

Shopping Sustainably at the Supermarket

Penelope Anne Munro

A thesis submitted to
Auckland University of Technology
in the fulfilment of the requirements for the degree of
Doctor of Philosophy (PhD)

2025

Faculty of Business, Economics and Law
Department of Marketing

Supervisors
Associate Professor Sommer Kapitan
Professor Ben Wooliscroft

ABSTRACT

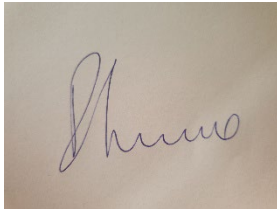
Sustainability is a key societal issue, as we struggle to keep within planetary boundaries using only what we need and saving resources for coming generations. The solution to the climate crisis is not up to politicians and scientists alone, it is and must become a concern for everyone who inhabits this earth. Everyday people are being asked to change their daily actions to become more sustainable. One of those daily activities is shopping at the supermarket. In New Zealand, food is the second largest weekly expense after shelter, therefore a key common touch point for most New Zealanders. Changing supermarket shopping behaviour to be sustainable can be accomplished through key incentives and policy such as government initiative to ban plastic supermarket bags and the start of household shoppers bringing their own bags. In order to make significant advances in sustainability, can New Zealander's make individual sustainable choices when filling their shopping cart to meet the weekly household wants and needs?

Study one reviewed the current scholarship in a systematic literature review (SLR), surrounding shopping sustainably at the supermarket. The key finding focused on the consumer and the sustainable attitude-behaviour gap, that showed while the majority of everyday household shoppers know the science and understand the climate crisis, only a minority follows through actively shopping sustainably. One of the key results of the study was that even the most sustainably minded shopper, can't fulfil their sustainable intent if the sustainable product they were looking for is not on shelf. Other factors such as price, time, trust and convenience also played a key role as these shopper priorities override those of sustainability. The conclusion is that the individual shopper is not the sole determinant of what sustainable product is bought at the supermarket, but rather a complex system of actors whose actions and interactions, both direct and indirect, determines what sits on shelf for the household shopper to choose from.

Based on the findings of study one, a wider systems lens was adopted in study two. Following the Systematic Theory Mapping (STM) framework, using case study methodology to conduct face to face interviews with a panel of thirty-two grocery experts, a causal loop map for sustainable goods within the New Zealand grocery system was developed. The findings highlighted that consumer demand, while relevant, is not the primary determinant of product availability on shelf. Instead, supermarkets play a central role as gatekeepers, controlling the assortment of products placed on shelves. Although supermarkets often articulate sustainability ambitions, their decisions are primarily guided by cost efficiency and profit maximization objectives. Government policy also exerts influence, particularly through climate strategies and regulatory frameworks. However, the government's capacity to provide consistent direction is limited by electoral cycles and shifting government of the day priorities. The interplay of supermarket strategies and government action therefore exerts a stronger influence on sustainable product availability than the sustainability intentions of everyday household shoppers, irrespective of their sustainable knowledge and intent.

ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless it is clearly stated, and referenced, along with the purpose of use), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

A photograph of a handwritten signature in blue ink on a light-colored surface. The signature is cursive and appears to read 'Penelope Anne Munro'.

Penelope Anne Munro

13th March 2025

ACKNOWLEDGEMENTS

It's been a journey and with all good adventures, lots to enjoy and endure! I would like to acknowledge my supervisors, Associate Professor Sommer Kapitan and Professor Ben Wooliscroft, for being my trusted guides. As someone with a commercial background, the world of academia can be a mysterious place at times, and I am very thankful to you both for your guidance through this wonderland of knowledge.

I would particularly like to thank the thirty-two participants of my research, who generously gave up their time to assist me in my exploration and understanding of the New Zealand sustainable grocery landscape.

I would also like to thank the University for awarding me with the Vice Chancellors scholarship to enable me to take this journey. A journey which also took me to the annual Macromarketing conference in Helsinki in June 2024.

My thanks as always goes to the team at home for your support and encouragement.

PUBLICATIONS FROM THIS THESIS

The following publications relate to the work undertaken for this thesis:

Peer-Reviewed Journal Article:

Munro, P., Kapitan, S., & Wooliscroft, B. (2023). The sustainable attitude-behaviour gap dynamic when shopping at the supermarket: A systematic literature review and framework for future research. *Journal of Cleaner Production*, 138740.

Munro, P., Kapitan, S., & Wooliscroft, B. (under review and resubmission) Sustainable Provisioning in a Grocery System: An Analysis using Systematic Theory Mapping. *Journal of Macromarketing*

Conference Papers

Munro P, The Challenges of Shopping Sustainably at the Supermarket: A Systematic Mapping Study, Annual Macromarketing Conference 2024, Helsinki.

Munro P. The Challenges of Shopping Sustainably Every day at the Supermarket: A Systematic Literature Review, Annual Macromarketing Conference 2021 Auckland.

CO-AUTHORSHIP CONTRIBUTIONS WITHIN THIS THESIS DECLARATION

STUDENT AND SUPERVISOR APPROVALS

By signing you are confirming that the co-author contributions stated in the table(s) below are accurate.

Student Name	Penelope (Penny) Munro	Signature		Date	13.3.25
Supervisor Name	Associate Professor S Kapitan	Signature		Date	13.3.25
Chapter Number:	2				
	The sustainable attitude-behaviour gap dynamic when shopping at the supermarket: A systematic literature review and framework for future research				
Publication Status:	Accepted for Publication				
Reference if published:					
AUTHOR SURNAME: (order as per manuscript)	CONTRIBUTION (May copy from the guidelines above)				
Munro, P	Conception and design of the project, Acquisition of research data where the acquisition has required significant intellectual judgement, planning, design, or input, Contribution of knowledge, Analysis or interpretation of research data, Drafting significant parts of the research output or critically revising it so as to contribute to its quality and interpretation.				
Kapitan, S	Contribution of knowledge, Analysis or interpretation of research data				
Wooliscroft, B	Contribution of knowledge, Analysis or interpretation of research data				

STUDENT AND SUPERVISOR APPROVALS

By signing you are confirming that the co-author contributions stated in the table(s) below are accurate.

Student Name	Penelope (Penny) Munro	Signature		Date	13.3.25
Supervisor Name	Associate Professor S Kapitan	Signature		Date	13.03.25
Chapter Number:	3				
Manuscript Title:	Munro, P., Kapitan, S., & Wooliscroft, B., Sustainable Provisioning in a Grocery System: An Analysis using Systematic TheoryMapping				
Publication Status:	Submitted for Publication				
Reference if published:					
AUTHOR SURNAME: (order as per manuscript)	CONTRIBUTION (May copy from the guidelines above)				
Munro, P	Conception and design of the project, Acquisition of research data where the acquisition has required significant intellectual judgement, planning, design, or input, Contribution of knowledge, where justified, Analysis or interpretation of research data, Drafting significant parts of the research output or critically revising it so as to contribute to its quality and interpretation.				
Kapitan, S	Contribution of knowledge, Analysis or interpretation of research data				
Wooliscroft, B	Contribution of knowledge, Analysis or interpretation of research data				

Table of Contents

ABSTRACT.....	2
ATTESTATION OF AUTHORSHIP	4
ACKNOWLEDGEMENTS.....	5
PUBLICATIONS FROM THIS THESIS	6
Peer-Reviewed Journal Article:	6
Conference Papers	6
CO-AUTHORSHIP CONTRIBUTIONS WITHIN THIS THESIS DECLARATION	7
LIST OF TABLES	11
LIST OF FIGURES	12
Chapter One: Introduction	13
1.1 Research problem and questions.....	17
1.2 The Theoretical Lens	19
1.21 Three Dichotomies Model of Marketing	19
1.22 Marketing Systems (MST) Theory	20
1.23 Provisioning systems	22
1.24 Sustainable Provisioning Systems	22
1.3 Research Philosophy and Design.....	24
1.4 Research Design.....	26
1.41 Research Paradigm.....	26
1.42: Methodology.....	28
1.6 Delimitations.....	30
1.7 Contributions and Significance of the Research.....	31
1.8 Organisation of this Thesis	33
Preface to Chapter 2: Contributions.....	34
Chapter 2: The Grocery Sustainable Attitude-behaviour Gap	35
2.1 Abstract	35
2.2 Introduction.....	37
2.3 Methodology: Systematic Literature Review	39
2.3.1 Assembling.....	40
2.3.2 Arranging and assessing.....	43
2.4 Descriptive analysis	44
2.5 Thematic analysis.....	48

2.5.1 The everyday household shopper.....	54
2.5.2 The supermarket.....	59
2.5.3 The everyday household shopper in the supermarket.....	61
2.6 Discussion.....	63
2.6 Future research directions.....	66
2.8 Conclusion.....	70
Preface to Chapter 3.....	71
Chapter 3: Sustainable Provisioning in a Grocery System.....	72
3.1 Abstract.....	72
3.2 Introduction:.....	73
3.3 Background.....	74
3.4 Literature Review.....	76
3.5 Methodology.....	79
3.5.1 The Research Plan.....	81
3.6 Data organising: Descriptive analysis and Narrative synthesis.....	85
3.6.1 The Resulting Analytical Codes.....	85
3.4 Findings.....	91
3.4.1 Micro system: From supermarket shelf to shopping cart.....	97
3.4.2 Meso system: Supplier to Supermarket to Shelf.....	99
3.4.3 Macro system of sustainable governance.....	102
3. 5 Discussion.....	104
3.51 Theoretical Implications.....	104
3.52 Methodological Implications.....	106
3.53 Practical Implications.....	106
3.6 Conclusions and Limitations.....	107
Chapter 4 Conclusions and Contributions.....	110
4.1 Review of the Research Questions.....	111
4.2 Contributions and Implications.....	117
4.2.1 Theoretical Contributions.....	117
4.2.2 Methodological Contribution.....	119
4.2.3 Practical Implications.....	120
4.3 Future Research.....	122
4.3.1 Research Objective 1: Develop an evidence-based system dynamics model of the Sustainable Grocery Provisioning System.....	124

4.3.2 Research objective 2: To continue to investigate and expand the current causal loop relationships to further relationships such as the everyday household shopper	124
4.3.3 Research objective 3: Adopting a systems lens to understand complex messy multilayered societal issues.....	125
4.3.4 Research objective 4: Consideration of broader externalities.....	125
4.3.5 Research objective 5: Clarity, and measurement of the term sustainability	126
4.4 Limitations:	128
4.5 Concluding Remarks.....	129
APPENDICES	131
Appendix A Ethics Approval	131
Appendix B: Interview Guide.....	132
Appendix C: Participants Information Guide	133
Appendix D: Participant Consent Form.....	137
References	138

LIST OF TABLES

Table 1: Dimensions of Hunt’s Three Dichotomies Model of Marketing	20
Table 2: Journals	45
Table 3: Shopping Sustainably at the Supermarket	50
Table 4: Future Research Directions	66
Table 5: Study Participants	84
Table 6: Feedback Loops within the Causal loop Map.....	94
Table 7: Future Research Agenda	122

LIST OF FIGURES

Figure 1:Sustainable Provisioning Systems.....	23
Figure 2: Overview of Thesis	33
Figure 3: The Systematic Literature Review Process	41
Figure 4: Publication Dates.....	44
Figure 5:Types of Sustainable Products Studied	46
Figure 6: Study Types	47
Figure 7: Dependent Variables in Data Collection	48
Figure 8: Everyday Household Shopper Attitude Behvaiour Gap Analysis	53
Figure 9: Future Research Framework	63
Figure 10: Systematic Theory Mapping (STM); Adapted from Padela et al., (2023)	80
Figure 11: Causal Loop Map for the Sustainable Grocery Provisioning System in New Zealand.....	93

Chapter One: Introduction

“The balance of nature is not a status quo; it is fluid, ever shifting, in a constant state of adjustment. Man, too, is part of this balance.”

Rachel Carson, *Silent Spring*, 1962

The definition of a system is a “set of things; people, cells, molecules, or whatever – interconnected in such a way that they produce their own pattern of behaviour over time” (Meadows, 1972 p. 2). Carson’s quote above can be viewed through a systems lens, wherein nature is understood as a dynamic and interconnected system in which humans are participants rather than controllers. Scientific evidence unequivocally demonstrates that the health of the Earth is deteriorating at an accelerating pace due to the actions of its inhabitants, many of whom fail to live within planetary boundaries (Otto et al., 2020; Raworth, 2017). As such, strategies for long-term survival are more urgently needed than ever (IPCC, 2022).

Sustainability has been identified as the corner stone of this strategy. The most widely cited definition of sustainability originates from the World Commission on Environment and Development (WCED, 1987), which describes it as the ability to meet the needs of the present generation without compromising the capacity of future generations to meet their own needs. Building on this foundation, the United Nations introduced 17 Sustainable Development Goals (SDGs) in 2015, aiming for global achievement by 2030. However, by 2024, the UN reported that the world is on track to achieve only 17% of these goals (General Assembly Economic and Social Council, 2024). Notably, Goal 12 advocating for responsible consumption and production—has seen domestic material consumption increase by 5.8% rather than decrease.

Sustainability is becoming an essential part of strategies for corporations, non-governmental organisations and governments worldwide. And yet for significant gains to be made, it is clear that people - in their everyday activities/lives - must embrace sustainability if the planet is to survive. In New Zealand, we may remember the terrifying fires in Australia at the beginning of 2020, or the devastation of Cyclone Gabrielle on the east coast of New Zealand of 2023. At the time people were shocked, but unless you were directly affected, we moved quickly on to those crucial issues of the day, what's for dinner and who's taking the kids to football practise, the everyday activities of our everyday lives. In 2022, 73% of New Zealanders agreed with the statement "If individuals like me do not act now to combat climate change, we will be failing future generations". However, in 2024 that figure dropped to 64% (IPOS, 2024). Further, the 2023 Ipsos New Zealand study showed that 82% of New Zealanders are concerned about the effects of climate change, combined with Ernst and Young's 2023 Future Consumer Index reported only 25% say they are willing to pay more for sustainable products. (RNZ, 2024).

A definition of sustainable shopping which this thesis will utilise is proposed by White et al. (2019), "consumer actions that result in decreases in adverse environmental impacts as well as decreased utilization of natural resources across the lifecycle of the product, behaviour, or service" (p. 24). Examples of sustainable grocery shopping include purchasing organic food, fair trade products, locally sourced goods, items made from sustainable materials such as bamboo toothbrushes, and products in reusable packaging such as glass containers.

