontiers in Nutrition*, 8.

Revoredo-Giha, C., Russo, C., and Twum, E. K. 2021. Purchases of Fruit and Vegetables for at Home Consumption During COVID-19 in the UK: Trends and Determinants. *Frontiers in Nutrition* (accepted for publication).

Rex, E. & Baumann, H. 2007. Beyond ecolabels: what green marketing can learn from conventional marketing. *Journal of Cleaner Production*, 15, 567-576.

Siró, I., Kápolna, E., Kápolna, B. and Lugasi, A., 2008. Functional food. Product development, marketing and consumer acceptance—A review. *Appetite*, 51(3), pp.456-467.

Solis, E. 2016. Mintel global new products database (GNPD). *Journal of Business & Finance Librarianship*, 21, 79-82.

Yang, W., Renwick, A., Tantiwat, W., Revoredo-Giha, C. & Wu, D. 2021. Food product launch and positioning in China—Do claims of credence attributes matter? *Agribusiness*, 37, 683-926.

Yuen KF, Wang X, Ma F, Li KX. The psychological causes of panic buying following a health crisis. *Int J Environ Res Public Health.* (2020) 17:3513. doi: 10.3390/ijerph17103513

Annex

Table A1: Number of launched products by sub-category 2019-21

	New formulation	New packaging	New product	New variety range extension	Relaunch	Total
Cakes, Pastries & Sweet Goods	4	284	112	502	100	1002
Prepared Meals	22	143	180	384	130	859
Meat Products	9	223	90	350	83	755
Sweet Biscuits/Cookies	3	228	121	300	70	722
Snack/Cereal/Energy Bars	10	156	221	266	59	712
Fish Products	1	177	52	311	94	635
Seasonal Chocolate	1	194	52	348	30	625
Poultry Products	6	134	54	323	83	600
Vegetables	0	174	56	271	78	579
Bread & Bread Products	14	161	78	257	67	577
Seasonings	1	169	75	280	47	572
Beer	0	280	93	146	29	548
Baking Ingredients & Mixes	4	132	96	240	40	512
Coffee	3	138	68	241	53	503
Wine	0	43	248	179	0	470
Nutritional & Meal Replacement Drinks	16	56	201	142	36	451
Tea	0	127	97	190	36	450
Hard Cheese & Semi-Hard Cheese	2	190	31	157	44	424
Pasta	0	92	66	206	48	412
Chocolate Tablets	0	111	82	199	14	406
Table Sauces	1	99	91	147	23	361
Chilled Desserts	4	114	43	146	50	357
Cold Cereals	3	113	63	142	36	357
Spoonable Yoghurt	4	105	47	129	66	351
Carbonated Soft Drinks	3	159	58	110	19	349
Pickled Condiments	4	72	66	176	26	344
Hors d'oeuvres & canapes	4	56	64	161	54	339
Non-Individually Wrapped Chocolate Pieces	1	89	79	148	14	331
Nuts	0	109	55	133	34	331
Meat Substitutes	3	38	105	152	29	327
Cooking Sauces	6	81	60	148	28	323
Pastilles, Gums, Jellies & Chews	2	135	36	110	22	305
Pizzas	5	93	47	119	40	304
Dairy Based Ice Cream & Frozen Yoghurt	5	59	37	158	26	285
Potato Snacks	0	114	31	108	26	279
Pastry Dishes	2	59	26	126	46	259
Juice	1	110	24	94	28	257
Rice	0	94	35	89	33	251
Stuffing, Polenta & Other Side Dishes	2	60	54	98	37	251
Wet Soup	3	60	35	113	40	251
Potato Products	3	104	34	72	33	246
Savoury Biscuits/Crackers	2	60	42	108	33	245
Fruit	0	57	24	122	25	228
Pasta Sauces	1	76	35	80	24	216
Fruit Snacks	1	70	31	86	21	209
Dressings & Vinegar	3	46	43	87	27	206
Oils	0	64	45	73	17	199
Sandwiches/Wraps	3	27	27	101	34	192
Soft Cheese & Semi-Soft Cheese	0	65	35	76	16	192
Flavoured Alcoholic Beverages	0	44	65	68	8	185
Plant Based Drinks (Dairy Alternatives)	0	61	45	56	15	177
Confiture & Fruit Spreads	1	42	34	79	19	175
Corn-Based Snacks	0	65	24	61	12	162
Gin	0	11	59	74	5	149
Snack Mixes	0	26	37	73	8	144
Eggs & Egg Products	2	66	26	28	18	140
Honey	0	46	25	54	13	138
Dips	0	34	20	58	21	133
Hot Cereals	1	37	26	57	12	133
Flavoured Water	0	38	42	43	9	132
Meal Kits	0	31	32	60	8	131
Shelf-Stable Desserts	0	52	18	40	15	125
Salads	2	21	24	58	17	122
Nut Spreads	0	42	29	36	10	117
Chocolate Countines	0	72	8	33	3	116
Wheat & Other Grain-Based Snacks	1	22	31	53	5	112
Frozen Desserts	0	17	14	75	4	110
Cider	0	46	13	39	7	105
Individually Wrapped Chocolate Pieces	0	38	21	38	6	103
Instant Noodles	0	36	31	28	8	103

