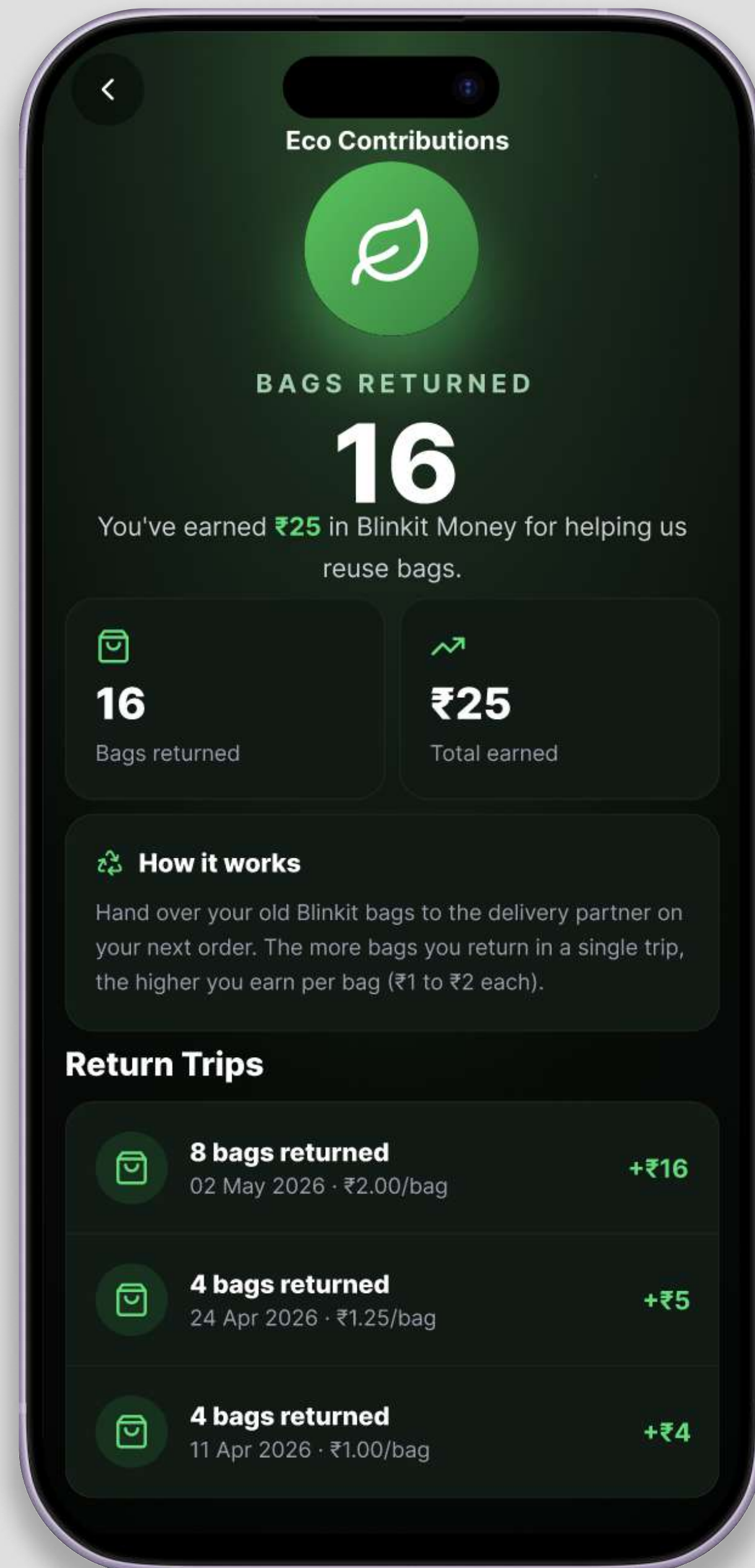




Influencing User Behavior in Quick Commerce Apps

A multimodal design project reducing packaging waste in 10-minute delivery platforms

By Yashvardhan Singh
Norline Studio

The Context



Speed at What Cost?

Quick commerce prioritizes instant delivery over sustainability

- Disposable packaging dominates every order
- Perishable inventory losses compound waste
- No system to close the loop

Initial Exploration

Two Paths

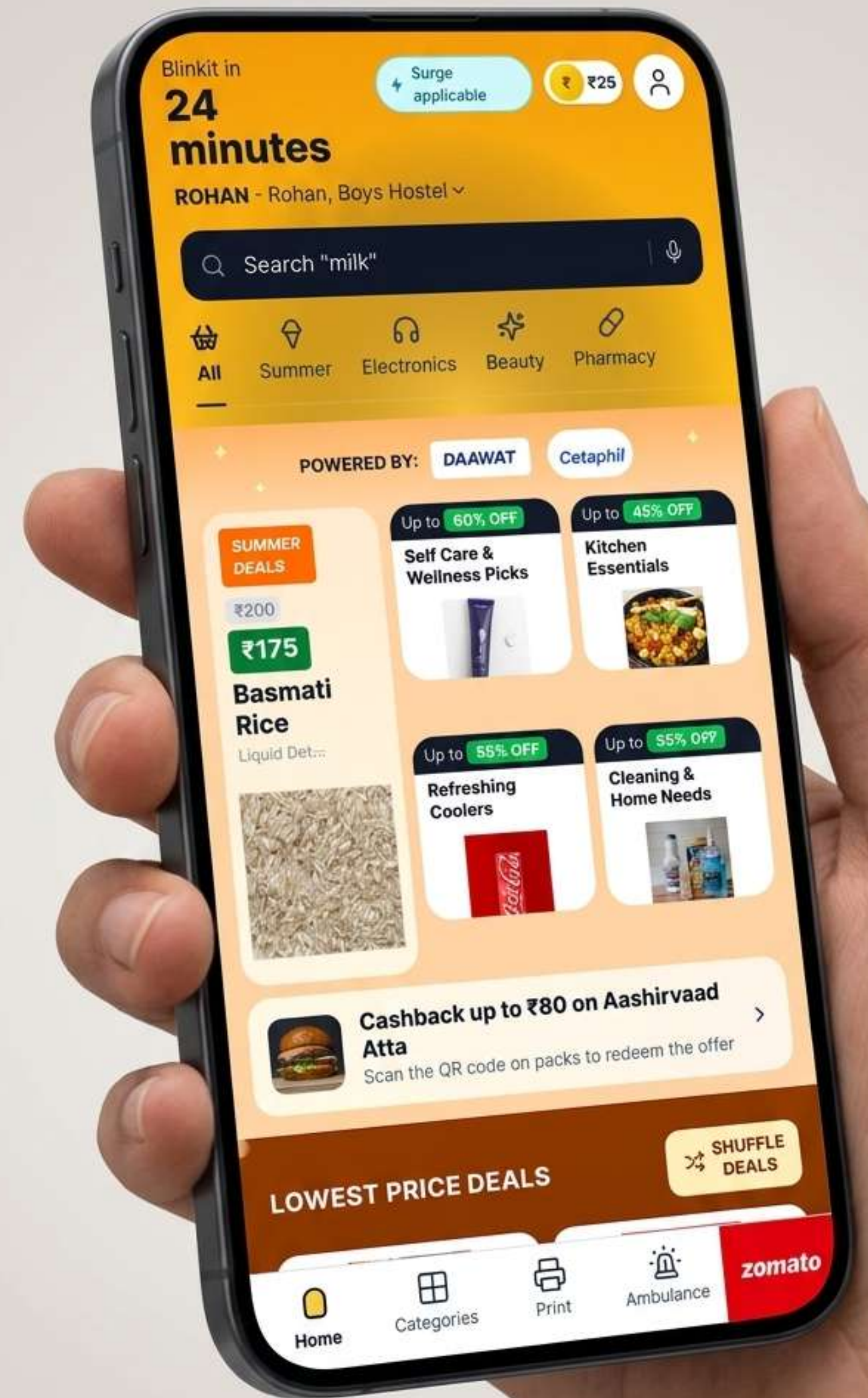
- Food adulteration detection
- Waste management systems