Sustainability scholars highlight a sustainable attitude-behaviour gap, where consumers express concern about sustainability and the environment and claim that they will shop in accordance with this knowledge, but don't follow through (Dilkes-Hoffman et al., 2019; Joshi & Rahman, 2015; Nguyen et al., 2020; Rokka & Uusitalo, 2008; Thøgersen et al., 2012; White et al., 2019). Scholarship has focused on finding ways to increase the sustainability

knowledge of a consumer, by studying the green consumer segment and its different motivations via purchases (Thøgersen et al., 2012; Taufique et al., 2015), with the view that these learnings will “spill over” to other slightly “less green” consumers (Thøgersen et al., 2012; Kennedy et al., 2016; White et al., 2019). The evidence would suggest that this may not be the case as seen in a recent Ministry of Environment (2018) report that revealed that two-thirds of New Zealanders see climate change as an issue, but not one that motivates them. For everyday people who balance budgets, families and lives, sustainable concerns appear lower on the list of priorities. This can also be seen in a NYU Stern report which reveals products with a sustainable claim on the pack had only 18.5% share of the U.S. grocery market in 2024. (NYU Stern, 2024)

Supermarkets are a crucial part of the majority of New Zealanders’ everyday lives. New Zealand households spend \$25 billion at the supermarket every year, a weekly average of \$214, visiting an average of 3.7 times a week (New Zealand Commerce Commission, 2021). The supermarket serves as an important gateway into what (non)sustainable products are consumed by households and influences what products are produced and what sustainable initiatives are enabled to succeed in the marketplace.

Within the supermarket supply chain, many actors are looking to the consumer as the sole source of intent or action in increasing the number of sustainable products being bought. Evidence suggests that this reliance is problematic. Those factors must cohere so that everyday consumers who have the knowledge and expresses concern, but lack the time, when they enter the are able to efficiently and effectively choose a sustainable product through supportive architecture of the environment.

Consumers constantly rate price and affordability above sustainability concerns (Hurgobin et al., 2020; Moser, 2016). In some sectors, such as organic food, people are prepared to pay a

higher price (Barbarossa & Pastore, 2015), yet the organic share has not significantly increased, in New Zealand at 2.5% of the domestic food and beverage market (Organic Exporters Association of New Zealand, 2025). The consumer that rates sustainability highly must also be able to locate it easily on shelf, to purchase (Carrington et al., 2014). If the supermarket doesn't stock the option or display it prominently, then that consumer won't meet their sustainability goal (Gadema & Olethorpe, 2011; Nguyen & Dang, 2022). Absent that nudge, other priorities lead the decision of what is in the shopping trolley. The other pressing characteristic of everyday shoppers is busyness and lack of time (Grimmer et al., 2016). Therefore, that goal to shop sustainably is possibly extinguished quickly as it becomes too hard. Trust also plays a role and is a key factor in shopping sustainably (Taghikhah et al., 2021). Kantar Better Futures New Zealand study (2024) found that 43% of consumers reported that they had seen or heard misleading information about sustainable brands in the supermarket, and 57% feel it is hard to tell which products are good or bad ethically or for the environment. These key elements of trust, availability, and visibility are crucial for the supermarket to get right. Those factors must cohere so that everyday consumers who have the knowledge and expresses concern, but lack the time, when they enter the supermarket are able to efficiently and effectively choose a sustainable product through supportive architecture of the environment.

Those elements are not the domain of the everyday consumer, they are driven and determined by the supermarket. This shift from the micro individual shopper to the meso, middle layer of sustainable grocery provisioning actors' decisions is at present obscured in debates and key tensions such as profit maximization. The everyday consumer is not an all-powerful entity that directs and decides their course of action. The supermarket independently makes decisions such as which supplier to work with and not necessarily based on sustainability credentials. This in turn affects the product range, sustainable or not, being placed and

privileged on the shelf for possible selection. The environment that the supermarket operates in is part of a complex mix, while consumer demand is one matrix that is taken into ranging consideration, another key consideration is profit. Taking a further step back to examine the landscape from a macro level, the rules that govern these decision makers, gives greater understanding as to the influences that affect all actors, from the supermarket, and the supplier to the everyday household shopper. Utilising a systems lens there are a number of key actors that also play a role in the journey of sustainable grocery products arriving at their destination in the shopping cart. Here government direction, policy and regulation direct and influence the meso actors in the system. A climate sympathetic agenda dictates what investment opportunities are pursued, what is signalled as important and needs to be adhered to. For example, the New Zealand Government has signed the UNFCCC Paris Accord on global climate treaty, with the overarching national goal to reduce emissions by 51-55% compared to 2005 levels by 2035 (Ministry for the Environment, 2025). This has the effect of directing research and development into climate resilient programmes such as the Sustainable Food and Fibre (SFF) Futures Funds that supports innovative projects with new approaches and solutions in the primary sector. By following an identified long term climate resilient agenda, manufacturers are more likely to invest in sustainable practices and product development. This in turn will lead to more sustainable product options being available to be supplied to the supermarket to range for the everyday, sustainably aware consumer in their busy lives to place in the shopping trolley.

1.1 Research problem and questions

The purpose of this research is to understand why everyday grocery shoppers, even those with sustainable knowledge and intent do not shop in a sustainable way. By gaining insight into this phenomenon, the goal is to develop potential solutions to increasing the share of

sustainable products in the shopping trolley and consequently the pantries and lives of everyday households.

The current scholarship centres around the end consumer, via the sustainable consumer attitude-behaviour gap, that fails to get traction from shoppers alone as a force for change. (Campbell & Fairhurst, 2016; Joshi & Rahman, 2015; Thøgersen et al., 2012) From that stems an associated belief that simply informing and educating the consumer to understand their role is all that is needed to raise the incidence of sustainable products purchases (White et al., 2019) Evidence to date shows that this fails, time and again, to raise demand significantly (NYU Stern, 2024).

For effective and sizable gains to be made in sustainable grocery consumption, it is important holistically to understand the processes, opportunities, and constraints everyday grocery household shoppers face. It is important to understand not just the household shopper, but the environment within the supermarket, what influences direct and indirect the decisions made around the entire journey of a sustainable grocery product from inception to purchase (Munro et al., 2023).

The subsequent research questions emerging from this purpose are:

Research Question One: *What are the factors and forces that exist that (dis)encourage everyday household shoppers to shop sustainably at the supermarket?*

Research Question Two: *What factors within the New Zealand sustainable grocery provisioning system enable or limit a sustainable grocery product being placed in a shopping cart?*

1.2 The Theoretical Lens

The theoretical lens for this study has its roots in the well-known and accepted three Dichotomies of Marketing (Hunt 1976). It provides a useful simple way of describing the nature and scope of marketing (Arndt 1982). Layton's (2007) Marketing Systems Theory (MST) builds on Hunt's framework by emphasizing the dimensions of positive analysis, the macro-level of aggregation, and the predominance of profit-driven entities. MST conceptualizes marketing as a system of actors or entities engaged in dynamic and evolving relationships that generate both intended and unintended consequences. Fanning et al. (2020) applies Provisioning Systems Theory to explore sustainability, particularly in relation to the responsible use of Earth's resources within the constraints imposed by the climate crisis. More recently, Layton and Domegan (2021), together with Shapiro (2024), have integrated these approaches to advance the concept of Sustainable Provisioning Systems.

1.21 Three Dichotomies Model of Marketing

Hunt's (1976) Three Dichotomies Model of Marketing is foundational when examining marketing as a holistic phenomenon. This model organizes marketing into three critical dimensions, each addressing a key aspect of marketing analysis and practice, as shown in Table 1. The first is the **focus of the analysis**, which distinguishes between positive and normative approaches. A positive approach seeks to explain or understand markets, while a normative approach seeks to offer guidance on how marketing should operate to achieve desired outcomes. The second is the **level of aggregation**, where there is a distinction of micro level, the day-to-day actions of the consumer and firms versus the macro-level broader societal and systems dimensions of marketing. Finally, the third dichotomy addresses the distinction between **profit oriented and nonprofit oriented** marketing, recognising that marketing can differ given this objective.

This thesis adopts Hunt’s model as its analytical foundation, aligning with its three dichotomies in the following ways:

1. **Focus:** The thesis employs a positive approach, aiming to understand and explain the processes and phenomena that exist within the studied marketing systems.
2. **Aggregation:** It emphasizes a macro-level perspective by examining the broader marketing systems and their societal implications, rather than focusing solely on individual consumer or firm behaviours.
3. **Profit Orientation:** The entities analysed in this thesis are primarily profit-driven organizations.

Table 1: Dimensions of Hunt’s Three Dichotomies Model of Marketing

Dimension	Category	This Thesis
Focus of Analysis	Positive	Yes
	Normative	
Level of Aggregation	Micro	
	Macro	Yes
Profit Orientation	Profit	Yes
	Non - Profit	

1.22 Marketing Systems (MST) Theory

A theoretical marketing systems lens enables the researcher to understand the dynamic nonlinear behaviours of the relationships and interrelated forces in a complex “messy” environment. Layton (2007) highlights the importance of studying marketing systems to

uncover the relationships and patterns to enable deeper understanding of how to evolve and respond to societal needs. Layton defines MST (2015, p 304). as

“a network of individuals, groups and or entities, embedded in a social matrix, linked directly or indirectly through sequential or shared participation in economic exchange, which jointly and / or collectively creates economic value for customers, through the offer of assortment of goods, services, experiences and ideas, that emerge in response to or anticipated of customer demand.”

This expands the scope and scale of which marketing activities have an effect on consumer demand. But it still lacks an understanding of how those activities cohere and work together to impact consumer choice.

Building from MST, Mechanism, Action, Structure (MAS) Theory is a framework that investigates causation and the links between differing levels in the system. MAS addresses the how and is defined as *“complex social networks of individuals and groups linked through shared participation and the delivery of economic value through exchange”* (Layton, 2015, p 303). The three parts of the framework are important in understanding the construct of a marketing system, including the social mechanism (M), stakeholder action fields (A) and structure (S). MAS recognises that stakeholders within the system change over time, depending on the state of the issue at any one time. Moreover, MAS emphasises that the system is holistic and affects all levels: macro, meso and micro.

To understand the dynamics of stakeholders, Layton (2015) categorises stakeholders as (a) incumbents, those who are satisfied with the status quo, (b) challengers, those who wish to advocate for change to the status quo and (c) governing agencies who are responsible for regulation and governance. MAS theory argues that to make effective long-term changes one

must understand interactions by all stakeholders across all levels of the market system under investigation.

1.23 Provisioning systems

Provisioning systems examine how a society distributes its resources to satisfy human needs. Fanning et al. (2020, p. 3) build on this work and provide a sustainable provisioning system definition as a “set of related elements that work together in the transformation of resources to satisfy a foreseen human need,” that looks to understand how the limited resources of earth can be or are allocated. They discuss the importance of feedback loops and power shifts as the six defined elements of households, markets, the commons, the state, techniques and material stocks interact and form relationships which can change and evolve over time.

1.24 Sustainable Provisioning Systems

Fanning et al (2020) provisioning system could be seen as the sister to Layton’s MAT framework in that it examines what and how available resources are allocated and transformed with a system. Building on MST theory Layton and Domegan (2021) and Layton et al. (2024) argue that a marketing system is no longer just a marketing system but a provisioning system, because provisioning systems add to marketing systems by requiring consideration of the resources in use in the exchange. Layton and Domegan (2021) define a provisioning system as complex, multi-level and adaptive nonlinear self-organised patterns. They conclude that provisioning systems are not simple or straightforward, and it is possible to have overlapping communities with complementary prescriptive and market exchange networks that can collaborate as the provisioning systems grows and changes with time. This relationship between the two approaches to provisioning systems can be seen the figure below:

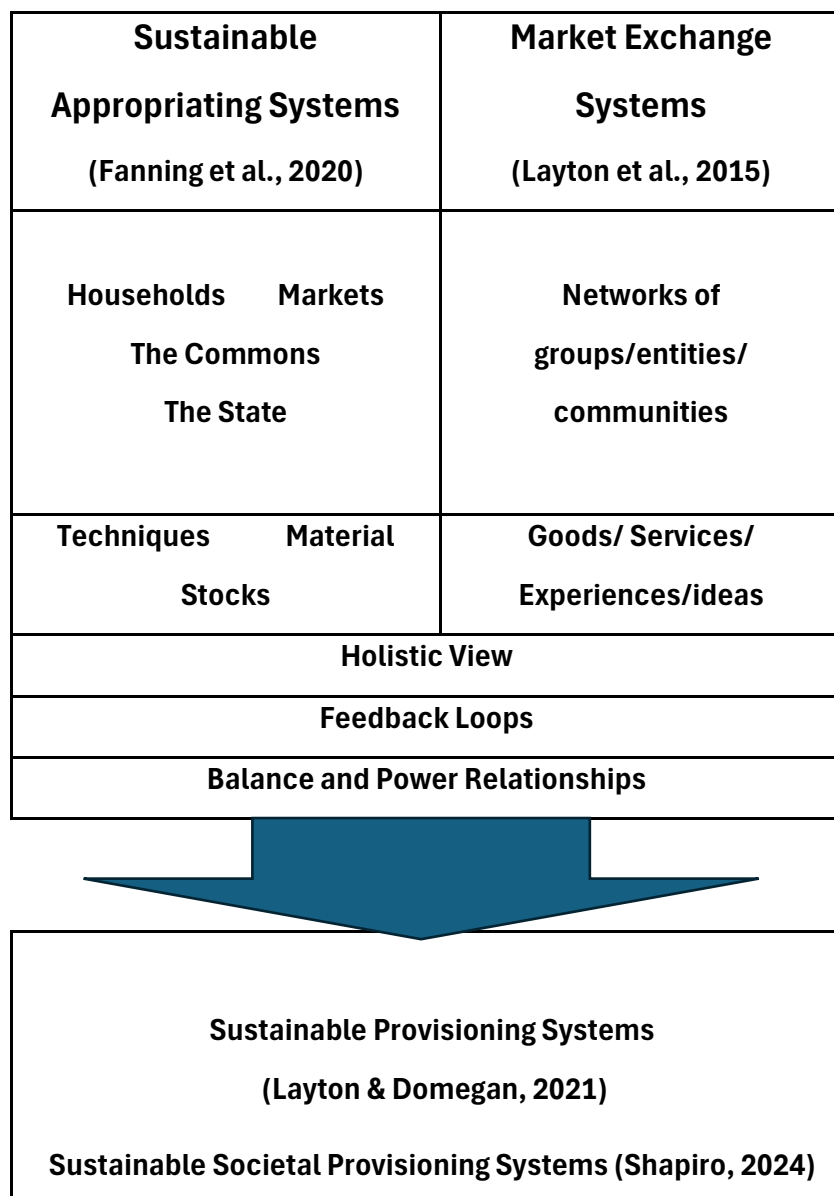


Figure 1:Sustainable Provisioning Systems

In summary this thesis uses Marketing Systems theory, Mechanism, Action, Structure Theory and Societal Provisioning Systems as the central theoretical lens. By adopting this lens, this research looks to understand the consumer in the wider context, and the influences, actions and interactions of the entire system at all levels, macro, meso and micro, when approaching the research problem (Wooliscroft, 2021).