Table A1: Number of launched products by sub-category (cont.)

	New formulation	New packaging	New product	New variety range extension	Relaunch	Total
Meat Snacks	0	18	28	49	8	103
Mayonnaise	1	31	29	36	5	102
Beverage Concentrates	0	32	21	36	11	100
Fruit/Flavoured Still Drinks	0	51	17	19	12	99
Malt & Other Hot Beverages	0	34	29	28	6	97
Processed Cheese	0	22	21	45	5	93
Baby Savoury Meals & Dishes	0	6	3	79	4	92
Kombucha & Other Fermented Drinks	0	14	40	33	3	90
Water	0	70	10	4	6	90
Liqueur	0	14	37	36	1	88
Vegetable Snacks	0	17	34	32	4	87
Energy Drinks	0	29	31	22	4	86
Nectars	1	31	17	23	12	84
Stocks	2	29	9	29	12	81
Toffees, Caramels & Nougat	0	18	20	39	4	81
Popcorn	2	30	20	19	9	80
Drinking Yogurt & Liquid Cultured Milk	1	16	21	21	14	73
RTD (Iced) Coffee	0	29	20	19	2	70
Marshmallows	0	19	18	26	1	64
Meat Pastes & Pates	0	12	15	24	13	64
Noodles	0	17	15	20	11	63
Bean-Based Snacks	2	6	24	16	14	62
Sports Drinks	0	10	31	17	2	60
Baby Snacks	0	11	11	35	2	59
Rice Snacks	0	19	17	21	2	59
White Milk	0	31	4	15	9	59
Other Sauces & Seasonings	0	12	20	17	8	57
Chocolate Spreads	2	9	26	17	1	55
Water Based Ice Lollies, Pops & Sorbets	0	6	14	31	4	55
Flavoured Milk	0	20	7	23	3	53
Baby Fruit Products, Desserts & Yogurts	1	2	6	38	3	50
Butter	0	27	8	8	7	50
Margarine & Other Blends	1	23	8	8	10	50
Vodka	0	17	13	19	1	50
Cream	0	21	5	18	4	48
Syrups	0	14	13	15	4	46
Fresh Cheese & Cream Cheese	0	21	10	11	3	45
Plant Based Ice Cream & Frozen Yogurt (Dairy Alternatives)	0	6	15	23	1	45
Plant Based Spoonable Yogurts (Dairy Alternatives)	0	9	17	13	5	44
Boiled Sweets	0	8	11	19	4	42
Instant Pasta	0	11	19	10	2	42
Baby Formula (0-6 months)	4	10	5	2	18	39
Dry Soup	1	8	2	13	15	39
Standard & Power Mints	0	20	7	8	4	39
Savoury Vegetable Pastes/Spreads	1	7	14	14	2	38
Baby Cereals	0	18	3	9	7	37
Other Sugar Confectionery	0	10	14	9	3	36
Fortified & Other Wines	0	9	9	14	0	32
Whisky	0	11	8	12	1	32
Dark Rum	0	2	16	9	2	29
Sucrose	0	13	4	9	3	29
Baby Formula (6-12 months)	3	8	5	2	10	28
Sandwich Fillers/Spreads	1	11	2	6	8	28
Dessert Toppings	1	5	6	11	4	27
Gum	0	15	9	2	1	27
Soft Cheese Desserts	0	5	8	12	1	26
Growing Up Milk (1-4 years)	1	11	4	0	7	23
Other Natural Sweeteners	0	6	8	6	1	21
Curd & Quark	0	9	3	4	4	20
Beverage Mixes	0	2	6	7	3	18
Liquorice	0	7	5	2	4	18
Medicated Confectionery	0	5	5	8	0	18
Other Snacks	0	1	7	9	1	18
RTD (Iced) Tea	0	4	6	8	0	18
Cassava & Other Root-Based Snacks	0	3	8	4	2	17
Caramel & Cream Spreads	0	2	6	6	0	14
Artificial Sweeteners	0	11	1	1	0	13
Instant Rice	0	1	6	4	1	12
Other Baby Food	0	3	7	2	0	12
Baby Biscuits & Rusks	0	0	0	4	7	11