Common Problem

System level issues which can't be solved with design interventions. These were Neither scalable nor implementable.

My Design Constraint

How might we create a scalable, implementable solution without additional hardware?



Project's Approach

1

In Depth Research

Primary & Secondary sources,
Interviews, observations, surveys

2

Stakeholder Mapping

Blinkit users, delivery personnel,
warehouse workers, Consumers, More.

3

Focus on Real Behavior

Observed actions over stated
preferences

Diverge

Discover

Converge

Define

Diverge

Develop

Converge

Deliver

Research Evidence: Secondary

1.1 News Articles - Food and Consumption Habits

1. <https://economictimes.indiatimes.com/news/new-updates/no-fuel-inside-no-food-outside-zomato-swiggy-deliveries-take-major-hit-as-lpg-crisis-deepens-amid-iran-israel-war/articleshow/129500957.cms>
2. <https://timesofindia.indiatimes.com/life-style/food-news/dead-lizard-in-chicken-curry-ordered-from-zomato-leaves-meerut-man-hospitalised-and-sparks-food-safety-worries/articleshow/125932134.cms>
3. <https://www.reuters.com/world/india/indias-probe-finds-zomato-swiggy-breached-antitrust-laws-documents-show-2024-11-08/>
4. <https://www.ndtvprofit.com/business/fssai-new-guidelines-food-delivery-platforms-adulteration-9969350>
5. <https://retail.economictimes.indiatimes.com/news/e-commerce/e-tailing/swiggy-zomato-flipkart-among-26-e-comm-platforms-complying-with-dark-pattern-guidelines/125482517>
6. <https://fssai.gov.in/index.php?page=act-rules-regulations.php>
7. <https://www.reuters.com/business/india-orders-zomato-pay-95-mln-taxes-fines-latest-setback-2024-12-12/>

Key Takeaways-

- Regulations from Governing bodies like FSSAI are reacting to rising safety issues and are not actively preventing them.
- Even ordering food is being manipulated at a UX level with dark patterns and hidden menus.
- Food System is evolving, but VERY slowly and bureaucratically. Lobbying from these companies is the biggest hurdle.
- The system depends on unstable labor. People who are underpaid and overworked. they're being exploited everyday because of money disparity.
- Authenticity in food is a major gap, fake paneer, fake milk, fake spices, fake butter.

1.2 Videos, Documentaries and Podcasts - Food and Consumption Habits

1. <https://www.youtube.com/watch?v=zJu117xcs9Y>
2. https://www.youtube.com/watch?v=ym4qROz_TtI
3. <https://www.youtube.com/watch?v=v8kit5FVBKw>
4. <https://www.youtube.com/watch?v=UtS3J9hiyEU>
5. https://www.youtube.com/watch?v=gndV_d_Q1SE

Key Takeaways-

- Big companies are designing food to be addictive by uing Sugar + salt + fat combo. It is supposed to keep us in the same loop of ordering fast food.
- There's a big illusion of choosing food, same few companies own most of what we have, both the bad and its healthy alternative in most cases.
- Swiggy/Zomato are much more than food companies, they're also convenience systems where speed matters more than quality, blinkit by zomato or instamart by swiggy are prime examples of this.
- "10-minute delivery" means pre-made, reheated, processed food.
- Fake paneer, synthetic milk, adulteration is too common, even though it has been for ages, it doesnt mean fssai can't take steps to prevent it.
- We cannot easily verify quality without lab testing, increasing friction.
- Labels don't always mean 100 percent correct information, low trust in food and more so in our authorities.



1.3 Research papers - Food and consumption Habits

1. <https://www.ijnrd.org/papers/IJNRD2304394.pdf>
2. <https://www.ijfmr.com/papers/2024/6/34157.pdf>
3. https://www.researchgate.net/publication/378871336_A_CASE_STUDY_ON_ANALYZING_THE_IMPACT_OF_ON_CONSUMER_BEHAVIOUR_ANS_CONSUMPTION_PATTERNS
4. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8707810/>
5. <https://journals.sagepub.com/doi/10.1177/20438869231151449>

Sustainability: A few studies investigated the environmental and social sustainability of Indian food systems, highlighting issues such as food waste, land use, and food security. These studies recommended the adoption of sustainable practices, such as organic farming and local food systems, to address these challenges.

Challenges and Opportunities: Despite the growing interest in Indian food, there are several challenges that need to be addressed. These include the need for more research on the nutritional and health benefits of Indian food, the development of sustainable food systems (Naik et al.2017), and the preservation of traditional culinary practices. At the same time, there are numerous opportunities for further research and innovation in the field, such as the use of new technologies to enhance the flavor and nutritional quality of Indian food, the development of new products and markets, and the promotion of Indian food as a cultural and culinary tourism product.