1.3 Research Philosophy and Design

Using the theoretical lens described in the previous section, the scholarly approach taken by the studies is based on systems philosophy. At its core systems philosophy looks to understand the whole environment and the actor's relationships within. It does not silo off a section or aspect for in-depth analysis because in reality that section cannot truly be sectioned off from the other influencing factors and entities in the environment in which that entity exists. This section will review the development of systems philosophy and how it applies to this study

The scholarly approach taken by the studies in this thesis are based on systems philosophy, which is concerned with the nature of systems themselves and asks what systems are and how they assist with understanding real world complex issues (Jackson, 2024; Laszlo, 1972).

General Systems theory (GST), developed by von Bertalanffy (1950), is considered the seminal work in the introduction of the concept of open systems. Unlike the prevailing reductionism view of the time, which regarded systems as siloed and closed entities to be researched in isolation, von Bertalanffy argued that a phenomenon should be studied in its wholeness via holism, as a system view with open flows that continuously change and interact with other systems or their environments. Lazolo (1978) built on this by embracing the holistic idea that all phenomena, from physical to social systems, are emergent and relational. The key to understanding the nature of systems knowledge is to understand that phenomena do not exist in isolation but as a holistic integration of processes or flows. That means that learning and change in response define systems interactions. Alderson (1957) introduced the idea of adaptive systems wherein a system looks to evolve in response to the changing environment around it working towards a balance or equilibrium. This is often described as a functionalist view of systems by matching goods and needs. Ackoff (1971) built on this knowledge with the concept of purposeful systems emphasising that a system,

especially if human based, needs a purpose or a goal and intention to effectively drive behaviour and achieve a stated objective.

Modern perspectives on systems incorporate the concept of systemic intelligence, as articulated by Fisk (2006). This emphasizes the capacity of systems to process information through an iterative evolution of continuous learning and feedback, allowing systems to remain effective and relevant in dynamic environments. Feedback loops play a crucial role in fostering systemic growth and innovation, ensuring resilience in an ever-changing world.

Wooliscroft (2021) concludes that a system has the following attributes:

- Is dynamic and adaptive as it responds to a changing environment
- Is open, with no boundaries
- Is complex with many interactions and feedback loops
- Is frequently nonlinear

By understanding systems as dynamic, open, complex, and nonlinear entities, scholars and practitioners can better understand and navigate the challenges posed by interconnected phenomena in an increasingly complex world.

Epistemology addresses how we study and understand systems (Crotty, 1998). It is concerned with the knowledge gathering process about systems and how they operate. One of the foundational contributions to systems epistemology came from Forrester's development of systems dynamics in 1961. This methodology introduced a way to model and simulate the flows and processes within dynamic systems. Systems dynamics focuses on identifying causal relationships, feedback loops, and delays that shape the behaviour of systems over time. Forrester's work enables researchers to visualize and analyse complex interactions, offering tools to predict the outcomes of interventions. Ackoff (1971)'s interactive planning provides shift in focus from static knowledge to co-creation of understanding through

iterative understanding feedback loops. Meadows (2008) places emphasis on finding leverage points within a system to create change in outcomes. This is a compelling view to a scholarly examination of the complex, interconnected motives from every level of the system.

Systems thinking enables the researcher to understand dynamic, nonlinear behaviours of the relationships and interrelated forces because it is not reductionist. Instead, systems thinking seeks to understand the whole, via holism.

1.4 Research Design

1.41 Research Paradigm

A research paradigm is the fundamental set of beliefs, values, and assumptions that underpin and guide the research process and establishes a conceptual framework through which researchers interpret and engage with research problems. This paradigm shapes their views on the nature of reality (ontology), their understanding of knowledge and how it is acquired (epistemology), and the strategies and techniques they use for inquiry (methodology). When deciding on the appropriate methodology to achieve the most relevant results, the most suitable research paradigm must be selected. The key research paradigms that can be considered are as follows:

- A) Positivism contends that valid knowledge stems from observable phenomena and measurable facts, emphasizing objectivity and the application of scientific methods to uncover universal laws (Guba & Lincoln, 1994).
- B) Post-positivism evolved as a critique of positivism. It takes a scientific approach with reductionistic, logical, and related steps acknowledging the impossibility of complete objectivity due to the influence of theoretical and cultural biases on all observations (Creswell & Poth, 2025).

- C) Constructivism, in contrast, contends that knowledge is co-constructed through human experiences and social interactions, highlighting the subjective and contextual nature of reality (Crotty, 1998).
- D) Interpretivism or Social Constructivism is the research paradigm that emphasizes understanding the subjective meanings and experiences of individuals in their social context. It is rooted in the belief that reality is socially constructed and shaped by human perceptions, interactions, and cultural norms, rather than existing as an objective, external phenomenon (Cresswell & Poth, 2025).
- E) Pragmatism, as articulated by scholars such as John Dewey, underscores the practical utility of knowledge, positing that truth is determined by its ability to address and resolve real-world problems (Dewey, 1938). Pragmatists have an appreciation for diverse approaches and use the most appropriate method for addressing the research question, essentially what is practical and what works best (Cresswell & Poth, 2025).

Pragmatism best suits this research because as Jackson (2024, p. 59) notes “people have a responsibility to improve the world and should employ ideas that promote purposeful action to this end.” By following this paradigm, outcomes of this research are intended to achieve a meaningful contribution to the key societal issue of understanding sustainable choices for the everyday household shopper at the supermarket. Jackson (2024) argues that systems are based on pragmatism, in that a system can be seen in terms of “practical effectiveness.” Pragmatism has its historical roots with Aristotle, who advocated practical wisdom or “phronesis.” More recently, scholars William James, John Dewey, and Charles Sanders Peirce define pragmatism as concerned with the research problem and outcomes, focusing on outcomes and finding a solution that works to increase understanding (Creswell, 2009). A pragmatist removes the epistemological hierarchies between research methodologies and

chooses the research method that is ideally suited to systems marketing, allowing for flexibility in order to achieve meaningful societal contributions (Domegan et al., 2013).

1.42: Methodology

Methodology determines that overall framework to determine what method for collecting and analysing data to answer the research question. By adopting a pragmatic approach, the researcher chooses the “best” method, quantitative, qualitative or a mix of both, which will most fully answer the research question (Cresswell & Poth, 2025).

Quantitative research is grounded in the positivist paradigm and uses deductive reasoning, via testing of or hypothesis (Creswell & Creswell, 2017). Key quantitative techniques include survey research where the purpose is to collect structured numerical data from a sample population which can then be extrapolated out to represent a whole population. Another quantitative technique is experimental research, in which the researcher manipulates one or more independent variables to observe their effect on a dependent variable under controlled conditions. The purpose of quantitative research is to test a theory or hypothesis to establish generalised replicable findings with close-ended questions “which” or “what?” or “how many?” These methods run the risk of oversimplifying complex phenomena and being a blunt instrument in understanding the “why”.

Qualitative research in contrast looks to explore and ask “why” a phenomenon is occurring. By exploring and spending time with individual participants, researchers can source rich context specific insights that help develop theories or frameworks from data to understand complex phenomena. This differs from quantitative research which is concerned with understanding “how many” or a numeric measure associated with phenomenon, versus understanding the “why”.

Qualitative research in contrast looks to explore and ask “why” a phenomenon is occurring. By exploring and spending time with individual participants, researchers can source rich context specific insights that help develop theories or frameworks from data to understand complex phenomena. This differs from quantitative research which is concerned with understanding “how many” or a numeric measure associated with phenomenon, versus understanding the “why”.

1.421 Chosen Methodology for this study

This thesis relies on qualitative techniques at both stages of the research. It does so because the research questions ask “why” to investigate underlying motivations, views and interactions of the factors that affect shopping sustainably at the supermarket.

This thesis does this in two stages.

1.422: Outline of Methods used

The first stage is aimed at gaining an in-depth understanding of current scholarship on the household (non)purchasing of sustainable products within the supermarket. To do so, it employs the methodology of a domain-based Systematic Literature Review (SLR). Following the SPAR-4- SLR process (Paul et al., 2021), which builds on the process of the 3A’s for assembling, arranging and assessing the most relevant scholarship, articles were analysed first using abductive techniques of descriptive analysis, and then thematic to gain key insights into understanding emerging current themes within the current scholarship (Braun & Clark, 2006).

Based on the results and understanding gleaned from the systematic literature review in Chapter 2, this thesis relies on a pragmatic approach for the second study in Chapter 3 which employs Systematic Theory Mapping (STM; Padela et al., 2023). Systems Theory Mapping helps address the key recommendation of Chapter 2 to take a nonlinear systems view to

understand all interactions and relationships connected with the presence of sustainable products within a supermarket. STM is based on qualitative data as this gives the explorative depth to understand and explore the causal relationships present. Case study method is appropriate for obtaining data because this method asks “why” questions and offers in-depth insight into real-life complex phenomenon (Mays et al., 2005; Yin, 2018). These rich data are then thematically analysed using narrative synthesis to determine nonlinear causal relationships. These relationships form the basis for creating the causal loop map. Participants for this stage were recruited using purposeful sampling (Patton, 2015) to ensure that a panel of experts is created. This panel of experts is essential to uncovering differing perspectives and interactions (Brychkov et al., 2022). In accordance with Lincoln and Guba (1985) interviews were conducted until theoretical saturation occurred. Ethical approval was provided by the Auckland University of Technology Ethics Committee 22/164 on 26 July 2022. (See Appendix A). In line with case study analysis, an interview guide was developed to ensure that the key subjects were discussed. See those details in Appendix B. Relevant participant information can be seen Appendix C, and the participant consent form can be viewed in Appendix D.

1.6 Delimitations

There are two key delimitations to note. First, while this thesis employs thematic techniques in its data analysis, it is not a true thematic study. The aim is not to understand in depth each actor group as a separate, isolated siloed unit. Instead, both studies adopt a systems lens applying systems-based frameworks to explore the phenomenon. Chapter Three, in particular, focuses on the causal relationships between actors by following the Systematic Theory Mapping framework. The central and significant output of this approach is the Causal Loop Map (CLM), which highlights leverage points for researchers and policymakers to target

efforts and resources toward expanding the availability of sustainable products in supermarkets.

Second, while the initial research question sought to examine why household shoppers do not purchase sustainably at supermarkets, the Systematic Literature Review (SLR) in chapter two, revealed that consumer choice is only one part of the issue and indicated that it was not possibly the biggest determinant of increasing the share of sustainable grocery products. A broader systems perspective was required to capture the dynamics of the entire sustainable grocery provisioning system and as a result, the second study deliberately excluded household shoppers. Whilst it could be argued their purchasing behaviour influences what is stocked on shelf, their motivations and (in)actions have been extensively examined in sustainability and attitude–behaviour gap scholarship. The SLR alone identified 2,850 relevant references, while a Google Scholar search for “supermarket sustainable shopping” yielded over 117,000 results, further reinforcing that this perspective has been comprehensively studied.

1.7 Contributions and Significance of the Research

This thesis contributes to the knowledge of sustainable shopping at the supermarket. To meet the planetary boundaries for the earth and mankind’s survival, all inhabitants must play their part in living sustainably. The evidence to date is that while governments and non-governmental organisations grapple with the issues around climate change, members of the everyday public continue to live their lives, without making sustainability a priority. Some are aware of and understand the environmental challenges faced, most people do little to change their current consumable habits.

The first study in this thesis reviewed the literature around what factors exist that (dis) encourage the everyday household shopper to shop sustainably at the supermarket. The

findings revealed that the majority of scholarship focuses was on the consumer with the so called sustainability attitude behaviour gap. Within that narrow lens, scholarship tended to indicate that more the consumer was educated about sustainability and the reasons for, the more likely the consumer would act on that knowledge and shop accordingly. But even the most sustainably motivated household shopper encounters some difficulty shopping sustainably. Issues such as trust of the supermarket, availability, placement, accessibility, and price, which are outside the control of the household shopper, play a role in whether the household shopper can successfully meet their sustainable objectives.

The second study of this thesis in chapter 3, utilizes this sustainable provisioning systems view to gain greater depth of understanding of how a sustainable supermarket product journeys through the grocery provisioning system within the New Zealand context. The results of the second study show that with the sustainable grocery provisioning system there are two actors, the government through a governance and regulatory role and the supermarket through a gatekeeper role, which have the strongest influence on what sustainable good is placed in the supermarket trolley. This result is in line with the societal provisioning system framework, where there is a collaborative assemblage of prescriptive top down governance system (government) and bottom up market exchange (supermarket/suppliers) (Layton and Domegan 2021)

This research also presents two key methodological contributions. Adopting the Systematic Literature Review framework ensures confidence in a rigorous process; it does so by collecting all relevant materials, which are subsequently reviewed and synthesized to develop relevant in-depth knowledge of the given subject. This thesis extends the SLR to include household shoppers (in)ability to make sustainable purchases at the supermarket.

Additionally, the use of Systematic Theory Mapping framework allows for a robust process that helps develop the causal loop map, which advances knowledge and understanding of all

actors within the sustainable goods system, in the context of New Zealand’s grocery provisioning system.

