

Entrepreneurial Temporal Design: Reframing the Sustainability Intention-Action Gap in Food Waste

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Abstract: Persistent gaps between sustainability intentions and food consumption behaviour remain poorly explained by attitudinal or informational accounts alone. Food-waste research shows that planning, shopping, and storage routines are often more proximate predictors of household waste than stated intentions, while information-based interventions tend to have limited and weakly sustained effects. This paper argues that part of the problem is temporal misalignment; sustainable food practices are often organised around institutional or retail rhythms that do not match how households plan meals, manage uncertainty or coordinate consumption. Entrepreneurship research has examined time as a resource that ventures manage internally, but less as a design variable through which ventures shape customer practices and sustainability outcomes. New ventures are particularly relevant because they can build temporal structure into an offering from the outset, before legacy channel arrangements, operating routines and customer expectations constrain redesign. The paper therefore develops a framework of entrepreneurial temporal design for sustainable food consumption. It identifies three mechanisms; rhythm alignment, which structures provision around household consumption patterns; communal synchronisation, which coordinates edible surplus with demand before discard; and routine embedding, which anchors low-waste practices into recurring behaviour. Secondary examples from food-sharing and meal-planning ventures provide compact illustrations of these mechanisms. Four propositions connect temporal design to reduced food waste, more durable behaviour change, and competitive differentiation from incumbents whose established routines make equivalent redesign costly. By shifting attention from persuasion to temporal fit, the paper contributes an entrepreneurial and temporal-psychology-informed conceptualisation of food-waste reduction that complements attitude- and information-based accounts. By positioning temporal design as an entrepreneurial strategy that closes a sustainability gap that policy and awareness campaigns have not while offering new ventures a basis for competitive differentiation, it offers a focused agenda for empirical research on how ventures can design timing, rhythm, and routine as pathways to sustainable consumption.

Keywords: Entrepreneurial Temporal Design; Sustainable Consumption; Food Waste; Intention-Action Gap; Competitive Differentiation

1. Introduction

Sustainability research has long documented a gap between consumers' pro-environmental intentions and their consumption behaviour (Joireman et al 2012). The persistence of household food waste across contexts (UNEP and WRAP 2024) indicates that awareness, affluence and policy commitment alone are insufficient. Explanations for this gap have often prioritised awareness, attitudes, and other individual-level drivers, yet food-waste research increasingly shows that household waste emerges from interacting routines and situational constraints rather than from information deficits (Schanes et al 2018). Planning, shopping, and storage routines are consequential predictors of waste generation (Stancu et al 2016), while information-based interventions on their own show limited and often weakly sustained effects (Ran et al 2025). This points to a structural explanation that remains underdeveloped: sustainable behaviours are often designed around temporal rhythms – shopping cycles, delivery schedules, institutional calendars – that do not correspond to how households actually plan, purchase and consume food. Emerging work on shopping frequency under uncertainty reinforces this point, showing that the waste-minimising rhythm depends on household variability rather than on any single ideal schedule (van Rooijen et al 2025).

This paper reframes the gap as an entrepreneurial design opportunity. New ventures can build temporal structure into offerings from the outset, whereas incumbents are constrained by established routines and customer relationships. Drawing on entrepreneurship research and temporal psychology, the paper links temporal design to sustainable food outcomes and venture differentiation. *Oddbox*, *Too Good To Go*, and *Olio* provide compact illustrations of how ventures can design timing, rhythm, and routine into sustainable food consumption rather than empirical cases.

2. Theoretical Background

Entrepreneurship research has examined time extensively as a resource ventures manage internally – identifying and acting within opportunity windows, pacing growth, and sequencing resource commitments (Levesque and Stephan 2020). Yet, time has not been systematically studied as a design variable through which ventures shape

customer practices and downstream sustainability outcomes. Existing work in sustainable entrepreneurship shows that organisational design and business model choices matter for venture viability (Parrish 2010), but the emphasis remains largely on venture development rather than on how ventures intentionally structure customers' temporal environments. McMullen and Dimov (2013) note that entrepreneurial processes are themselves shaped by time in ways still poorly understood, a gap that becomes especially consequential where the customer behaviour a venture is trying to influence is itself governed by temporal pressures.

Two further literatures explain why this gap matters specifically for food consumption. Temporal psychology shows that time pressure shifts decision-making from deliberative to automatic processing (Dhar and Nowlis 1999), and that future time orientation is associated with more sustainable behaviour (Joireman et al 2012). Social acceleration theory explains why modern consumption occurs under conditions of chronic time scarcity; technological and social change compress the time available for planning even as objective efficiency improves (Rosa 2013), so that sustainable choices requiring additional planning time are structurally disadvantaged relative to convenient alternatives. Relatedly, practices that disrupt an established routine tend to be abandoned once initial motivation fades, since behaviours not anchored into existing habitual sequences carry a persistent cognitive cost (Wood and Neal 2009).

