Personas for DiscountMate

Version: Draft

Author(s): Adam Creek (s89373017)

Background:

All users of DiscountMate, regardless of 'Persona', have a common objective to find the retailer which offers the desired product(s) / product category at the most appealing price.

The addition of site personas allow for products to be 'tagged' against one or more personas based on price, brand, product name / description. It is envisaged that with the addition of user transactional data or site interactions (and potentially demographic user sign-up data), user personas would evolve with more related data points, and therefore product / brand recommendations could be surfaced to users based on aggregated user persona consumption / interaction, hence building out a recommendation engine, not based purely on product and price or equally less bias based on pre-conceived persona. This could be further enhanced through a hybrid recommendation engine that utilizes collaborative and content filtering (weighed between how likely user will like a product based on other users within the persona as well as measuring the similarity between product price / category / brand).

The potential benefits site personas offer include:

- **Filter products / categories dynamically** by persona preferences.
- **Recommend products / brands / baskets** based on what similar users are buying.
- **Compare across supermarkets** but highlight the "best" option per persona.
- Potential to introduce gamification elements, such as rewards.

For example:

- **User 1 (Low income, staples)** → Persona: *Budget-Conscious Shopper* → Suggested: *Store-brand Rice, Discount Pasta, Canned Beans*

- **User 2 (Medium income, health products)** → Persona: *Health Enthusiast* → Suggested: *Organic Kale, Vegan Protein Powder, Almond Milk*

- **User 5 (High income, premium items)** → Persona: *Premium Shopper* → Suggested: *Imported Olive Oil, Artisan Cheese, Fine Wine*

Proposed Personas:

1. Budget-Conscious Shopper

- **Demographics:**
    - Students, young adults, low-income households
    - Age range: 18–35
- **Behaviour:**
    - Prioritises lowest price per unit
    - Prefers store-brand or discounted items
    - Uses filters like "cheapest first" or "bulk savings"
- **Food Categories:**
    - Pantry staples (bread, rice, pasta, canned goods)
    - Value packs, multi-buy offers
   - Discounted bakery items

2. Health Enthusiast
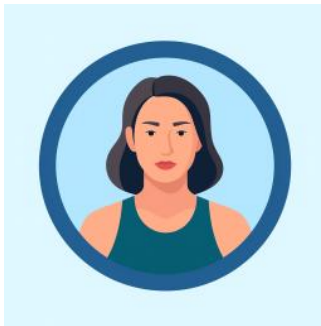
- **Demographics:**
    - Fitness-oriented professionals, families with health focus
    - Age range: 25–45
- **Behaviour:**
    - Seeks nutritional value, organic, wholegrain, gluten-free
    - Compares fibre, sugar, and additive content
    - Willing to pay slightly more for healthier options

- **Food Categories:**
  - Wholegrain bread, seeded loaves, gluten-free pasta
  - Organic produce, plant-based alternatives
  - Low-sugar snacks

3. Family Planner
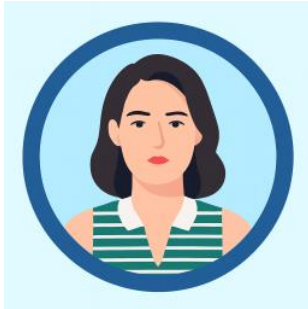
- **Demographics:**
  - Parents with children, medium-income households
  - Age range: 30–50
- **Behaviour:**
  - Buys in bulk for weekly family needs
  - Compares per-unit cost for larger packs
  - Looks for balance between price and quality
- **Food Categories:**
  - Family-size bread loaves, multipacks of snacks
  - Dairy, cereals, frozen meals
  - Household essentials (cleaning, baby products)

4. Convenience Seeker

- **Demographics:**
  - Professionals, urban dwellers
  - Age range: 20–50

- **Behaviour:**
  - Prefers ready-to-eat or quick-prep items
  - Compares delivery speed and availability
  - Often shops late or on-the-go
- **Food Categories:**
  - Pre-sliced bread, frozen pizza, instant noodles
  - Grab-and-go snacks, energy drinks
  - Microwave meals