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this review highlights the diverse and dynamic nature of research on Indian food, which encompasses a wide range of topics and approaches. The review identifies several key trends, challenges, and opportunities in the field, which can guide future research and policy development. Overall, the review suggests that Indian food has significant potential to contribute to global health, nutrition, and cultural diversity, but this potential can only be realized through continued research, innovation, and collaboration among stakeholders.

IJNRD

- Traditional Indian spices have documented anti-inflammatory, anti-diabetic, and cholesterol lowering properties which means the nutritional values already exists in Indian cuisines, but modern food systems are moving away from it towards ultra processed food.
- Research on Indian food is mainly concentrated on medicinal properties of ingredients and not

Distribution Strategies

The research indicates optimal distribution channels:

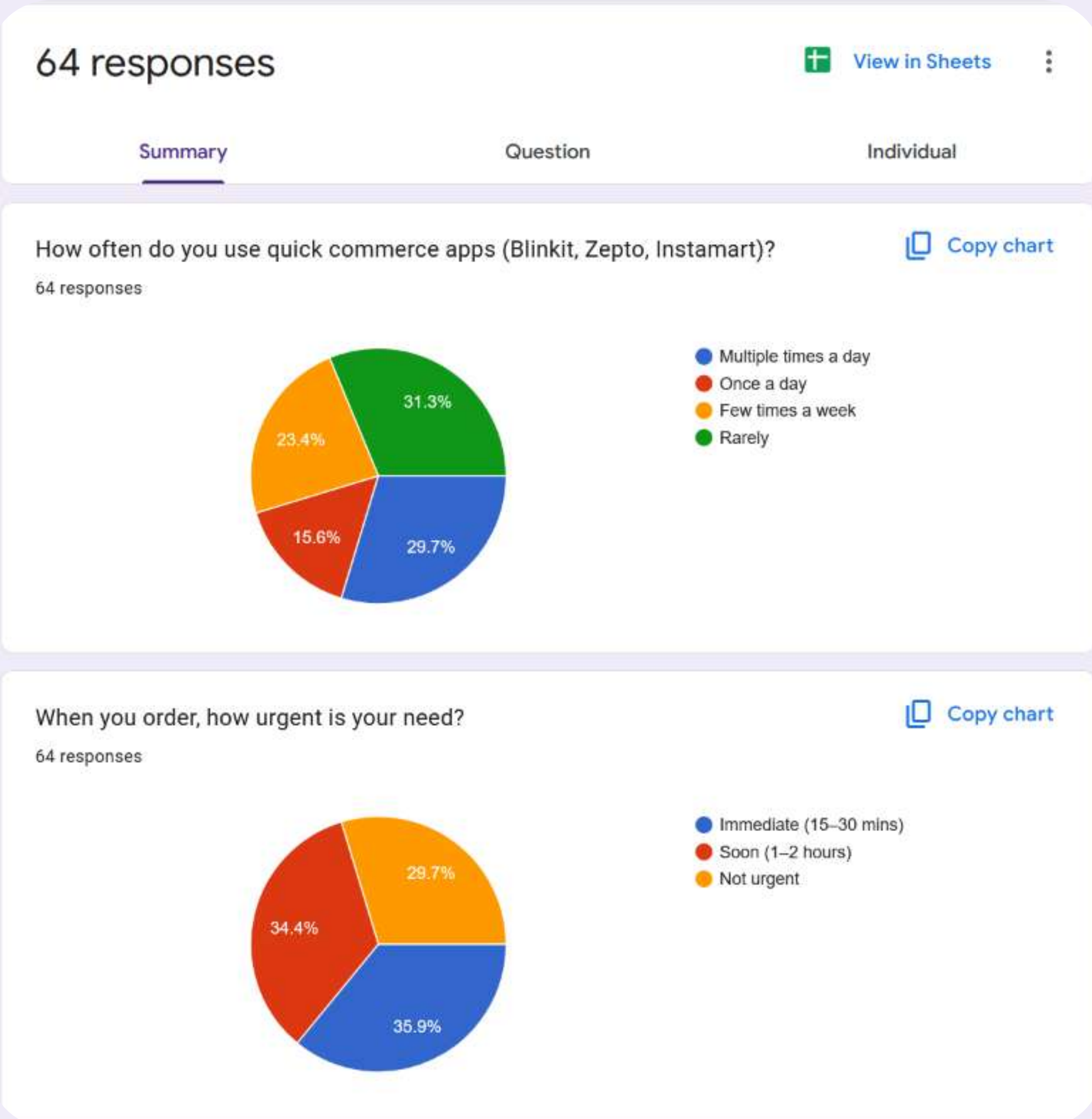
1. Urban Markets

- Modern retail formats, such as supermarkets and hypermarkets, are ideal for premium traditional products that cater to urban consumers' demand for quality and convenience.
- Quick-service restaurants featuring regional cuisines can attract a diverse customer base seeking authentic flavors in a fast-food format.
- Specialized ethnic food stores can serve as hubs for traditional ingredients and products, catering to niche markets with specific cultural preferences.

2. Rural Markets

- Optimization of traditional retail channels, such as local markets and kirana stores, to ensure the availability of traditional ingredients and products in rural areas.
- Mobile retail solutions, such as food trucks and mobile markets, can enhance accessibility and reach in remote regions.
- Direct farm-to-consumer models can promote sustainability and support local farmers while providing consumers with fresh, high-quality produce.