What is missing, then, is an account of how entrepreneurial ventures can convert temporal design into a source of both sustainability impact and venture-level advantage. New ventures retain greater freedom than incumbents to configure offerings, interfaces, and interaction rhythms from the outset, without the inertia of legacy routines or channel structures. This positions ventures, rather than households or policymakers, as the primary site for closing the gap through redesign rather than persuasion.

3. A Temporal Framework for Sustainable Food Consumption

We propose that entrepreneurial ventures can help close the intention-action gap and simultaneously build a more differentiated market position. The proposed framework identifies three temporal design mechanisms, each addressing a specific way that time and sustainable food behaviour are currently misaligned (Figure 1). Rhythm alignment addresses the mismatch between irregular household planning and rigid retail cycles, by structuring provision around predictable consumption rhythms rather than one-off transactions. *Oddbox* illustrates this mechanism through offering recurring rescued fruit and vegetable boxes (*Oddbox* n.d) that help households plan around a predictable supply rhythm rather than isolated shopping trips, permitting customers to switch, swap or pause them. Communal synchronisation addresses the coordination problem in surplus redistribution, where edible food becomes waste largely because supply and demand are not temporally aligned at the point of surplus. *Too Good To Go* illustrates this mechanism by matching surplus food from stores, cafés and restaurants with consumers through time-bounded collection windows, coordinating reservation with a specified collection time, while *Olio* extends the logic through neighbour-to-neighbour and volunteer-supported surplus sharing (*Too Good To Go* n.d.; *Olio* n.d.). Routine embedding addresses the durability problem in sustainable behaviour; many interventions produce short-term compliance but do not survive once novelty fades, because the behaviour has not been anchored into an existing daily or weekly routine. Practices are more likely to persist when they become part of recurring household or community routines rather than one-off acts of goodwill.

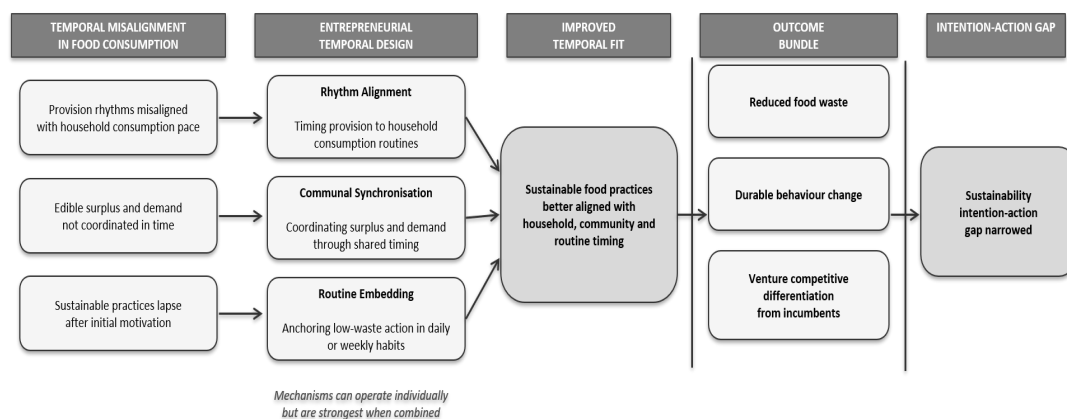


Figure 1: Entrepreneurial temporal design mechanisms linking venture strategy to sustainability and competitive outcomes

Together, these examples show how ventures can fit sustainable action to household and community rhythms rather than add another deliberative task. Table 1 summarises the three mechanisms, venture illustrations and expected outcomes.

Table 1: Entrepreneurial temporal design mechanisms for sustainable food consumption

Mechanism	Temporal Problem Addressed	Venture Illustration	Primary Outcome Pathway
Rhythm alignment	Provision cycles misaligned with household consumption pace	<i>Oddbox</i> : recurring rescued-produce boxes	Less over-purchasing and spoilage
Communal synchronisation	Edible surplus and demand not coordinated in time	<i>Too Good To Go</i> : timed pickup windows; <i>Olio</i> : local surplus exchange	More edible surplus used before discard
Routine embedding	Sustainable practices lapse after initial motivation	<i>Olio</i> : recurring neighbourhood and volunteer sharing	More durable low-waste behaviour

Successful deployment should reduce food waste and strengthen the durability of low-waste behaviour. When built into the core offering, these mechanisms may also differentiate ventures from incumbents whose established routines constrain temporal redesign.

4. Research Propositions

These illustrations motivate four propositions for future empirical testing.