5. Premium Shopper

- **Demographics:**
  - High-income households, foodies, older professionals
  - Age range: 35–60+
- **Behaviour:**
  - Seeks gourmet, artisanal, imported products
  - Compares specialty items across retailers
  - Less price-sensitive, but still values "best deal" for premium goods
- **Food Categories:**
  - Artisan bread, sourdough, brioche
  - Fine cheeses, wines, organic meats
  - Gourmet pantry staples

Persona Sign-Up Allocation

Site users may opt to either 1) select a persona which resonates with them or 2) let DiscountMate assign them to a persona based on answering several qualifying questions. For example:

In considering your grocery purchase decisions, answer which of the following questions you most identify with.

Q1: Do you typically consider whether the food is Organic, healthy or less processed?
├─ Yes → Health Enthusiast
└─ No →

Q2: Is it important to you that the food is Ready-to-eat or requires minimal preparation time ?
├─ Yes → Convenience Seeker
└─ No →

Q3: Do you often compare prices across stores?
├─ No →
└─ Yes → Budget-Conscious Shopper, Family Planner

Q4: Is price the overriding factor ?
├─ Yes → Budget-Conscious Shopper
└─ No →

Q5: Do you often prefer gourmet / specialty items / premium brands ?
├─ Yes → Premium Shopper
└─ No →

Q6: Do you shop for multiple people?
├─ Yes → Family Planner
└─ No →

Tagging Product Data

The initial approach would be to tag products using keywords within the product name, description and brand, that map to personas, essentially a rule-based approach. A product can belong to multiple personas depending on its descriptors. e.g *"Organic Gourmet Wholegrain Bread"* → Health Enthusiast + Premium Shopper. Price or category relevant price could also be applied in addition to product name / brand analysis. This approach could be extended using more advanced natural language processing techniques, as well as applying persona weighting based on transactional / site interaction data (if available).

 Examples of keywords allocated to personas are listed below, obviously the final list would need to be verified through research, as well as recognizing that some products may fit equally across all categories.

Persona Keyword Table

Budget-Conscious	Health Enthusiast	Family Planner	Convenience Seeker	Premium Shopper
cheap	organic	family-pack	instant	gourmet
discount	wholegrain	multipack	ready-to-eat	artisan
value	gluten-free	bulk	frozen	imported
bulk	seeded	convenient	microwave	luxury
economy	low-sugar	saver-size	quick	specialty
budget	protein	household	grab-and-go	fine
saver	fibre	kids	snack	exclusive
low-cost / lowest	plant-based	child-friendly	prepared	crafted
affordable	vegan	snack-pack	single-serve	authentic
markdown	Natural / clean	weekly	easy	premium
clearance	wholesome	essentials	fast	Select / superior
deal	fortified	bundle	pre-sliced	high-end
bargain	probiotic	economy-pack	pre-packed	delicacy
reduced	superfood	family-size	on-the-go	rare
multi-buy	antioxidant	large	rapid	boutique
store-brand	low-fat	sharing	heat-and-eat	exotic
generic	sugar-free	refill	express	signature
price-cut	multigrain	everyday	takeaway	upscale
special-offer	raw	staple	handy	refined

Keywords / test analysis ideally would be performed at the category level; where the use of plain language combined with price information would provide for more accurate product classification.