1.8 Organisation of this Thesis

This thesis is structured in 4 chapters according to the format guidelines of thesis-by-manuscripts. Chapters 2 and 3 are two journal articles, each including their own background, study, and findings. Prior to each of these chapters is an introduction and orientation to each article and its place in the larger research project. Chapter 4 closes with a reflection on where this practical, grounded work should continue. To paraphrase Rachel Carson (1962): the balance of research is “fluid, ever shifting in a constant state of adjustment”

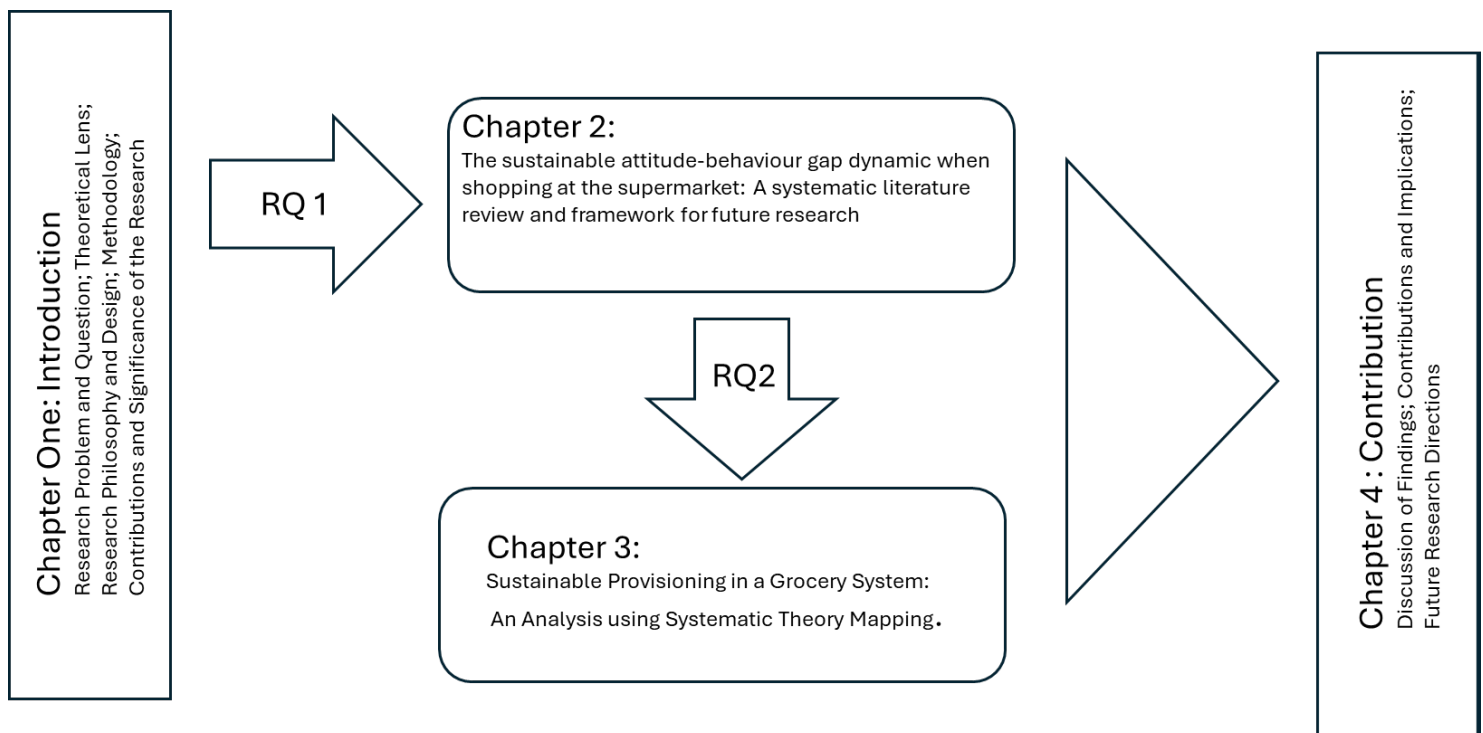


Figure 2: Overview of Thesis

Preface to Chapter 2: Contributions

Sustainability is essential and is discussed in many forums from governments to consumer groups as the answer to the global climate issues of today, and in making sure that generations to come are able to live successfully on the planet. Scholars such as White et al. (2019) discuss the sustainable consumption attitude-behavioural gap, in which everyday consumers are fully cognisant of the environmental issues we face as a collective, but the majority do not actually do anything to change their existing habits to become more sustainable. There is nothing more “everyday” than going to the supermarket. For New Zealand households the average weekly spend at the supermarket is \$NZ 234 (NZ Statistics, 2023), which represents the second highest weekly expenditure after housing. This chapter addresses the current scholarship on why the everyday household shopper does not purchase more sustainably at the supermarket. It does this by following the domain based systematic literature review framework to ensure methodological rigour by following a replicable process to ensure reduced bias (Gupta et al., 2020, Paul et al., 2021).

Chapter 2: The Grocery Sustainable Attitude-behaviour Gap

This chapter has been published as

Munro, P., Kapitan, S., & Wooliscroft, B. (2023). The sustainable attitude-behaviour gap dynamic when shopping at the supermarket: A systematic literature review and framework for future research. *Journal of Cleaner Production*, 138740.

2.1 Abstract

This article systematically reviews the current literature around the sustainable attitude-behaviour gap faced by shoppers who seek to shop sustainably at the supermarket. We analyse why household shoppers in general say they understand the science but do not follow through by placing sustainable products in the supermarket trolley. Using the domain-based systematic literature review method, the study reveals that the majority of scholarship to date has focused on the role of the individual consumer, but even the most sustainably motivated shopper can encounter difficulty shopping sustainably. Issues such as trust of the supermarket, availability, placement, accessibility, and price, which are outside the control of the household shopper, play a role in whether the shopper can successfully meet their sustainable objective. We propose an alternative scholarship lens by constructing a framework of sustainable grocery behaviour that recognizes sustainable grocery shopping is not the domain of one actor, the everyday household shopper, but it is a complex dynamic macro system of differing participants ranging from retailers, suppliers, manufacturers, government, and NGOs to the household shopper. Adopting a systems view will be important to examine the entire supply chain complete with feedback loops to understand the intervention points available and needed to create the most advantageous sustainable grocery shopping environment that satisfies the demands of the sustainably conscious consumer, the retailer, the manufacturer, and that of the planet.

Key words:

Attitude-behaviour gap Sustainability Sustainable grocery consumption Supermarket

Everyday household shopper Systems Macromarketing

2.2 Introduction

“Household shoppers worldwide spend \$11 trillion USD annually at the supermarket, and trends showed continual growth despite pandemic and recession concerns (Statista, 2023; McKinsey, 2021a). The grocery sector plays a critical role in climate change. The production and transportation of livestock, crops, and food are responsible for 25% of worldwide greenhouse gas emissions, use 50% of arable land, and consume most of its freshwater (McKinsey, 2021b). Climate change action requires not only direction from high-level organizations such as governments, but also commitment and change from everyday individuals carrying out everyday activities, such as shopping sustainably at the supermarket (Habib et al., 2021). The sheer size and impact of supermarkets in everyday household shoppers’ lives make this a key arena for scholarship, as the globe’s collective weekly grocery shop grows 8% in volume and could determine the success or failure of sustainable products winning a place in pantries (McKinsey, 2021a; Moser, 2015). Scholars have identified the key sustainability attitude-behaviour dilemma of a gap between consumers who claim high awareness of pro-environmentally sustainable issues but exhibit a limited likelihood of acting on that awareness when purchasing sustainable products (Campbell & Fairhurst, 2016; Duong, 2021; Frank & Brock, 2018; Yamoah & Acquaye, 2019). White et al. (2019) showed 65% of consumers claimed they would purchase sustainably, but only 26% did so. This sustainable attitude-behaviour gap has been identified over a wide range of consumer behaviour contexts from recycling and fast fashion to electric vehicles and energy consumption (Claudy et al., 2013; McNeill & Moore, 2015). It is also evident in the grocery sector: While 50% of grocery shoppers worldwide say they “worry about the environment,” they also report they don’t take as much action as they would like to (Schills, 2022). To date there has not been an extensive review of the studies that focus on the sustainability attitude-

behaviour gap in consumer behaviour within the key context of the supermarket environment. Recent reviews examine the impact of consumer perceptions of sustainability within the food system (van Bussel et al., 2022), of ecolabels on sustainable product choice (Torma & Thøgersen, 2021), and of concepts such as food waste (Huang et al., 2021). Review work, in particular on organic food behaviour, zeroes in on health needs of consumers (Rana & Paul, 2017) and examines health consciousness and nutrient profiling of organic versus conventional foods (Suciu et al., 2019). Scholars need to understand extant knowledge that pertains to the sustainability attitude-behaviour gap in supermarkets, given the importance of the weekly grocery household budget. It is crucial to understand processes, opportunities, and constraints grocery shoppers face for effective gains to be made in eliminating the sustainability attitude-behaviour gap in grocery consumption.

This research systematically and rigorously reviews the relevant literature to understand the sustainable attitude-behaviour gap surrounding the supermarket shopper's intent, access to and purchase of sustainable grocery options. To do this, this study (1) follows a domain based systematic literature review method to carefully source and critically analyse extant work on the everyday household shopper sustainable grocery attitude-behaviour gap and (2) synthesizes findings into an integrative framework to provide avenues for future research.

This review contributes in three key ways to sustainable grocery marketing research and practice. First, this work provides a holistic understanding of the scholarly findings in the sustainable grocery consumption attitude-behaviour gap via a descriptive review, where studies are aggregated to discover common themes. Second, this study presents an integrative framework to illustrate key factors that influence household shoppers to create a sustainable attitude before entering the supermarket. It then examines the influencing factors in the supermarket context on whether or not a sustainable product is purchased. The third

contribution is then to identify gaps in scholarship and propose future directions to aid the further understanding of sustainability purchasing patterns within supermarkets.

A key conclusion drawn from this study is that the household shopper cannot continue to be the sole focus for increasing the number of sustainable products purchased at the supermarket. Even the most informed and environmentally conscious shopper, with all available resources, cannot purchase sustainably if the supermarket does not stock the item, or the household shopper cannot locate it swiftly and easily because it is not promoted effectively. The lens used to understand the landscape of sustainable grocery shopping needs to be widened from the micro-focused world of the household shopper to the macro system of shopping sustainably at the supermarket (Layton, 2007). By understanding the broader system, focus and resources on where the sustainability attitude-behaviour gap can be lessened may help enable shoppers to fulfil their sustainable intent at the supermarket.

2.3 Methodology: Systematic Literature Review

Systematic literature reviews are used to “identify, select, critically evaluate and synthesize extant literature in a rigorous, transparent and replicable manner” (Vrontis & Christofi, 2021, p. 813). Systematic literature reviews have several advantages in that they allow for a roadmap of relevant knowledge to evolve, ensuring reduced bias and error. Rigor is found in the process of following an identified framework (Gupta et al., 2020; Paul et al., 2021; Stros & Lee, 2015). This systematic review is based on the Scientific Procedures and Rationales for systematic literature reviews (SPAR-4-SLR) (Paul et al., 2021), which is built on a process of 3 A’s for assembling, arranging, and assessing the literature. This review follows the structured theme-based domain review, where the focus is on the development of themes around a topic of current concern, in this the sustainability attitude-behaviour gap at the supermarket (Paul et al., 2021). The first stage is assembling, where the data is selected. Here it is important to ‘set the scene’ by identifying the review’s objective and question

formulation, defining the search criteria and determining the search boundaries. The second stage is arranging the literature for review. Review cycles take place at each stage to ensure that the papers selected are relevant to the core themes of the objective set in stage one. The third stage of assessing is the content analysis and synthesis of selected articles (Gupta et al., 2020; Paul et al., 2021; Vrontis & Christofi, 2021). Fig. 2 outlines the process this systematic literature review (herein SLR) followed.

2.3.1 Assembling

The first step is to define the domain or area of study. This is achieved by determining the objective of the study and is expressed as the following research question: What factors contribute to the sustainability attitude-behaviour gap that prevents shoppers from making sustainable purchases at the supermarkets?

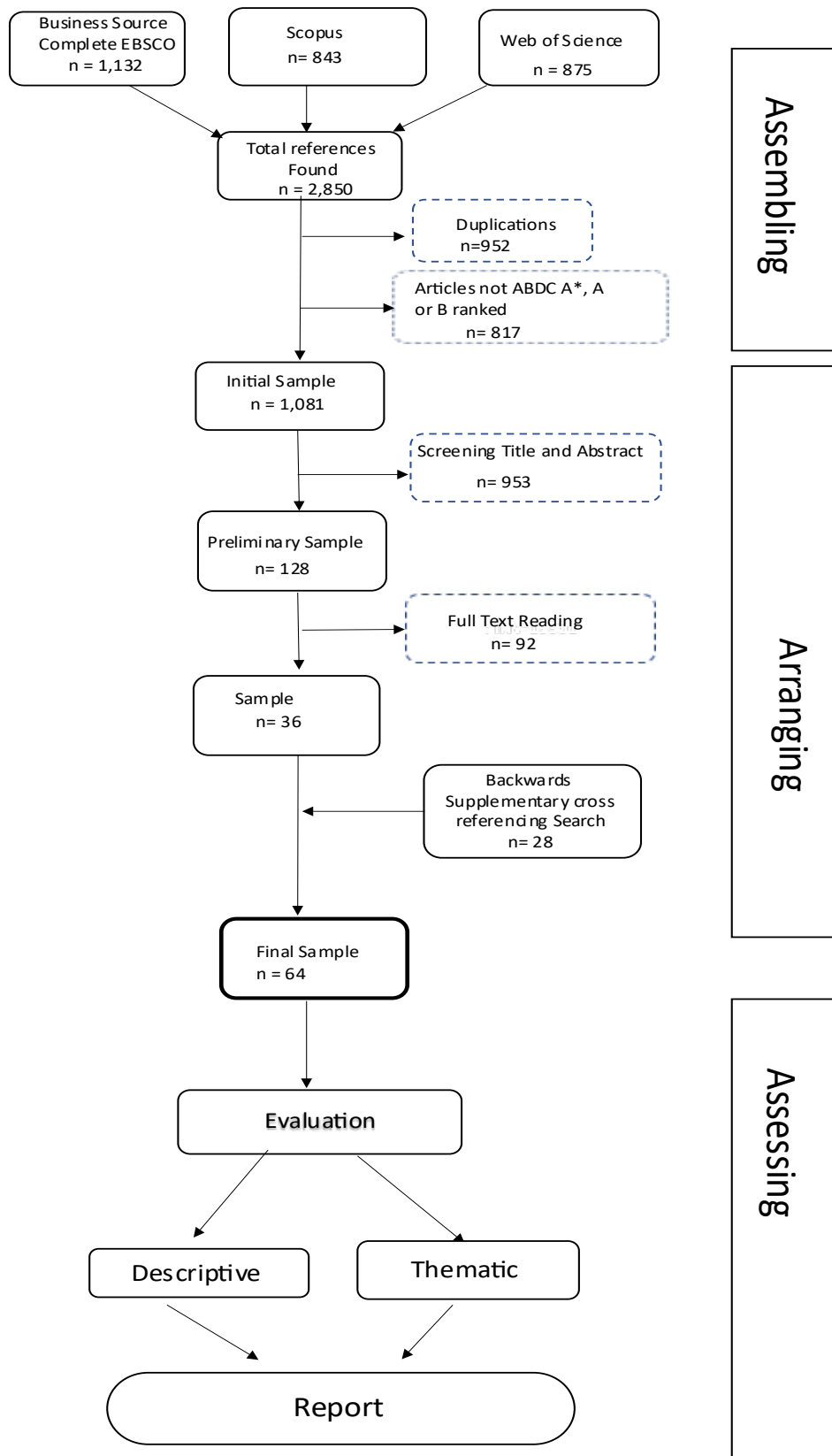


Figure 3: The Systematic Literature Review Process

For the purposes of this study, the focus is consumers' ability to "shop sustainably for products with positive social and/or environmental attribute" (Luchs et al., 2010, p 19). Examples of sustainable choices at the supermarket include but are not limited to purchasing organic food, and food that fairtrade and local, along with products made from sustainable materials and products in reusable packaging such as glass (White et al., 2019). The next stage of the systematic literature review is to define a clear and replicable set of parameters for the search inclusion. Source is determined first. To ensure that the articles are of a high and relevant academic standard, we included only articles that were published in A*, A and B rated academic peer reviewed journals as listed by the Australian Business Deans Council (ABDC) (Vrontis & Christofi, 2021). Data selection is another important step. To achieve wide coverage both of business and wider scientific viewpoints, three databases were searched as this review was conducted: Business Source Complete (EBSCO), Scopus and The Web of Science. These databases are the most widely used in previous systematic literature reviews and cover the fields of business, marketing, consumer behaviour, sustainability, and science (i.e., Paul et al., 2021; Siemieniako et al., 2021; Vrontis & Christofi, 2021). A set of search terms were then determined as clear search parameters in the SLR protocol. These search parameters support the SLR objective and were divided into three complementary search strings using the Boolean operators of AND OR and truncations (*) to identify all potential studies. The search terms chosen were deliberately broad to produce a large sample in accordance with the SLR methodology (Vrontis and Christofi, 2021). The search parameters were: (sustainab* OR green* OR eco* OR environment*) AND (disconnect OR gap Or align*) AND ("consumer behav*" OR "everyday consumers" OR "household shopper" OR grocery OR supermarket*) The time frame was set to include all papers published ending in December 2022. Based on the above parameters, a total of 1081 articles were identified for the next screening stage of arranging. "This was made up of

an initial sample of 2850 articles from EBSCO (1,132), Scopus (843) and Web of Science (875) databases, which were then reviewed to remove, that were then reviewed to remove duplicates and those articles that did not appear in A*, A, and B ranked ABDC rated journals.