Research Evidence: Primary



- 3.2 Transcriptions
- 3.2.1 Voice Recording Arnav
- 3.2.2 Voice Recording Harsh
- 3.2.3 Voice Recording Rohan
- 3.2.4 Voice Recording Vedansh
- 3.2.5 Voice Recording Yash
- 3.2.6 Voice Recording Kaushik
- 3.2.7 Voice Recording Nikhil
- 3.2.8 Voice Recording Abhinav
- 3.2.9 Voice Recording Ayush

- 3.2.6 Voice Recording Kaushik

3.2.8 Voice Recording Abhinav

3.2.9 Voice Recording Ayush

3.4 Notes from Focus Group Discussion

Users in Focus Group Discussion

- Yashvardhan, 19
- Arnav, 19
- Vedansh, 20
- Yash, 19
- Rohan, 20
- Rishabh, 21

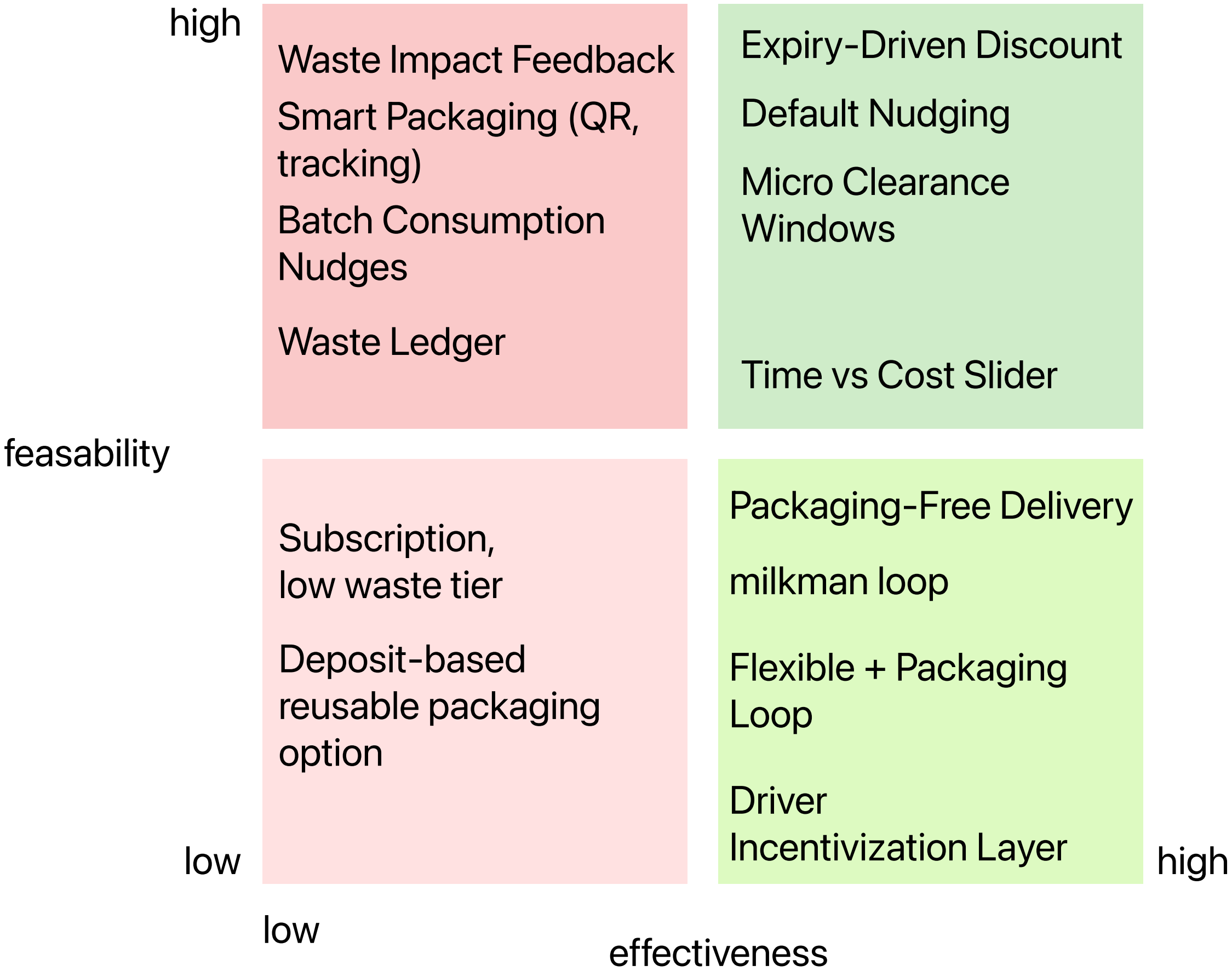
Notes

- Eating patterns are not fixed, people eat whatever is available nearby
- Convenience beats everything when busy like biscuits, maggi, other ready to eat food
- Budget is a strong constraint, most choices fall between ₹50–₹150
- Taste is the primary definition of “good food”
- Price matters, but only after taste is acceptable
- People compromise on better food options due to cost
- Go to foods are not loyal, easily replaceable with similar options
- Quick and filling food is preferred over healthy food
- Outside food is often chosen for combination of taste and affordability
- Snacking habits vary, some deny snacking but still consume quick items
- Heavy/quick meals often lead to feeling full but slightly uncomfortable
- Healthy alternatives are acceptable only if same price and effort
- Social context (weekends, with friends) influences outside eating
- Lack of awareness about quantity or nutrition intake
- Simple, fast-to-make foods (maggi, eggs, potato) dominate choices