- **Budget-Conscious Shopper:** "White Sandwich Sliced Bread $2.29 per loaf"

BAKERS LIFE
White Sandwich Sliced Bread 650g

650 g
($0.35 per 100 g)
$2.29
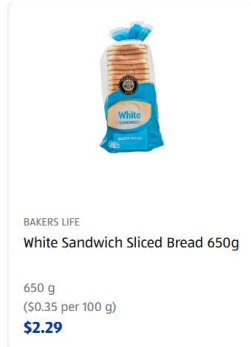
- **Health Enthusiast:** "Lower Carb, Higher Protein Bread, $5.29 per loaf"

BAKERS LIFE
Lower Carb Higher Protein Bread 600g

600 g
($0.88 per 100 g)
$5.29

- **Family Planner:** "Bakehouse Traditional White Bread, $3.69 per loaf"

BAKERS LIFE
Bakehouse Traditional White Bread 700g

700 g
($0.53 per 100 g)
$3.69
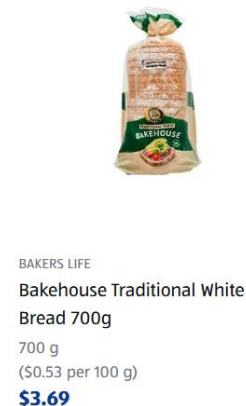
Premium Shopper: "Chocolate Chip <u>Brioche</u> Sliced Loaf, $4.49 per loaf"

BON APPETIT
Chocolate Chip Brioche Sliced Loaf
500g
500 g
($0.90 per 100 g)
$4.49

Basic string analysis using regrex across web-scrapped dataset illustrates the potential to tag products against personas, however there are limitations in this approach. Brand names, for example, do not always equate to quality products / persona desired products. Hence, a more advanced approach would need to be incorporated to associate brand names with their relative category price premium.

Persona	Item Name	Persona
		Premium Shopper, Health Enthusiast ⌄
Premium Shopper, Health Enthusiast	Carman's Gourmet Protein Bars Dark Choc & Cranberry	
Premium Shopper, Health Enthusiast	Carman's Salted Dark Choc Almond Gourmet Protein Bars	
Premium Shopper, Health Enthusiast	Connoisseur Gourmet Blood Orange & Chocolate Ice Cream Sticks	
Premium Shopper, Health Enthusiast	Connoisseur Gourmet Ice Cream Mini Cookies & Cream Sticks	
Premium Shopper, Health Enthusiast	Continental Gourmet Risotto Mushroom & Chive	
Premium Shopper, Health Enthusiast	Coolibah Gourmet Salad Mix	
Premium Shopper, Health Enthusiast	Creative Gourmet Frozen Banana Chunks	
Premium Shopper, Health Enthusiast	Creative Gourmet Mixed Berries	
Premium Shopper, Health Enthusiast	Creative Gourmet Passionfruit Cubes	
Premium Shopper, Health Enthusiast	Creative Gourmet Pink Dragonfruit Chunks	
Premium Shopper, Health Enthusiast	Creative Gourmet Snap Frozen Blueberries	
Premium Shopper, Health Enthusiast	Fancy Feast Adult Savory Centers Patè With Chicken And A Gourmet Gravy Center Wet Cat Food	
Premium Shopper, Health Enthusiast	Fancy Feast Adult Savory Centers Patè With Salmon And A Gourmet Gravy Center Wet Cat Food	
Premium Shopper, Health Enthusiast	Fancy Feast Adult Savory Centers Patè With Tuna And A Gourmet Gravy Center Wet Cat Food	
Premium Shopper, Health Enthusiast	Gourmet Delight Cat Food Beef Mince In Gravy	
Premium Shopper, Health Enthusiast	Gourmet Delight Cat Food Tuna Flakes With Chicken	
Premium Shopper, Health Enthusiast	Gourmet Delight Cat Food Whitemeat Tuna With Chicken	
Premium Shopper, Health Enthusiast	Gourmet Delight Meaty Feast Multipack	
Premium Shopper, Health Enthusiast	Gourmet Delight Ocean Delights Multipack	
Premium Shopper, Health Enthusiast	Gourmet Delight With Chicken Mince In Gravy	
Premium Shopper, Health Enthusiast	Gourmet Delight with Whitemeat Tuna & Crab	