- P1: Ventures that align provision rhythms with actual household consumption patterns (rhythm alignment) will achieve greater reductions in food waste than ventures offering temporally undifferentiated access to the same products.
- P2: Ventures that synchronise surplus redistribution around shared community collection rhythms (communal synchronisation) will achieve higher rates of surplus utilisation than platforms relying on ad hoc, uncoordinated exchange.
- P3: Sustainable food practices embedded within existing daily or weekly routines (routine embedding) will demonstrate greater behavioural durability over time than practices requiring ongoing deliberate choice.
- P4: Ventures that build temporal design mechanisms into their core offering, rather than treating timing as an operational afterthought, will differentiate more clearly from incumbent providers because established routines and customer relationships make equivalent temporal redesign costly to replicate.

5. Conclusion

This paper reframes the sustainability intention-action gap in food consumption as an entrepreneurial temporal design opportunity. By identifying three mechanisms through which entrepreneurial ventures can align provision with household temporal rhythms, coordinate surplus redistribution, and embed sustainable practices into daily routines, the framework offers a focused conceptual basis for future empirical work. It contributes to entrepreneurship and sustainability research by showing that temporal design choices are not merely operational details but a source of competitive differentiation for new ventures entering markets where sustainability and convenience currently pull in opposite directions. It shifts attention from persuading households to designing offerings around the temporal realities of food consumption. Future research should test the propositions using primary case evidence across regions and examine whether the temporal mechanisms extend to other sustainable consumption domains.

Ethics Declaration

This conceptual paper uses only publicly available secondary sources. No human participants were involved, and ethical approval was not required.

AI Declaration

AI was used for final language editing and formatting.

References

- Dhar, R. and Nowlis, S.M. (1999) "The Effect of Time Pressure on Consumer Choice Deferral", *Journal of Consumer Research*, Vol 25, No. 4, pp 369-384.
- Joireman, J., Shaffer, M.J., Balliet, D. and Strathman, A. (2012) "Promotion Orientation Explains Why Future-Oriented People Exercise and Eat Healthy: Evidence from the Two-Factor Consideration of Future Consequences-14 Scale", *Personality and Social Psychology Bulletin*, Vol 38, No. 10, pp 1272-1287.
- Levesque, M. and Stephan, U. (2020) "It's Time We Talk About Time in Entrepreneurship", *Entrepreneurship Theory and Practice*, Vol 44, No. 2, pp 163-184.
- McMullen, J.S. and Dimov, D. (2013) "Time and the Entrepreneurial Journey: The Problems and Promise of Studying Entrepreneurship as a Process", *Journal of Management Studies*, Vol 50, No. 8, pp 1481-1512.
- Oddbox (n.d.) "Good Food Doing Good", available at: <https://www.oddbox.co.uk/> (accessed 13 July 2026).
- Olio (n.d.) "Your Local Go-To for Free Food (and More)", available at: <https://olioapp.com/en/> (accessed 13 July 2026).
- Too Good To Go (n.d.) "Save Good Food From Going To Waste", available at: <https://www.toogoodtogo.com/> (accessed 13 July 2026).
- Parrish, B.D. (2010) "Sustainability-Driven Entrepreneurship: Principles of Organization Design", *Journal of Business Venturing*, Vol 25, No. 5, pp 510-523.
- Ran, Y., Persson, U.M., Lindahl, T., Jonell, M., Brons, A., Macura, B., Candel, J., Abu Hatab, A. and Rös, E. (2025) "Are Interventions for Environmentally Sustainable Dietary Behaviours Effective? A Review", *Environmental Research: Food Systems*, Vol 2, No. 3, Article 032001.
- Rosa, H. (2013) *Social Acceleration: A New Theory of Modernity*, Columbia University Press, New York.
- Schanes, K., Dobernig, K. and Gözet, B. (2018) "Food Waste Matters - A Systematic Review of Household Food Waste Practices and Their Policy Implications", *Journal of Cleaner Production*, Vol 182, pp 978-991.
- Stancu, V., Haugaard, P. and Lähteenmäki, L. (2016) "Determinants of Consumer Food Waste Behaviour: Two Routes to Food Waste", *Appetite*, Vol 96, pp 7-17.
- UNEP and WRAP (2024) *Food Waste Index Report 2024: Think Eat Save - Tracking Progress to Halve Global Food Waste*, United Nations Environment Programme, Nairobi.
- van Rooijen, M.A., Gerdessen, J.C., Claassen, G.D.H. and de Leeuw, S.L.J.M., 2025 "Meal planning under uncertainty: How shopping frequency affects food waste", *Sustainable Production and Consumption*, 57, pp.403-412.
- Wood, W. and Neal, D.T. (2009) "The Habitual Consumer", *Journal of Consumer Psychology*, Vol 19, No. 4, pp 579-592.