Table A1: Number of launched products by sub-category (cont.)

	New formulation	New packaging	New product	New variety range extension	Relaunch	Total
Other Spirits	0	1	8	1	0	10
Shortening & Lard	0	5	1	1	2	9
Sticks, Liquids & Sprays	0	3	3	3	0	9
Mixed Assortments	0	3	1	2	2	8
Other Chocolate Confectionery	0	1	2	5	0	8
Sweetened Condensed Milk	0	4	0	1	3	8
White Rum	0	3	4	1	0	8
Tequila	0	1	4	2	0	7
Evaporated Milk	0	2	0	0	4	6
Lollipops	0	0	3	3	0	6
Baby Juices & Drinks	0	1	3	0	0	4
Brandy	0	1	1	2	0	4
Creamers	0	2	1	1	0	4
Yeast Extracts	0	3	0	0	1	4
Liquid Dairy Other	0	0	0	0	0	0

Source: Own elaboration based Mintel's GNPD data

Table A2: Comparison of attribute profiles by year and product sub-category

	Fisher correlation				Fisher correlation		
	2018 and 2019	2018 and 2020	2019 and 2020		2018 and 2019	2018 and 2020	2019 and 2020
Coffee	0.91	0.92	0.99	Beverage Concentrates	0.84	0.57	0.71
Pastry Dishes	0.97	0.97	0.98	Nectars	0.73	0.88	0.70
Cakes, Pastries & Sweet Goods	0.99	0.98	0.98	Curd & Quark	0.62	0.42	0.70
Pastilles, Gums, Jellies & Chews	0.87	0.89	0.98	Dairy Based Ice Cream & Frozen Yogurt	0.91	0.77	0.69
Hors d'oeuvres & canapes	0.93	0.88	0.97	Savoury Biscuits/Crackers	0.75	0.92	0.69
Hard Cheese & Semi-Hard Cheese	0.97	0.96	0.97	Kombucha & Other Fermented Drinks	0.47	0.43	0.69
Bread & Bread Products	0.95	0.91	0.97	Seasonings	0.82	0.44	0.69
Seasonal Chocolate	0.98	0.98	0.97	Malt & Other Hot Beverages	0.84	0.39	0.68
Pizzas	0.94	0.97	0.97	Toffees, Caramels & Nougat	0.94	0.78	0.68
Soft Cheese & Semi-Soft Cheese	0.84	0.81	0.96	Energy Drinks	0.89	0.79	0.68
Tea	0.97	0.95	0.96	Meal Kits	0.88	0.81	0.66
Dips	0.92	0.91	0.96	Baby Savoury Meals & Dishes	0.72	0.86	0.66
Chocolate Tablets	0.93	0.92	0.96	Fruit Snacks	0.80	0.75	0.66
Sweet Biscuits/Cookies	0.97	0.95	0.96	Stocks	0.46	0.78	0.66
Poultry Products	0.96	0.89	0.95	Fresh Cheese & Cream Cheese	0.65	0.61	0.64
Dressings & Vinegar	0.95	0.90	0.95	Shelf-Stable Desserts	0.74	0.86	0.62
Individually Wrapped Chocolate Pieces	0.91	0.90	0.95	Flavoured Milk	0.88	0.64	0.62