2.3.2 Arranging and assessing

The next stage in the process is “arranging,” where each paper is screened and reviewed by title, abstract, and keywords to determine relevance to the systematic literature review’s objective. This process was carried out by both the lead author and a co-author who served as a secondary reviewer, with any disagreements resolved through conversation and debate (Gupta et al., 2020). This process ensured reliability of the sample. After this stage, 128 papers remained. These 128 articles were then screened in a full-text reading phase and 36 articles were identified as being relevant. The authors read the full text of all remaining articles to further filter out irrelevant articles. At this stage, the authors only included only those papers that used the keywords of the SLR objective as “their core research theme and not as ancillary one” (Gupta et al., 2020, p .212). These articles were reviewed by the second researcher to enhance reliability of the sample (Gupta et al., 2020). In the penultimate stage, the lead author examined the references of each of the 36 articles to determine if there were any additional papers that could be added to the SLR’s sample to gain maximum scholarship value (i.e., Torma & Thøgersen, 2021). Each article was then filtered through the assessing steps in consultation with the secondary author, including screening via title, abstract and keywords and a second screening via full text reading again focusing only on relevance and the presence of SLR objective as a core research theme. At this point, a further 28 papers were identified for inclusion in the study. The resulting 64 papers were deemed to be most relevant to the study and to meet the objective of reviewing the sustainable attitude-behaviour gap when shopping at the supermarket. The final stage of the SPAR-4-SLR process is “assessing” the resulting 64 articles. Here the set is analysed to generate key insights, the

basis of which is used to create future research agendas to advance scholarship (Paul et al., 2021). We assess the articles in two ways, first using descriptive analysis and then thematic analysis in the following sections. We then build on the knowledge gained to recommend future research paths.

2.4 Descriptive analysis

This section provides an overview of the final 64 papers in terms of year of publication, type of study, journals in which the papers appeared, country of study, measurement of the dependent variable, and the type of sustainable product studied. In terms of year of publication, Fig. 3 shows that the majority of papers, 76%, were published from 2014. There appears to be an inflection point where up until 2013 there were very few articles published, whereas in 2014 this jumped to seven articles, and this higher frequency has generally been maintained since. This result shows that sustainable consumer attitude-behaviour gap within the grocery landscape is a burgeoning field of interest.

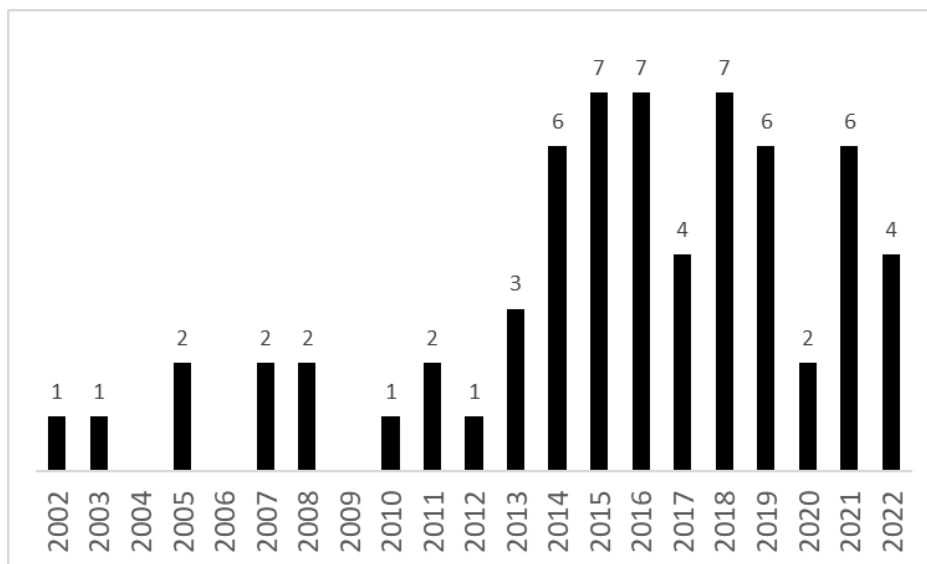


Figure 4: Publication Dates

A total of 26 journals were represented in the review. Nineteen or 30% were located in top three A-ranked journals. The Journal of Cleaner Production was the most popular journal with 8 articles which reflects the journal's core interest in the environment and sustainability

Table 2: Journals

	Title	Journal Ranking	Number of papers	Weighting
1	Journal of Cleaner Production	A	8	13%
2	Journal of Business Ethics	A	6	9%
3	International Journal of Retail & Distribution Management	A	5	8%
4	British Food Journal	B	5	8%
5	International Journal of Consumer Studies	A	4	6%
6	Psychology & Marketing	A	4	6%
7	Journal of Retailing & Consumer Services	A	4	6%
8	Journal of Retailing	A*	3	5%
9	Qualitative Market Research: An International Journal	B	3	5%
10	Food Quality and Preference	A	2	3%
11	Journal of Business Research	A	2	3%
12	Business Strategy & the Environment	A	2	3%
13	Appetite	A	2	3%
14	European Journal of Marketing	A*	1	2%
15	Journal of Consumer Research	A*	1	2%
16	International Journal of Research in Marketing	A*	1	2%
17	Journal of Economic Psychology	A	1	2%
18	Cornell Hospitality Quarterly	A	1	2%
19	International Marketing Review	A	1	2%
20	Journal of Consumer Affairs	A	1	2%
21	Journal of Consumer Marketing	A	1	2%
22	Asia Pacific Journal of Marketing and Logistics	A	1	2%
23	European Business Review	B	1	2%
24	International Journal of Quality and Service Sciences	B	1	2%
25	Journal of Food Products Marketing	B	1	2%
26	Food Policy	B	1	2%
27	Journal of Marketing Theory & Practice	B	1	2%

In total, 29 out of 64 articles in the study examined organics; green or ethical products followed with 22 studies; and local and fair trade with seven studies (see Fig 4). Interestingly, six studies examined grocery products as a whole portfolio of choice, comparing differing sustainable and non-sustainable or conventional product options. The SLR search parameters did not use the terminology organic, local or fair trade, and while these categories can have

sustainable impact, they do not address other specific issues in sustainable grocery behaviour, such as waste, plastic use or packaging concerns for sustainable grocery provision (White et al., 2019).

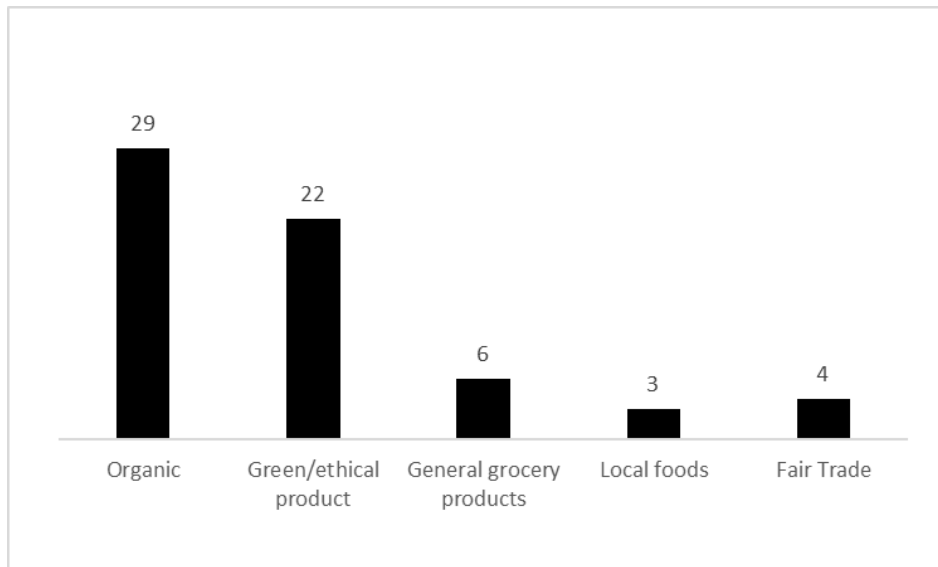


Figure 5: Types of Sustainable Products Studied

Forty-two out of 64 papers were quantitative based (see Fig. 5). There were 13 qualitative studies and 6 mixed method studies. This shows a clear drive to test theory and operationalize factors via quantitative studies, versus being concerned with theory building or reviews when it comes to sustainable grocery shopper behaviour and motivations. All papers in the review were empirical in nature.

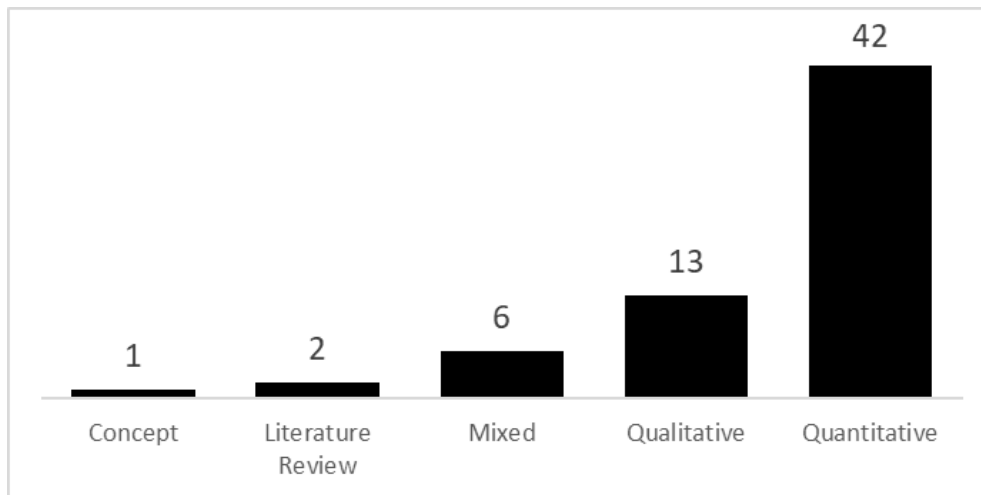


Figure 6: Study Types

The dependent variable in all studies was purchase behaviour, including claimed, willingness to buy, or actual purchase. This is due to the SLR's search criteria, where the focus was on behaviour in the supermarket context. What is interesting is how the dependent variable of purchase behaviour is measured, as much debate emerges over how to measure this outcome most accurately. Moser (2016) showed that consumers' environmental concerns are strong predictors of self-reported purchasing behaviour but not translated into actual purchase. Scholars suggest that the size of the sustainable consumption attitude-behaviour gap is a function of many studies using claimed behaviour, with potential for socially desirable responses (Sarti et al., 2018; Yamoah & Acquaye, 2019). Lehner's (2015) study of shoppers in-store shows that consumers estimated sustainable product share was higher than the actual observed. Fig. 6 shows how researchers have addressed this dilemma, as the number of studies using claimed behaviour has declined. More recent work has begun to rely on household panel data to reflect actual behaviour (Juhl et al., 2017; Panzone et al., 2016; Yamoah & Acquaye, 2019). Three papers have chosen experimental techniques to replicate consumer choice within a laboratory setting and nine papers (14%) examine in-store choice (Frank & Brock, 2018).

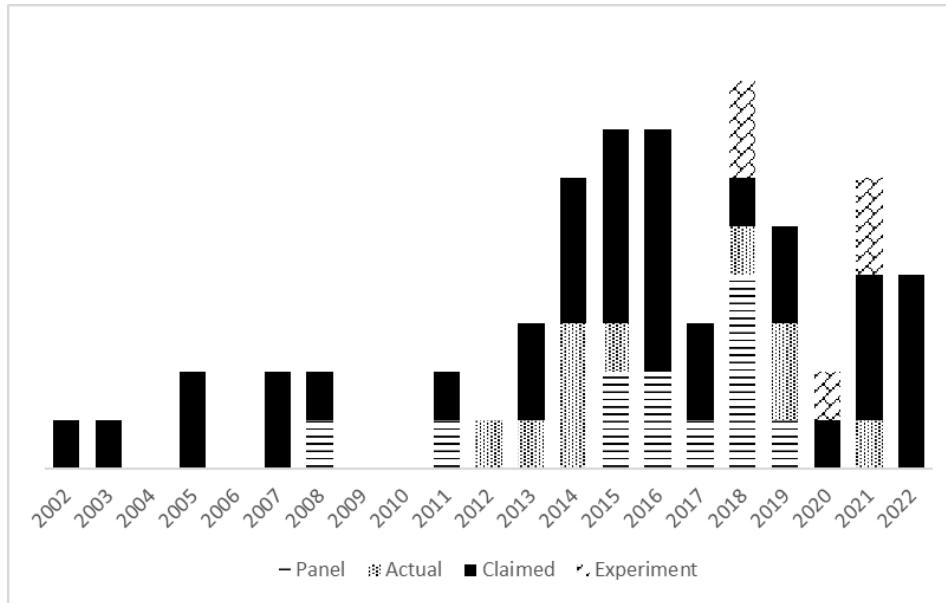


Figure 7: Dependent Variables in Data Collection

2.5 Thematic analysis

This section uses thematic analysis to interpret and draw conclusions about the current state of knowledge on this topic (Paul et al., 2021). The aim of this method is to identify patterns or themes within the data that answer the SLR's objective (Braun & Clarke, 2006). To identify factors that impact the sustainable attitude-behaviour gap when shopping at the supermarket, the papers were first categorized with similar themes. These themes were deductive themes, drawn from a-priori codes based on theory, though themes that did not fit a-priori theory coding were also developed as inductive themes (i.e., Leonidou et al., 2020) (see Table 3). Thematic descriptive statements were then assigned to each article, and initial themes were drawn from the 64 papers in the final sample. Articles were then iteratively grouped to form major theme areas, which were reviewed for redundancy and revised until the authors reached consensus. Validity of the themes was established by review and debate between the lead and secondary researchers (Gupta et al., 2020). This process revealed key factors and elements that explain the sustainable attitude-behaviour gap when shopping at the supermarket. Fig. 7 shows the influencing factors that affect the sustainable grocery attitude-

behaviour gap, from before a shopper enters the supermarket, their reaction to being at the supermarket, and their ultimate behaviour to purchase or not sustainable grocery products.