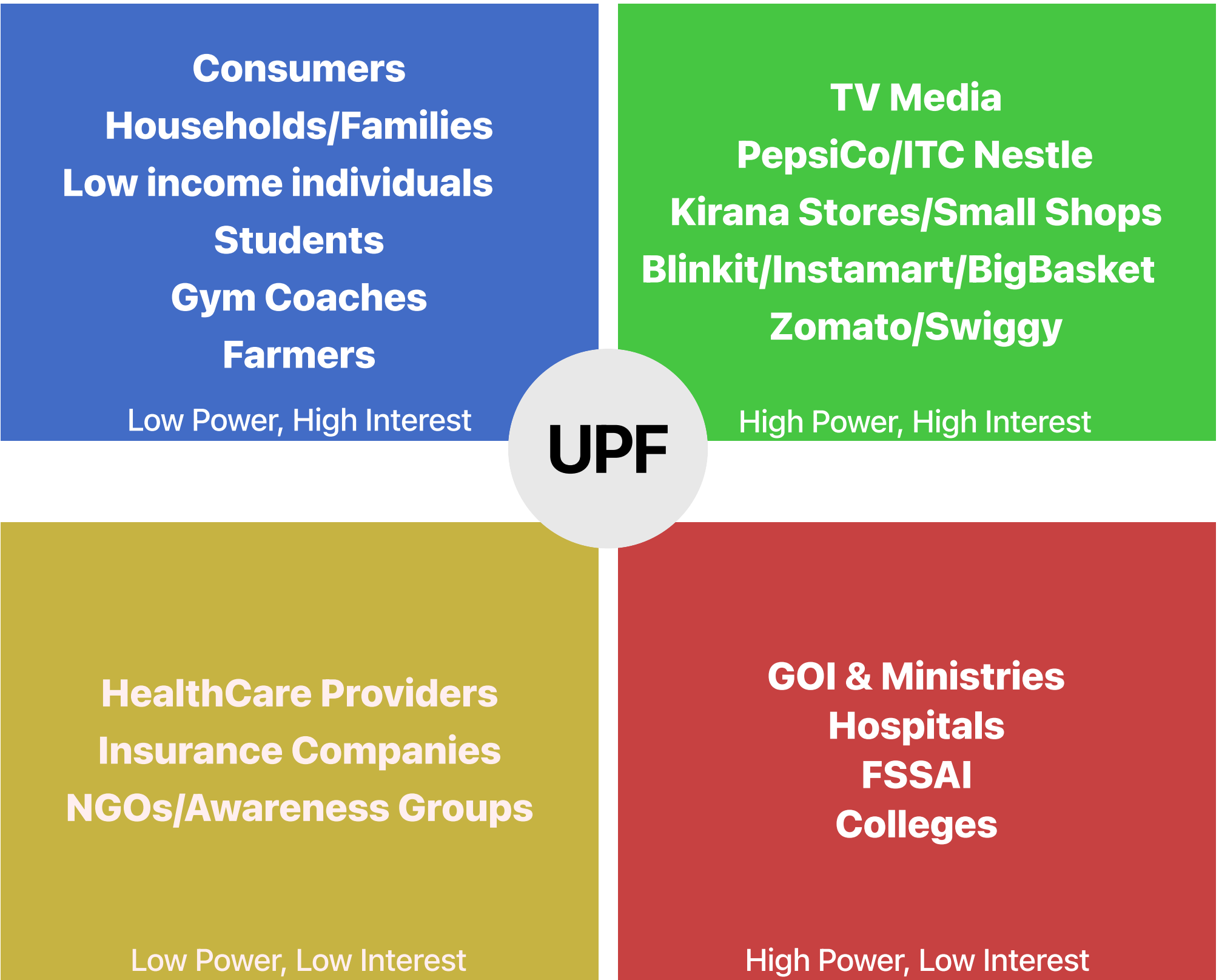
Research Evidence: On Site Interviews



Affinity & Stakeholder Maps



Stakeholder Analysis using Categorization and Power-Interest Mapping



Personas

Arun Mehta

Age: 21

Occupation: College Student

Location: UPES Boys Hostel Resident



Orders from Blinkit 3-5 times a week, usually late at night or between classes. Prioritizes speed and convenience over long-term thinking. Frequently disposes of delivery packaging immediately after unpacking.

Goals

- Fast deliveries with minimal friction
- Affordable ordering experience
- Simple reward systems that don't require extra effort

Frustrations

- Packaging piles up quickly in hostel rooms
- Sustainability efforts feel inconvenient or performative
- Would not go out of the way to recycle packaging

Behaviors

- Uses UPI and digital wallets regularly
- Responds positively to cashback/reward systems
- Makes fast purchasing decisions without much reflection

Key Insight

Arun is not against sustainable behavior. He simply will not adopt systems that add friction to his existing routine.

Rajesh Kumar

Age: 38

Occupation: Warehouse Operations Manager

Location: Bidholi Fulfillment Center



Manages packaging inventory, delivery coordination, and operational efficiency within a quick-commerce warehouse. Constantly balances speed, cost, and workflow optimization.

Goals

- Reduce packaging procurement costs
- Maintain fast delivery operations
- Minimize operational disruptions

Frustrations

- High daily packaging waste
- No structured reuse pipeline
- Additional hardware or manual verification increases complexity

Behaviors

- Prefers systems integrated into existing workflows
- Evaluates ideas based on scalability and operational cost
- Prioritizes efficiency over experimentation

Key Insight

Rajesh values sustainability only when it aligns with operational efficiency and does not slow down the fulfillment process.

Key Findings

Perishable Waste

Unsold goods go to waste daily

15-Minute Lifecycle

Paper bags used once, then discarded

No Reuse System

No infrastructure for recovery

Habit-Driven Decisions

Users act quickly without reflection

Three Key Insights

1 Waste is behavioral,
More than just supply

The problem lives in daily
choices, not production

2 Users lack visibility

Users don't resist sustainability,
But they don't see the impact

3 No feedback loop
exists

The system offers no mechanism
for reuse



Problem Definition

Quick commerce systems currently lack real-time behavioral interventions to reduce packaging waste

How Might We

Influence user demand in
real time to reduce
reliance on disposable
packaging?

Using existing delivery flows and digital wallets to create a seamless return system

Bag Return System Concept



User Returns Bags

Hand paper bags to delivery partner during next order



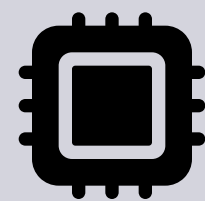
Receive Wallet Credit

₹1-2 per bag added to Blinkit Wallet



System Reuses Packaging

Bags routed back to warehouse for reuse



No new hardware required, Integrates with existing delivery infrastructure

UX Principles Applied

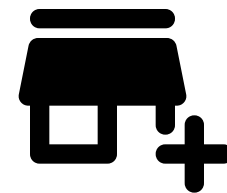
UX Principle	Application in the System
Feedback	Users receive instant wallet credits after successful bag returns
Affordance	Clear “Return Bags” prompts guide users during delivery
Consistency	Existing Blinkit delivery flow and UI patterns are preserved
Visibility of System Status	Users can see return confirmation and wallet updates immediately
Accessibility of Action	No additional app, hardware, or separate trip is required

Why This Can Work



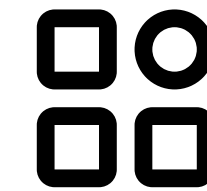
User Benefits

- Incentivized behavior through wallet credit
- Zero extra effort required



Business Benefits

- Increases wallet usage and stickiness
- Improves retention and repeat orders



System Benefits

- Reduces packaging demand
- Introduces reuse feedback loop

Small interventions make system-level impact

Different Modalities At Play

A combination of digital, physical and behavioral layers.



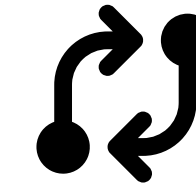
Camera for QR Code

- Uses camera as a built in sensor for bag verification
- Does not require additional new hardware, lowering acquisition cost.