Nutritional & Meal Replacement Drinks	0.91	0.91	0.95	Dry Soup	0.41	0.74	0.61
Pickled Condiments	0.89	0.85	0.95	Liquorice	0.18	0.06	0.60
Rice	0.94	0.95	0.95	Sports Drinks	0.69	0.34	0.60
White Milk	0.92	0.91	0.95	RTD (Iced) Coffee	0.61	0.86	0.58
Prepared Meals	0.98	0.98	0.94	Baby Fruit Products, Desserts & Yogurts	0.59	0.94	0.54
Vegetables	0.92	0.90	0.94	Chocolate Spreads	0.50	0.91	0.53
Confiture & Fruit Spreads	0.87	0.90	0.94	Meat Pastes & Pates	0.56	0.72	0.50
Table Sauces	0.78	0.77	0.94	Liqueur	0.52	0.93	0.49
Fish Products	0.97	0.87	0.94	Syrups	0.32	0.39	0.48
Frozen Desserts	0.86	0.91	0.94	Rice Snacks	0.78	0.36	0.48
Gin	0.87	0.88	0.93	Wheat & Other Grain-Based Snacks	0.85	0.67	0.47
Wet Soup	0.97	0.94	0.93	Sweetened Condensed Milk	-0.67	-0.80	0.46
Eggs & Egg Products	0.93	0.95	0.93	Bean-Based Snacks	0.88	0.55	0.45
Cold Cereals	0.95	0.93	0.93	Other Natural Sweeteners	0.70	0.35	0.45
Meat Products	0.95	0.98	0.93	Evaporated Milk	-0.89	-0.82	0.44
Pasta	0.91	0.82	0.93	Caramel & Cream Spreads	0.05	0.50	0.42
Salads	0.88	0.92	0.93	Meat Snacks	0.63	0.76	0.40
Sandwiches/Wraps	0.95	0.96	0.93	Dessert Toppings	0.57	0.54	0.40
Beer	0.98	0.87	0.92	Baby Cereals	0.63	0.65	0.40
Potato Products	0.92	0.92	0.92	Gum	0.33	0.75	0.38
Carbonated Soft Drinks	0.88	0.97	0.92	Vegetable Snacks	0.63	0.50	0.38
Pasta Sauces	0.87	0.92	0.92	Other Snacks	0.08	-0.06	0.38
Fruit	0.92	0.93	0.92	Standard & Power Mints	0.64	0.70	0.35
Cider	0.89	0.80	0.91	Instant Rice	-0.30	0.11	0.35
Flavoured Alcoholic Beverages	0.60	0.60	0.91	Vodka	0.49	0.36	0.32
Stuffing, Polenta & Other Side Dishes	0.80	0.87	0.91	Other Sugar Confectionery	0.43	0.34	0.31
Snack Mixes	0.79	0.88	0.90	Medicated Confectionery	0.34	0.21	0.28
Meat Substitutes	0.59	0.76	0.90	Sucrose	0.24	0.11	0.27
Wine	0.82	0.66	0.90	Other Sauces & Seasonings	-0.14	0.41	0.22
Flavoured Water	0.84	0.89	0.90	Noodles	0.50	0.36	0.18
Hot Cereals	0.92	0.91	0.89	Instant Pasta	0.60	0.68	0.17
Cooking Sauces	0.94	0.96	0.89	Soft Cheese Desserts	0.41	0.16	0.17