Table 3 further identifies the characteristics of the SLR papers. Table 3 illustrates the current state of knowledge based on the papers identified in the systematic review and describes three sections. The first section focuses on the everyday household shopper, who grapples with a series of internal and external determinants before arriving at the supermarket. The second section describes the supermarket they encounter when trying to purchase sustainably and the third section describes how the everyday household shopper acts within the supermarket, what they do, how do they feel and how they justify or neutralize their purchase decision.

Table 3: Shopping Sustainably at the Supermarket

The Everyday Household Shopper																						
Influencing factors	Paper	Sample							Sustainable Focus				Study location				Behaviour					
		On line	Experimental	Mall intercept	Interviews	Household Panel	Survey	Observation	Scan track data	Organic	Fairtrade	Local	General green/ethical food	USA / Canada	Europe include UK	Australia/NZ	Asia	India	Claimed	Scan	Actual	Experimental
Sustainable and Environmental Concerns	Yamoah et al. (2016)					#				#				#				#				
	Thøgersen et al. (2015)			#						#					#		#	#				
	Thøgersen. (2012)						#	#		#				#						#		
	Van Doorn and Verhoef (2015)								#	#				#					#			
	Tanner and Wölfig Kast (2003)						#					#		#				#				
	Testa et al. (2019)					#	#			#				#				#				
	Sebastani et al. (2013)				#			#			#			#				#		#		
	Schäufele et al. (2018)								#	#				#					#			
	Moser (2015)					#						#		#				#				
	McEachern and McClean (2002)						#			#				#				#				
	Memery et al.(2005)				#								#	#				#				
	Juhl et al.(2017)								#	#				#					#			
	Iweala et al. (2019)	#											#	#				#		#		
	Hempel and Hamm (2016)		#				#			#		#		#						#		
	Hurgobin et al. (2020)						#			#		#		#				#				
	Panzone et al (2016)						#						#	#					#			
	Grimmer et al. (2016)	#											#			#		#				
	Frank (2018)			#			#						#	#		#					#	
	Frank and Brock (2018)																					
	Frank and Brock (2019)			#									#	#		#					#	
	De Pelsmacker et al. (2005)						#				#			#		#			#			
	Cerri et al. (2018)	#											#	#		#			#			
	Campbell and Fairhurst (2016)						#					#		#		#			#			
	Carrington et al. (2014)				#			#					#			#						
	Bonn et al. (2016)				#					#				#					#			
	Lehner, 2015				#			#					#	#		#					#	
	Bishop and Barber (2015)						#			#		#		#		#			#			
	Anders and Moser (2008)								#	#				#						#		
	Sadiq et al. (2021)	#											#					#	#			
	Taghikhah et al. (2021)	#								#						#			#			
	Doung (2021)			#									#				#		#			
	Basha and Lal (2019)						#			#								#	#			
	Khare and Pandey (2017)			#						#								#	#			
	Nuttavuthisit and Thøgersen (2017)				#		#						#				#		#			
Self Interest/Self Identity	Yamoah et al. (2016)					#				#				#				#				
	Sarti et al. (2018)					#						#		#					#			
	Moser (2016)					#			#			#		#					#			
	Moser (2015)					#						#		#				#				
	McLelland et al 2022				#							#	#					#				
	McEachern and McClean (2002)					#			#				#					#				
	Janssen (2018)					#			#				#						#			
	Iweala et al. (2019)	#										#	#					#		#		
	Hempel and Hamm (2016)		#				#			#		#		#						#		
	Panzone et al (2016)					#						#		#					#			
	Frank (2018)			#			#					#		#						#		
	Testa et al. (2019)					#	#			#				#				#				
	Frank and Brock (2019)			#				#				#		#						#		
	Carrington et al. (2014)				#			#				#				#						
	Aschemann-Witzel and Aagaard						#	#		#				#							#	
	Bishop and Barber (2015)						#			#		#		#					#			
	Van Doorn and Verhoef (2015)								#	#				#						#		
	Thøgersen et al. (2015)			#						#							#		#			
	Tsakiridou et al. (2008)						#			#					#				#			
	Taghikhah et al. (2021)	#								#						#			#			
	Penney and Prior (2014)				#							#		#		#			#			
	Doung (2021)			#									#				#		#			
	Khare and Pandey (2017)			#						#								#	#			
	Dixon and Mikolon (2021)	#					#	#					#	#					#		#	

Influencing factors		Sample							Sustainable Focus				Study location				Behaviour					
		On line	Experimental	Mall intercept	Interviews	Household Panel	Survey	Observation	Scan track data	Organic	Fairtrade	Local	General green/ethical food	USA / Canada	Europe include UK	Australia/NZ	Asia	India	Claimed	Scan	Actual	Experimental
Demographics	Paper																					
	Van Doorn and Verhoef (2015)								#	#				#						#		
	Tanner & Wölfig Kast, 2003								#				#		#				#			
	Tsakiridou et al. (2008)								#					#					#			
	Schäufele et al. (2018)								#	#					#					#		
	McLelland et al 2022				#								#	#					#			
	Ngobo (2011)								#	#				#						#		
	McEachern and McClean (2002)								#	#				#					#			
	Panzone et al (2016)					#							#	#						#		
	Doung (2021)			#									#				#			#		
	Yamoah and Acquaye (2019)					#				#				#						#	#	
	Penney and Prior (2014)					#					#			#						#		
	Tanner and Wölfig Kast (2003)									#				#						#		
	Janssen (2018)					#				#				#							#	
Hurgobin et al. (2020)						#			#		#		#						#			
Buder et al. (2014)			#			#			#				#						#			
Past Behaviour	Yamoah and Acquaye 2019					#				#				#						#	#	
	Thøgersen et al. (2012)						#	#		#				#							#	
	Tsakiridou et al. (2008)						#			#				#					#			
	Van Doorn and Verhoef (2015)								#					#						#		
	Lehner, 2015				#			#					#	#							#	
	Juhl et al.(2017)							#		#				#						#		
	Henryks et al. (2014)					#				#						#			#			
	Grimmer et al. (2016)	#											#			#			#			
Carrington et al. (2014)				#			#					#			#							
Social Norms	Testa et al. (2019)					#	#			#				#					#			
	Lehner (2015)					#		#					#	#							#	
	Frank (2018)			#			#						#	#							#	
	Bishop and Barber (2015)						#			#	#			#					#			
	McLelland et al 2022				#					#			#	#					#			
	Aschemann-Witzel and Aagaard						#	#		#				#							#	
	Anselmsson and Johansson (2007)					#		#					#	#							#	
	Sadiq et al. (2021)	#											#					#	#			
Khare and Pandey (2017)			#						#								#	#				
Iweala et al. (2019)	#											#			#			#	#		#	
Price Perception	Tsakiridou et al. (2008)						#			#				#					#			
	Basha and Lal (2019)						#			#								#	#			
	Aschemann-Witzel and Aagaard						#	#		#				#							#	
	Penney and Prior (2014)				#						#			#					#			
	Bonn et al. (2016)				#					#				#					#			
	Campbell and Fairhurst (2016)						#				#			#					#			
	Slack et al (2022)						#						#			#			#			
	Moser (2015)					#							#			#			#			
	Henryks et al. (2014)				#					#						#			#			
	Hempel and Hamm (2016)		#				#			#	#			#							#	
	De Pelsmacker et al. (2005)						#				#			#					#			
	Dixon and Mikolon (2021)	#					#	#					#	#					#		#	
Product Perception	Testa et al. (2019)					#	#			#				#					#			
	Henryks et al. (2014)				#					#						#			#			
	Hempel and Hamm (2016)		#				#			#				#							#	
	Slack et al (2022)						#						#			#			#			
	Mai et al. (2019)		#										#			#					#	
	Moser (2016)					#		#					#			#				#		
	Pedro et al. (2013)					#							#			#			#			
	Frostling-Henningsson et al. (2014)					#	#			#				#		#			#	#		
Frank and Brock (2019)			#				#					#			#					#		

The Supermarket

Influencing factors		Sample							Sustainable Focus				Study location				Behaviour							
		On line	Experimental	Mall intercept	Interviews	Household Panel	Survey	Observation	Scan track data	Organic	Fairtrade	Local	General	green/ethical	food	USA / Canada	Europe include UK	Australia/NZ	Asia	India	Claimed	Scan	Actual	Experimental
	Paper																							
Availability and Promotion	Yamoah and Acquaye 2019				#				#	#					#							#		
	Schäufele, Pashkova, & Hamm, Penney & Prior, 2014				#				#	#		#			#					#				
	Ngobo, 2011								#	#					#						#			
	Mai, Hoffmann, Lasarov, & Buhs, Memery et al.(2005)		#										#		#					#		#		
	Pedro et al. (2013)				#								#		#					#				
	Juhl et al. (2017)								#	#					#						#			
	Van Doorn and Verhoef (2015)								#	#					#						#			
	Lehner, 2015				#			#					#		#							#		
	Henryks et al. (2014)				#					#							#			#				
	Barbarossa and Pastore (2014)				#								#		#					#				
	Grimmer et al. (2016)	#											#		#		#			#				
	Frank and Brock (2018)		#							#					#		#						#	
	Campbell and Fairhurst (2016)						#					#			#					#				
	Carrington et al. (2014)				#			#					#				#							
	Brečić et al. (2021)		#	#								#			#								#	
	Nguyen and Dang (2022)			#						#								#		#				
	Buder et al. (2014)			#			#			#					#			#		#				
	Aschemann-Witzel and Aagaard						#	#		#					#								#	
	Anselmsson and Johansson (2007)				#		#							#	#							#		
	Gadema and Oglethorpe (2011)						#							#	#					#				
Gleim et al. (2013)						#							#	#										
Labelling	Sarti et al. (2018)				#							#		#							#			
	Penney and Prior (2014)				#						#			#						#				
	Lehner (2015)				#			#					#	#								#		
	Iweal et al. (2019)	#											#	#						#		#		
	Henryks et al. (2014)				#				#							#				#				
	Frostling-Henningsson et al. (2014)				#	#			#					#						#	#			
	Frank and Brock (2018)		#						#					#									#	
	Cerri et al. (2018)	#											#	#						#				
	Teng and Wang						#			#								#		#				
	Aitken et al. (2020)	#								#							#			#				
	Anselmsson and Johansson (2007)				#		#						#	#								#		
	Emberger-Klein and Menrad (2018)				#								#	#						#				
	Gadema and Oglethorpe (2011)						#						#	#						#				
Nuttavuthisit and Thøgersen (2017)				#		#						#					#		#					
Price	Yamoah and Acquaye (2019)					#				#					#								#	
	Schäufele et al. (2018)								#	#					#						#			
	Penney and Prior (2014)				#						#				#					#				
	Ngobo (2011)								#	#					#						#			
	Moser (2016)					#				#			#		#						#			
	Van Doorn and Verhoef (2015)								#	#					#						#			
	Moser (2015)					#							#		#					#				
	Memery et al.(2005)				#								#		#					#				
	Slack et al (2022)						#						#		#					#				
	Nguyen and Dang (2022)			#						#							#			#				
	Pedro et al. (2013)				#								#		#					#				
	Barbarossa and Pastore (2014)				#								#		#					#				
	Lehner (2015)				#			#					#		#							#		
	Tanner and Wölfling Kast (2003)						#						#		#					#				
	Henryks et al. (2014)				#					#					#		#			#				
	Hempel and Hamm (2016)		#				#			#		#			#							#		
	Hurgobin et al. (2020)						#			#		#			#					#				
	Grimmer et al. (2016)	#											#				#			#				
	De Pelsmacker et al. (2005)						#				#				#					#				
	Bonn et al. (2016)				#					#					#					#				
	Frostling-Henningsson et al. (2014)				#	#				#					#					#	#			
	Campbell and Fairhurst (2016)						#					#			#					#				
	Buder et al. (2014)			#				#		#					#					#				
	Anders and Moser (2008)								#	#					#						#			
	Aschemann-Witzel and Aagaard						#	#		#					#							#		
	Bonn, Cronin, & Cho, 2016				#					#					#					#				
Taghikhah et al. (2021)	#								#							#			#					
Basha and Lal (2019)						#			#								#		#					
Gleim et al. (2013)						#							#	#					#					

The Everyday Household Shopper at the Supermarket																							
Influencing factors	Paper	Sample							Sustainable Focus				Study location					Behaviour					
		On line	Experimental	Mall intercept	Interviews	Household Panel	Survey	Observation	Scan track data	Organic	Fairtrade	Local	General	green/ethical food	USA / Canada	Europe include UK	Australia/NZ	Asia	India	Claimed	Scan	Actual	Experimental
Trust	Lehner (2015)				#			#					#		#							#	
	Grimmer et al. (2016)	#											#			#				#			
	Frostling-Henningsson et al. (2014)				#	#			#						#					#	#		
	Frank and Brock (2018)		#						#						#								#
	Campbell and Fairhurst (2016)						#				#			#						#			
	Pedro et al. (2013)				#								#		#					#			
	Teng and Wang						#		#								#		#				
	Dong et al (2022)			#						#			#					#		#			
	Nguyen and Dang (2022)			#						#								#		#			
	Bonn et al . (2016)				#					#				#						#			
	Taghikha et al. (2021)	#								#						#				#			
Time	Khare and Pandey (2017)			#					#										#	#			
	Nuttavuthisit and Thøgersen (2017)				#	#							#				#			#			
	Tanner and Wölfling Kast, (2003)					#							#		#					#			
	Penney and Prior (2014)				#						#				#					#			
	Thøgersen et al. (2012)						#	#		#					#							#	
	Memery et al.(2005)				#								#		#					#			
Habits	Janssen (2018)					#				#					#						#		
	Grimmer et al. (2016)	#											#			#				#			
	Thøgersen et al. (2012)						#	#		#					#							#	
	Lehner (2015)				#			#					#		#							#	
	Juhl et al .(2017)								#	#					#						#		
	Henryks et al. (2014)				#					#						#				#			
Justification Neutralization	Frostling-Henningsson et al. (2014)				#	#				#					#					#	#		
	Chatzidakis et al . (2007)				#	#				#					#					#			
	Frostling-Henningsson et al. (2014)				#	#				#					#					#	#		
	Frank (2018)			#			#						#		#							#	

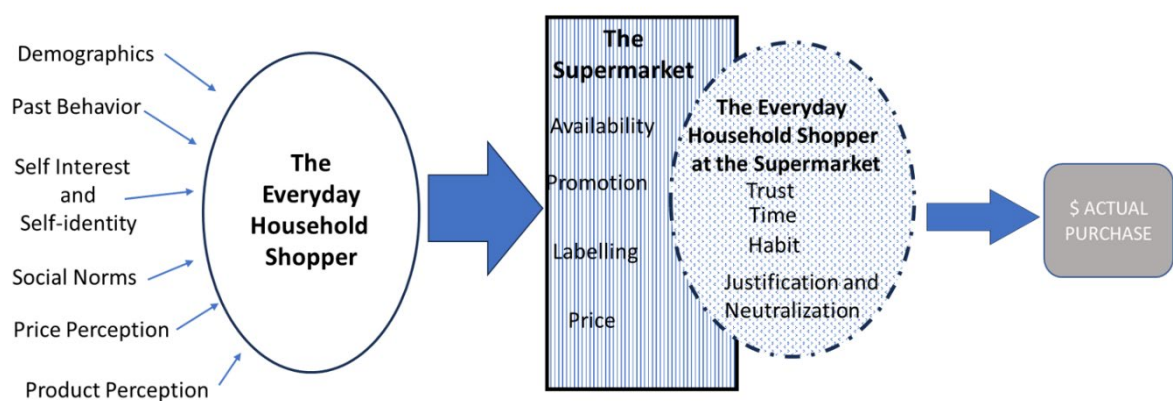


Figure 8: Everyday Household Shopper Attitude Behaviour Gap Analysis

2.5.1 The everyday household shopper

The main player identified in the examinations of the sustainable attitude-behaviour gap is the shopper. The reviewed papers show this shopper is driven by both self-interest and environmental concerns in their purchases. Yet this shopper is also influenced by perceptions and social norms that shape their attitude to sustainable grocery products before entering the store.