Physical Touch

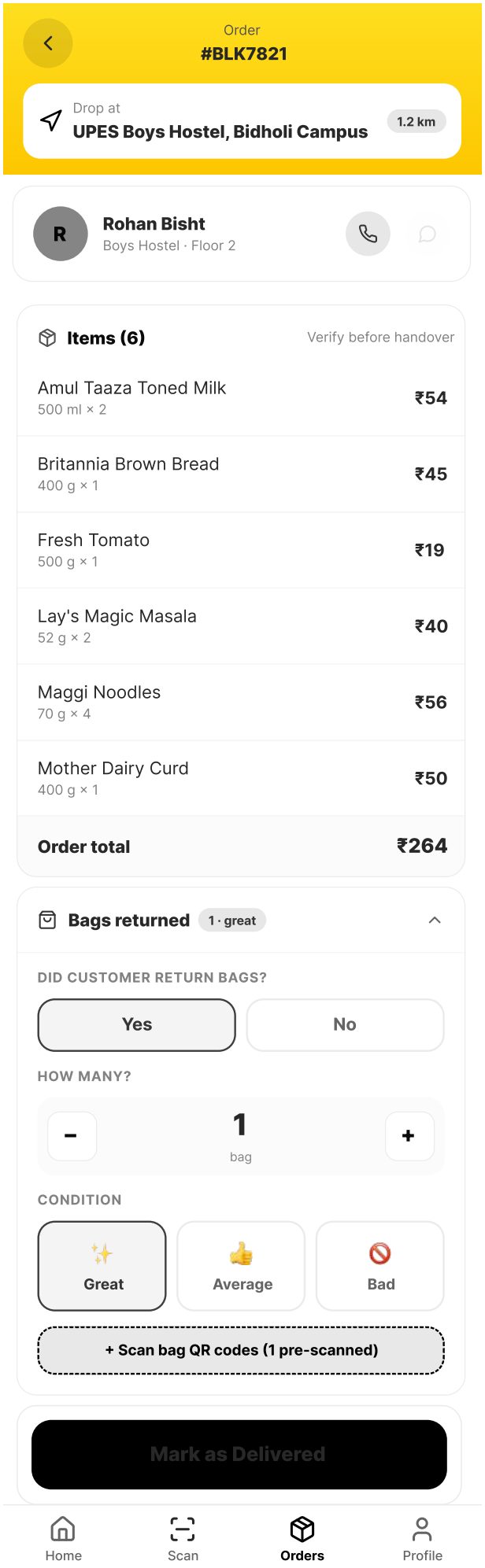
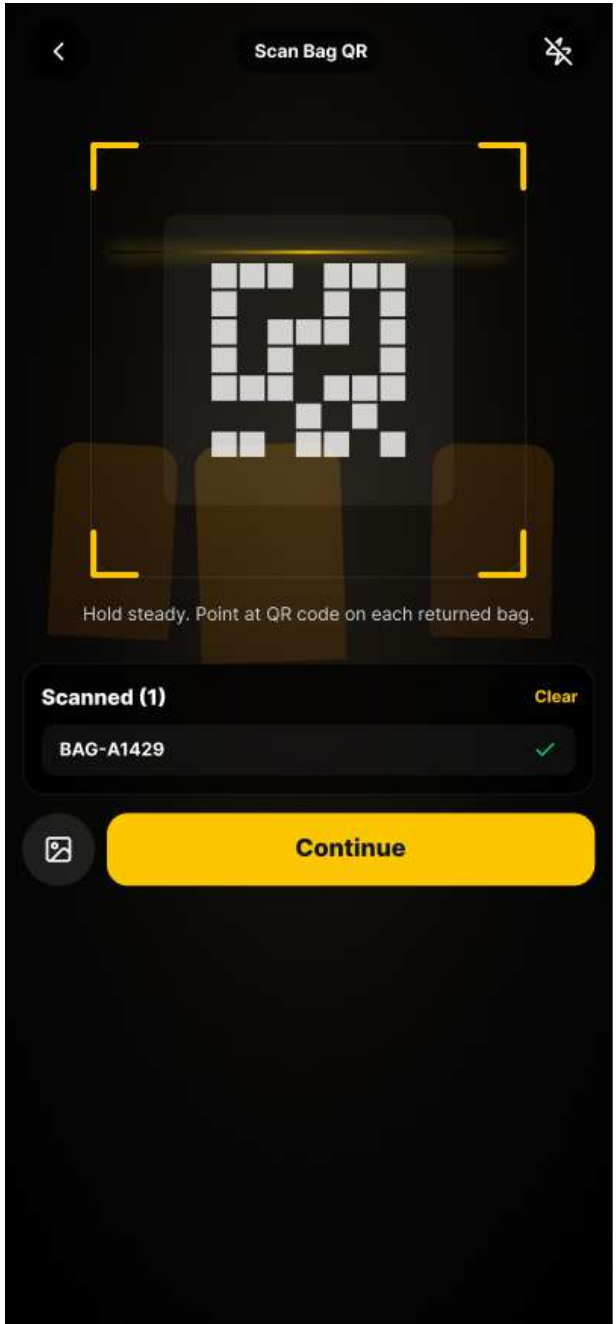
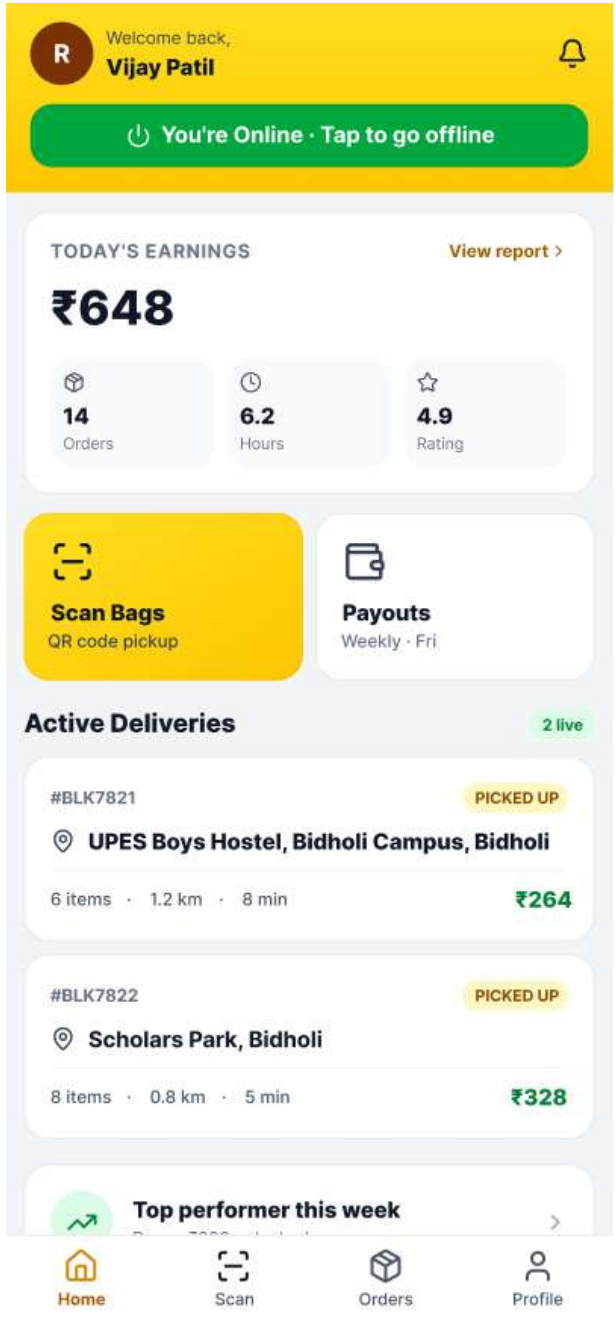
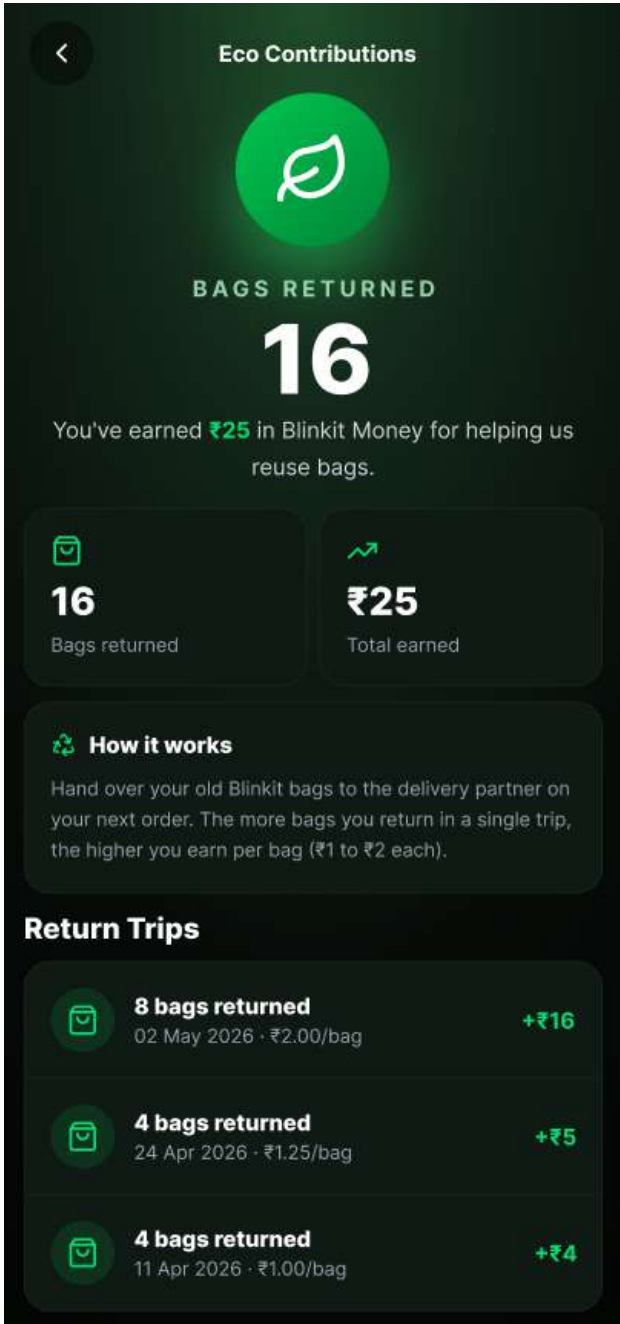
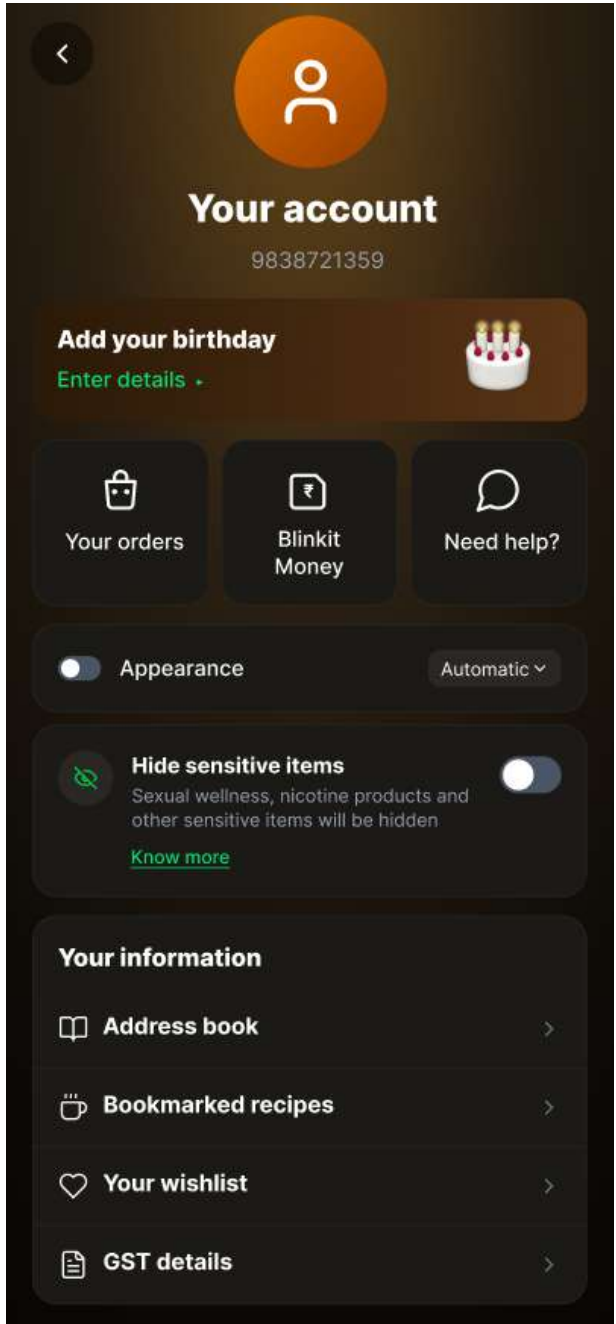
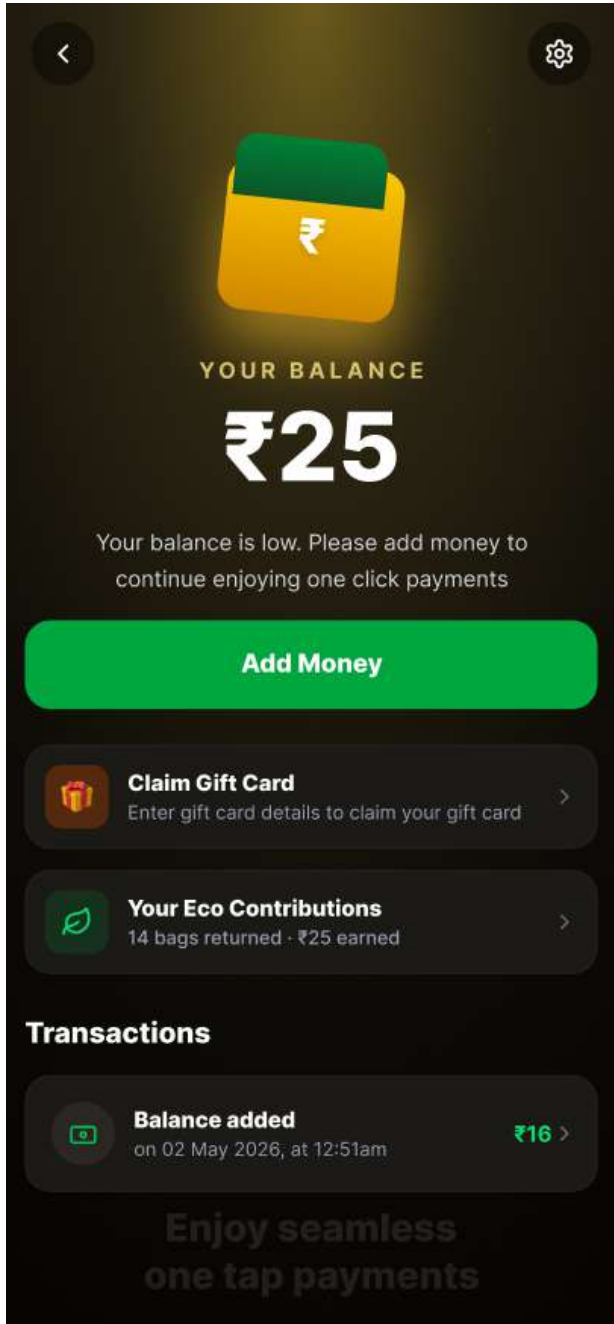
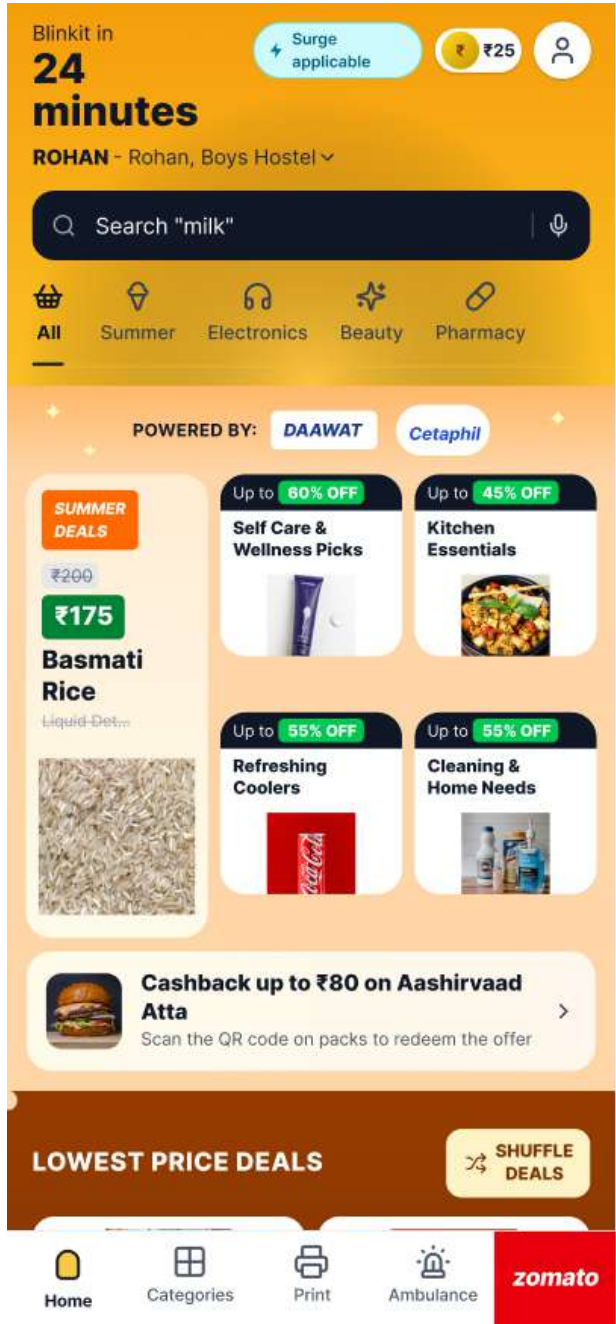
- Direct handover of bags between user and delivery partner
- Tangible, low-friction interaction beyond the screen



Exchange of commodity

- Bags returned in exchange for wallet credits
- Converts waste into perceived value, driving repeat behavior

The Prototype



Reflections & Learnings

This project helped me understand that multimodal interaction is not limited to screens, but also includes **physical actions, behavioral incentives, and human-assisted** workflows. Through research, stakeholder analysis, prototyping, and testing, the solution evolved into a more practical and scalable system rather than just a conceptual idea.

The process also strengthened my understanding of UX principles, usability, interaction flow, and user-centered design. By combining research, multimodal interaction techniques, and iterative prototyping, the project aligns with the course focus on designing meaningful and usable interaction systems.

Thank you.

Small intervention, system-level impact. Eco Contributions.