Potato Snacks	0.94	0.90	0.88	Dark Rum	0.30	-0.11	0.15
Spoonable Yogurt	0.96	0.89	0.88	Baby Formula (6-12 months)	0.63	0.50	0.14
Processed Cheese	0.91	0.91	0.88	Baby Formula (0-6 months)	0.57	0.45	0.14
Fruit/Flavoured Still Drinks	0.89	0.81	0.87	Boiled Sweets	0.19	0.20	0.13
Baby Snacks	0.85	0.87	0.87	Savoury Vegetable Pastes/Spreads	0.42	0.56	0.12
Nut Spreads	0.88	0.80	0.87	Growing Up Milk (1-4 years)	0.50	0.34	0.02
Nuts	0.84	0.77	0.87	Baby Biscuits & Rusks	0.14	0.23	0.01
Water	0.90	0.92	0.85	RTD (Iced) Tea	0.44	-0.24	-0.08
Popcorn	0.76	0.60	0.85	Other Baby Food	-0.30	-0.18	-0.14
Cream	0.83	0.66	0.84	Fortified & Other Wines	0.07	0.45	-0.14
Water Based Ice Lollies, Pops & Sorbets	0.77	0.85	0.83	Whisky	-0.09	-0.18	-0.15
Mayonnaise	0.84	0.71	0.83	Shortening & Lard	-0.33	-0.30	-0.23
Baking Ingredients & Mixes	0.97	0.83	0.83	Beverage Mixes	0.26	-0.48	-0.24
Juice	0.92	0.90	0.82	Brandy	-1.00	-1.00	-0.25
Butter	0.65	0.80	0.81	Sticks, Liquids & Sprays	-0.04	-0.60	-0.29
Instant Noodles	0.72	0.84	0.79	Cassava & Other Root-Based Snacks	-0.19	-0.05	-0.34
Honey	0.90	0.79	0.78	Mixed Assortments	0.77	-0.18	-0.36
Corn-Based Snacks	0.97	0.79	0.78	Sandwich Fillers/Spreads	-0.06	0.13	-0.37
Drinking Yogurt & Liquid Cultured Milk	0.82	0.74	0.78	Lollipops	-0.27	-0.24	-0.39
Chocolate Countlines	0.86	0.52	0.78	Artificial Sweeteners	0.81	-0.43	-0.59
Plant Based Drinks (Dairy Alternatives)	0.83	0.93	0.78	White Rum	-1.00	-0.67	-0.64
Oils	0.95	0.81	0.77	Baby Juices & Drinks	-0.70		-0.70
Snack/Cereal/Energy Bars	0.83	0.91	0.77	Other Chocolate Confectionery	-0.37	-0.60	-0.83
Non-Individually Wrapped Chocolate Pieces	0.93	0.77	0.77	Creamers	-0.29	-1.00	-0.89
Plant Based Spoonable Yogurts	0.82	0.76	0.77	Other Spirits	-1.00		-1.00
Chilled Desserts	0.97	0.72	0.76	Tequila	-1.00	-0.43	-1.00
Marshmallows	0.49	0.58	0.76	Yeast Extracts	-0.64	-1.00	-1.00
Plant Based Ice Cream & Frozen Yogurt	0.80	0.75	0.76	Liquid Dairy Other	-1.00	-1.00	
Margarine & Other Blends	0.55	0.65	0.74				

Source: Own elaboration based Mintel's GNPD data