2.5.1.1 Sustainable and environmental concerns

The reviewed papers show that those household shoppers thinking of buying products with “green” attributes tend to hold environmental concerns. Shoppers with environmental values are more likely to purchase organics and are possibly willing to pay a price premium for organics (Rondoni & Grasso, 2021; Schaufele et al., 2018; Tanner et al., 2003; Van Doorn & Verhoef, 2015). Yamoah et al.’s (2016) study of UK supermarket fair trade shoppers found that universalism values— where society values the welfare of all people and nature— has a strong effect purchase intent. Thøgersen et al. (2015) found that universalism concerns are shared by developing economies of China and Brazil, as well as Western Europe, indicating that there is global sustainability concern for many household shoppers. Duong’s (2021) study of Vietnamese supermarket shoppers also reinforced the significant role that green environmental intention plays in purchase intent.

2.5.1.2 Self-interest and self-identity

Where this environmental concern sits in the priority list of attributes is of note to scholars. Panzone et al. (2016) observe that the relationship between a positive sustainable attitude and actual purchasing behaviour in a supermarket shopper panel is fairly limited. This may be linked to shoppers’ actual knowledge of what is sustainable, showing that level of education is a salient mediator in the sustainability attitude-behaviour gap when shopping in the supermarket. The review highlights a clear tension for household grocery shoppers between

egoistic self-interest motives and goals to protect the environment. Several papers show the majority of purchases in the supermarket are driven by self-interest (Janssen, 2018; Penney & Prior, 2014; Tsakiridou et al., 2008). That is because self-interest emerges when choices are driven by what that action can give to satisfy a need or want. “This is seen particularly in the work is on organics, where the underlying drivers of purchase from perceived health benefits and taste preferences are identified (Frank & Brock, 2019; Taghikhah et al., 2021). Hempel & Hamm (2016) and Penney & Prior (2014) found health and taste are the most important factors influencing organic purchase, with environmental considerations much further down the list of motivations. Consumer motivations for organic dairy products further reveal that taste, food safety and health are the top three motivators, with purchases made for environmental reasons ranked only after these (McEachern & McClean, 2002). Thøgersen et al. (2015) showed that self-interest factors led over biosphere variables in both emerging markets of China and Brazil and in Western European markets. Dong et al.’s (2022) study of Chinese shoppers found food safety also had an outsized impact on green food consumption. Self-identity is at the core of the sustainability attitude-behaviour gap. Shoppers have a desire to be seen as green, but do not follow through with action (Bishop & Barber, 2015; Moser, 2016; Yamoah et al., 2016). Studies that segment grocery shoppers by sustainability attitudes find that those who do hold positive attitudes are in the minority. Sarti et al.’s (2018) household shopping panel showed that only 7% bought sustainable products, with the large majority (71%) not concerned at all about sustainable purchases. Likewise, McEachern and McClean (2002), found the “complacent” outnumbered the “committed” 31%–18%. Dixon and Mikolon (2021) proposed that when trading green products for conventional, consumers purchase in line with their internal moral sense of self, although McLelland et al. (2022) suggest that selecting the green choice could be a conscious way of trying to positively align one’s sense of self.

2.5.1.3 Demographics

Higher education, high socio-economic status, and higher income increase purchase of sustainable supermarket products (Hurgobin et al., 2020; Janssen, 2018; Ngobo, 2011; Schaufele et al., 2018; Tsakiridou et al., 2008 Van Doorn & Verhoef, 2015). This could be reflective of the current supermarket context where sustainable products are typically priced higher than conventional. Yamoah and Acquaye (2019) suggest targeting shoppers who can afford sustainable grocery products to encourage a trickle-down effect to raise demand overall. Studies further show that women are more likely to shop sustainably (McLelland et al., 2022; Tanner et al., 2003; Tsakiridou et al., 2008; Van Doorn & Verhoef, 2015) This is in line with household shoppers more likely to be the female gate keeper to the household fridge (Duong, 2021; Penney & Prior, 2014).

2.5.1.4 Past Behaviour

The supermarket products a shopper purchases generally predicts future shopper choice. Once an initial behaviour is established, such as selecting a favoured brand of packaged food, it is more likely to be repeated. Habit is a key determinant in purchasing behaviour (Henryks et al., 2014; Lehner, 2015).

Thøgersen et al. (2012) found Danish sustainable supermarket shoppers in low involvement categories do not spend any more time or effort than conventional consumers when they buy milk. Instead, they use heuristics and past learning to aid their decision and make their sustainable milk brand choice in only 6.5 seconds. Similar to the habitual advantage of conventional brands, however, organic purchasers also rely on heuristics learned from past experience, which allow them to complete their shopping in a more effortless and time-efficient manner (Van Doorn & Verhoef, 2015). Past purchase is one of the biggest predictors of future purchases (Yamoah & Acquaye, 2019). This can be seen in a supermarket study over a 20-month period where those who had started to buy organic products, slowly over

time increased the number of organic foods in their basket (Juhl et al., 2017). Grimmer et al. (2016) showed that making plans to purchase sustainably before shopping positively mediates intention and purchase. Sustainable grocery behaviours are thus driven by a combination of planning and prior behaviour. Carrington et al. (2010) sounds a warning note, however, that planning can be easily overridden with other shopping priorities, such as time stress and distractions.

2.5.1.5 Social norms

Social norms are learned over time and inform individuals how they should behave in a society. They are seen by many scholars as strong influencers of the attitude-behaviour gap of sustainable consumption (Sadiq et al., 2021). For instance, consumers report they perceive that shopping “green” is the right thing to do, but do not actually buy organics to support that attitude (Testa et al., 2019). Marketing campaigns that attempt to create environmental social norms through messages such as “don’t waste water” have a positive effect on willingness to purchase but these claimed social norms do not yield sustainable purchase (Bishop & Barber, 2015). The influence of others in the household is also an important source of social influence. When shopping for the household, consumers must consider preferences and attitudes of household members (Aschemann-Witzel & Niebuhr Aagaard, 2014; Frank, 2018; Lehner, 2015; Teng & Wang, 2015). This serves as both a catalyst for shopping more sustainably when shopping for others with sustainable preferences, and as a possible barrier when sustainability is not an important attribute.

2.5.1.6 Price and the perception of price

“Price and the perception of price are important factors when considering why household shoppers do not purchase sustainably. The SLR found the most significant factor in determining whether a sustainability motivated household shopper will buy a sustainable option is price. Price was seen as the main obstacle because in many cases the price for the

sustainable option was higher than the conventional (Barbarossa & Pastore, 2015; Hurgobin et al., 2020; Pedro et al., 2013; Moser, 2016; Penney & Prior, 2014). The review reveals that many sustainably minded shoppers perceive that the prices of sustainable products are higher than conventional products. On the positive side, some studies show that shoppers with high levels of environmental values are less sensitive to price, and in some cases willing to pay a price premium (Slack et al., 2022; Tanner et al., 2003). This is shown in a study of 879 supermarket shoppers in India, which found that those with environmental concerns were prepared to pay a maximum of 20% premium for organic food (Basha & Lal, 2019).

Likewise, consumers who recognize green features as a benefit also accept higher prices (Barbarossa & Pastore, 2015; Moser, 2015). This is particularly true of organic buyers who expect to pay a high price and report they are more willing to pay that price (Hempel & Hamm, 2016; Slack et al., 2022). The reviewed papers indicate that, overall, if consumers are not willing to pay higher prices, then buying green is unlikely. One study by Aschemann-Witzel and Aagaard (2014) found sustainably aware household shoppers will also put off buying sustainably until they are in a better financial place, such as when the children leave home. Sustainable household shoppers with a budget to balance can find it difficult to justify the extra expense (Schaufele et al., 2018; Van Doorn & Verhoef, 2015). While price is a significant barrier to purchase, Gleim et al. (2013), found that if the level of green expertise can be increased through active educational cues, the perceived price barrier can be lowered.

2.5.1.7 Sustainable product perception

Comparisons to conventional products are inevitable and some sustainably motivated grocery shoppers perceive sustainable products to be less durable, tasty, and effective than conventional products (Pedro et al., 2013). Mai et al. (2019)'s study showed that grocery shopping patterns are affected by the implicit belief that some ethical products are less strong and durable goods than conventional products. This shows an underlying lack of consumer

confidence that sustainable options can be as satisfactory as conventional options. For instance, Slack et al. (2022) show that grocery buyers perceive free range eggs to be healthier and tastier, and coupled with animal welfare aspects, increased willingness to buy. Trusted, well-known conventional products have long histories for taste and fulfilling nutritional needs. Testa et al. (2019) found that one barrier to purchasing organics was that grocery consumers are happy with conventional food. Interestingly, Frostling-Hemmingsson et al. (2014) found that for some sectors, especially for empty nesters and older grocery shoppers, there was a feeling of scepticism to buying organics based on the way the product looked. The inference is that odder the shape, the lower the quality. Mass production systems and high wastage of oddly shaped produce have created a 'perfect fruit' expectation (Frostling-Hemmingsson et al., 2014). Conventional products also tend to be better promoted, and are more often discounted at higher rates, which in turn reinforces repeated purchase (Ngobo, 2011).

2.5.2 The supermarket

The context of the supermarket can be a facilitator or barrier in the sustainable attitude-behaviour gap when shopping at the supermarket. As the reviewed papers show, the supermarket environment is the key moderator and determinant of sustainable purchase. The importance of these, however, differs from shopper to shopper (Henryks et al., 2014).

2.5.2.1 Availability

If a sustainable product is not present on the shelf or cannot be found by the shopper, the product will not make the finish line of the cash register (Barbarossa & Pastore, 2015; Henryks et al., 2014; Penney & Prior, 2014; Nguyen & Dang, 2022; Yamoah & Acquaye, 2019). Gadema and Oglethorpe (2011, pg. 821) sum this well: "[C]onsumers can ultimately only buy what retailers offer them."

2.5.2.2 Promotion

A favourable setting can activate sustainable purchase option choice by as much as 30% (Mai et al., 2019). Informative signage to highlight and direct shoppers towards sustainable products facilitate purchase (Frank & Brock, 2018). The key is to make it easy for shoppers to find and purchase the sustainable option, similar to road signage and street lighting on a journey (Anselmsson & Johansson, 2007; Aschemann-Witzel & Niebuhr Aagaard, 2014; Henryks et al., 2014). Brečić et al. (2021) show that visual, pictorial signage yields higher response than text alone. As with all aspects of the supermarket context, trust in the point of purchase provided is crucial in that the information is correct and contains useful and actionable knowledge (Frank & Brock, 2018). Sustainable products face considerable competition from conventional brands. The reviewed work shows these products tend to be promoted more in-store, such as via price discounting and additional placement such as aisle ends (Van Doorn & Verhoef, 2015). As well as in-store promotions, conventional brands are heavily marketed outside of the store with large advertising spend, which keeps the conventional product top of mind (Carrington et al., 2014).

2.5.2.3 Labelling

The label is the primary informational interface between the manufacturer and the household shopper that assists in the purchase decision process. A label can be part of the packaging, or it can be applied to existing products to highlight a key aspect such as fair trade (Cerri et al., 2018). Labelling is important as a means of conveying crucial information and guidance about sustainability (Aitken et al., 2020; Lehner, 2015; Sarti et al., 2018). Trust, just as it is for the retailer itself, is crucial in the legitimacy of the label (Teng & Wang, 2015). Without trust, shoppers may view labelling information as greenwashing, i.e., view claims about sustainable features as exaggerated or embellished. Rondoni and Grasso (2021) found that consumers seem unable to interpret labels correctly. Shoppers must have some knowledge to

make sense of the label in the first place (Cerri et al., 2018; Frank & Brock, 2018; Iweala et al., 2019). Distrusted or misunderstood labels can lead to consumer disregard, or to viewing the label as an excuse not to purchase (Frostling-Henningsson et al., 2014; Gadema & Oglethorpe, 2011)

2.5.3 The everyday household shopper in the supermarket

2.5.3.1 Trust

Trust is a key factor in shopping sustainably within a supermarket (Bonn et al., 2016; Grimmer et al., 2016; Nuttavuthisit & Thøgersen, 2017; Taghikhah et al., 2021). This is created by a cohesive strategy of helpful and knowledgeable employees, good store layout, eye catching displays and clear directional signage (Campbell & Fairhurst, 2016; Lehner, 2015). The umbrella branding of the store can therefore be seen as an effective means of communicating cohesive sustainable values across product categories (Lehner, 2015). Interestingly, Khare and Pandey (2017) show that trust of a retailer can be related to the recommendations of others as well as strong in-store communication techniques. Dong et al.'s (2022) study of Chinese household shoppers purchasing rice, report that confusion about practices of supply chain actors can further erode trust in the sustainable claims of products.

2.5.3.2 Time

Time is often cited as one of the key reasons why some shoppers fail to buy sustainably. That is because they just do not have cognitive availability to contemplate, compare and engage with all available options (Grimmer et al., 2016; Memery et al., 2005; Janssen, 2018; Tanner, et al., 2003). Supermarket products are by their nature low involvement, and therefore little time overall is spent engaging in cognitive evaluation of the contents of the shopping cart. Many shoppers have an objective of obtaining goods in the shortest period of time and with minimal fuss (Lehner, 2015; Penney & Prior, 2014). Of note, those who do regularly buy sustainably do so at the same speed as conventional products. Thøgersen et al. (2012) showed

that organic milk consumers spend the same amount of time purchasing as regular dairy purchasers. Similar to conventional buyers, organic household shoppers also rely on decision-making heuristics. “Because little time and thought are allocated to decision making, it can be difficult for a new item to gain attention and to be added to the shopping basket (Janssen, 2018; Memery et al., 2005; Penney & Prior, 2014).

2.5.3.3 Habit

Most items in a grocery basket are placed there out of habit. This helps with efficient, time-saving weekly supermarket shopping. Habit can be both a barrier and a facilitator. That is because once habit is hanged, it can have a role in building sustainable purchasing as learned over time (Henryks et al., 2014). Juhl et al.’s (2017) household panel study showed that over time, sustainable products’ share of the basket grew. The question for sustainable products therefore is how they make their first appearance in the shopping basket.

2.5.4 Justification and neutralization

Chatzidakis et al. (2007) develop a framework of justification for sustainable purchase, charting the ways shoppers neutralize cognitive dissonance. Neutralization or justification is a common tool used by shoppers who enter a supermarket with sustainable intentions, only to leave with conventional products (Frostling-Henningsson et al., 2014). Shoppers are able to morally balance their sustainable intention with actual real life household influences such as the budget. These shoppers tend to blame other factors such as price, the manufacturer, or the retailer. Frank (2018) describes how the stress of the consumer versus citizen role conflict can arise for grocery shoppers. When a conflict between society and self-interest looms, consumers can privilege personal benefit (Frank, 2018) and then transfer the ethical burden to a third party such as the manufacturer or retailer.

2.6 Discussion

This rigorous structured theme-based domain systematic literature review aggregates current knowledge about the sustainable attitude-behaviour gap when shopping at the supermarket.

The visit to the supermarket is a common aspect of daily life, and as such gaining an understanding of how to bridge that gap will create meaningful change in sustainable grocery consumption patterns. Figure 9 integrates findings of the SLR and illustrates opportunities for future research to extend scholarly understanding of sustainably shopping at the supermarket (Paul et al., 2021).

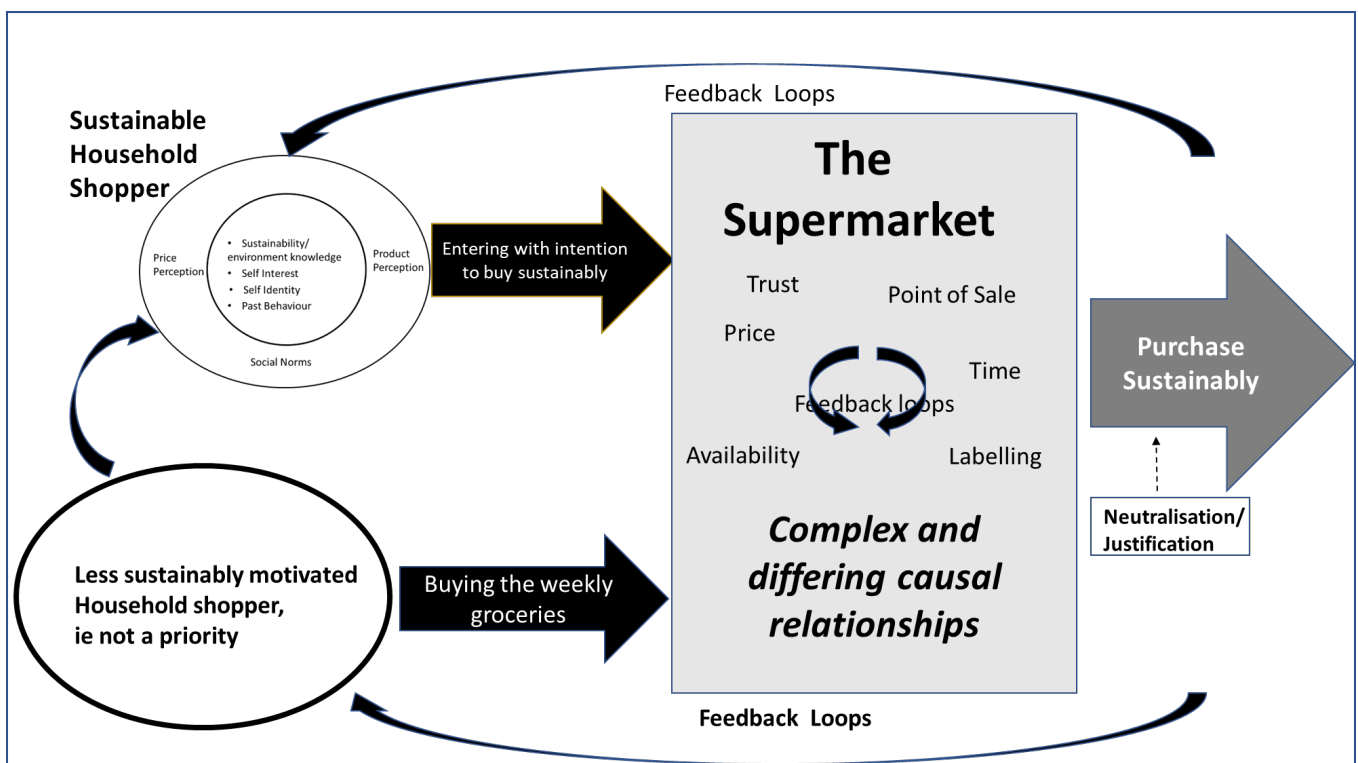


Figure 9: Future Research Framework

The context of the supermarket is the central factor in bridging the gap between the household shoppers' sustainable attitudes upon entering the supermarket, and actual sustainable behaviours when leaving with their purchases. Studies show that point of purchase can make or break the final sustainable purchasing decision (Carrington et al.,

2014). The ability to easily locate and navigate with the assistance of strong, effective, and trusted information provided is essential in final decision (Brečić et al., 2021). This reveals a need to expand the field of study from being household shopper-focused, i.e., micro-level, to taking a wider macro view that encapsulates the whole environment or system. Interestingly, only one of the 64 studies in the systematic literature review looked beyond the shopper to the supermarket to gain insights into context (Sebastiani et al., 2013). Formally, we propose:

Proposition 1. *The understanding to sustainable grocery shopping attitude-behaviour gap should not be solely centered on the household shopper. The supermarket is a dynamic, complex system of stakeholders who interact to influence the context sustainable product options.*

The supermarket is one part of a supply chain with a number of stakeholders who participate in and shape the sustainable grocery environment, from the manufacturer and the retailer to the shopper, the shopper's household members, non-governmental organizations (NGOs) that promote sustainability, scientists, and the government. Consumers do not determine the supermarket fixture contents or layout, do not determine what product is on promotion, and do not determine what packaging is used to contain the product. To gain an understanding of the total picture of how and why sustainably minded household shoppers can purchase sustainable products at the supermarket, it is crucial to move the perspective away from the individual shopper and to examine at the views, interactions and decisions of all stakeholders. Slack et al. (2022) show that household shoppers not only look to the supermarket but also to the producer to build credibility, authenticity, and trust. Adopting a system lens, macromarketing offers the opportunity to build a picture of the entire landscape of the entire supply chain detailing the interactions of the various stakeholders and influencing drivers (Wooliscroft, 2021). This view is encapsulated in Layton's (2007, p. 230) definition of a marketing system as "a network of individuals, groups, and/or entities linked directly or

indirectly through sequential or shared participation in economic exchange that creates, assembles, transforms, and makes available assortments of products, both tangible and intangible, provided in response to customer demand.” This system of overlapping marketplaces is macromarketing (i.e., Layton, 2015). Price is a good way of illustrating the demands and realities of the system. The current study identified price or price perceptions as a key barrier to purchasing sustainable products (Grimmer et al., 2016; Hurgobin et al., 2020; Pedro et al., 2013). The simple answer to encourage more sustainable options uptake would be to lower prices at the supermarket. Price however is not just determined by the retailer but by a number of factors, including the manufacturer, government regulations, competition, and consumer expectations and the retailer. Solutions to reasonable prices options for sustainable products may exist at a macro-level, such as government regulation to reduce sales tax on sustainable products, manufacturers to find more cost-effective sustainable production options, and the retailer promoting sustainable options (Mai et al., 2019). This SLR has shown that becoming an active sustainable consumer takes time, investigation, knowledge gaining, learning, trust, and accepting that an individual can contribute to change (Van Doorn & Verhoef, 2015; Yamoah & Acquaye, 2019). Carrington et al. (2014) confirms that embedding ethical issues into daily life is gradual and difficult and takes willingness to commit. Because of this, household shoppers learn from each shopping event slowly over time. Studies show a spillover effect where once a sustainable product appears in the shopping basket, over a period of time, usually long, the number of sustainable versions of a product category will grow (Juhl et al., 2017). Formally, we propose:

Proposition 2. *Sustainable grocery shopping is not a linear process. Feedback loops exist, where learnings can be made by both sustainably and non-sustainably motivated household shoppers.*

This learning is maintained and then reinforced by reciprocal feedback loops.

Feedback loops are thus present at all points of the integrative model presented in Fig.

8. The shopper with sustainable intent learns from each visit. Shoppers who are not sustainably motivated may try a product that is being sampled by the supermarket and may learn more and become more sustainable in their intention. Within the store the manufacturers and store owners gain knowledge through feedback given from stakeholder groups including consumers.

2.6 Future research directions

The everyday household shopper sustainable grocery attitude-behaviour gap has more facets than just the shopper themselves and requires scholars and marketing professionals alike to widen the scope of interest. The perspective expands from one-off linear isolated shopping events to long term learning with continual feedback along the supply chain. The following future research recommendations build on this conclusion.

Table 4: Future Research Directions

Contribution	Gap in knowledge	Source
Global coverage	Understanding of grocery sustainable supermarket consumer behaviour outside Europe/U.S./Australasia such as developing countries e.g., India	Thøgersen et al., 2015; Khare and Pandey, 2017; Basha and Lal, 2019; Sadiq et al., 2021; Doung, 2021
Type of sustainable grocery product studied	Current focus on organic/local/fairtrade. Extend to all types of sustainable products such as plastic free, products made from recyclable material.	Cerri, Testa, and Rizzi, 2018; Grimmer et al., 2016; Lehner, 2015; Memery et al., 2005; Moser, 2016; Sarti et al., 2018
Labelling	Many current labelling is not trusted by consumers and in some cases causes confusion. Greenwashing	Aitken et al., 2020; Lehner 2015; Sarti et al., 2018; Sharp & Wheeler, 2013
Actual behaviour	The attitude-behaviour gap has been shown to be accentuated consumer claims versus actual reality of action. The goal is to accurately study actual behaviour	Lehner, 2015; Frank, 2018; Aschemann-Witzel and Niebuhr Aagaard, 2014; Carrington et al., 2014; Frostling-Henningsson et al., 2014; Moser, 2016; Testa et al., 2019; Jansen 2018

Bricks and Mortar	All studies that referred to the supermarket being a physical location. Online shopping continues to grow and possibly will have differing effects on sustainable grocery shopping decisions.	Redman, 2022; Hurgobin et al., 2020
-------------------	---	-------------------------------------

2.6.1 Sustainable grocery product perception

The area of sustainability is a fast-developing field of scholarship. While the search parameters for this SLR included “sustainab* OR green* OR eco* OR environment,” the majority of studies identified in the sample were organic, local or Fairtrade products. Bangsa and Schlegelmilch (2020) in their SLR on sustainable with similar search parameters “(sustainab* OR ethic* OR responsib*)” also generated mainly organic, local and fair-trade product articles. While these categories come under the sustainably banner, they do not address all the specific issues in the growing field of sustainable grocery behaviour. Ongoing investment in differing technologies, such as biobased and carbon zero packaging, are changing the sustainable product offering and driving the increased number of options available within the supermarket. One example is the rise of the protein industry with plant-, insect- and cell-based alternatives to animal proteins which is expected to be worth global \$2.97 billion USD by 2025 (Deloitte, 2022). As Fodness (2015) shows, there may be a case for a more encompassing definition of what a sustainable grocery product is to enable marketers and consumers alike to have a clearer perception and articulate goals when shopping. As part of communicating (new)product information the label is an effective medium within the store to convey knowledge about sustainability. The SLR showed that environmentally friendly product labels can create confusion and distrust for household shoppers when the ecolabels are poorly understood and communicated (Aitken et al., 2020; Lehner, 2015; Sarti et al., 2018) It may be as Sharp and Wheeler (2013) point out in their study of carbon labels, that household shoppers may not have sufficient sustainability knowledge to understand or identify sustainable products or understand carbon emissions.

Future studies should look to determine what key characteristics of information on labels that can be used to effectively communicate trusted sustainable information. This is especially the case for shoppers who are not yet motivated to prioritize sustainability at the supermarket. Trusted certifications such as Rainforest Alliance, Fairtrade certification, and carbon footprint labelling that clearly communicate benefits (Prieto-Sandoval et al., 2016; Torma & Thøgersen, 2021; van Bussel et al., 2022) to the consumer might further enable eco-choices as a reason to purchase.

2.6.2 Actual vs. Claimed Behaviour

Many authors recognize that claimed behaviour in survey responses does not always match their actual behaviour (Lehner, 2015). To reduce socially acceptable claims by respondents, there is an ongoing need to study actual behaviour of the household shopper in the supermarket. This could take the form of in-store unobtrusive observation techniques of monitoring behaviour on shelf as the purchase decision point. The answer may be found in following studies, similar to Sorensen et al. (2017) where a combination of observation of real shopping trip and mechanical tracking of carts in four countries revealed the median supermarket shopping time was 17 min and the basket size was less than 10 items. Other methods could be ethnographic in nature as the respondent creates a diary of weekly shopping over a period of shopping, complemented with till receipts and pantry audits. The challenge here is to control for biases in respondent self-report data by capturing actual behaviour.

2.6.3 Global coverage

Nearly 20% of the articles draw from participants from developing nations including Thailand, India, Vietnam, China and Brazil. Retailer trust emerged as a key issue for building organic sales in these nations. Nuttavuthisit and Thøgersen (2017) identified that there was consumer mistrust in the certification, control and labelling of organic food in Thailand. Yet

in India, Khare and Pandey (2017) found organics was at an early stage of development and found that retailer trust was vital in growing the market. Developing market studies in this review demonstrate consumers can have similar motivations for buying organics but are at an earlier stage in development in terms of distribution and consumer adoption. Thøgersen et al. (2015) compared shoppers in China and Brazil with Europe, and Khare and Pandey (2017) and Basha and Lal (2019) to Indian consumers, finding similar challenges to European consumers. There is a need to study impacts globally as culture and social norms emerged as an important driver of sustainable grocery purchasing patterns. How do social norms noted in this systematic review from majorly Western, European-centric translate to developing countries, to areas with different incomes and availability, and to those with norms that emphasize communal values over self-identity?

2.7 Limitations of the review approach

As with all systematic reviews, this examination of the literature on the sustainable attitude-behaviour gap in the supermarket has its limitations. The search criteria was restricted to three databases and focused on business, sustainability, science and marketing scholarship as the nature of the objective to understand the sustainable grocery attitude-behaviour gap. Some work may emerge in other fields that were not included in these databases but could be germane to the research objectives. Second, the strict review protocol meant that the authors focused only on top-rated journal articles (A*, A and B-ranked on the ABDC list). This may also have had the result of not including in the review relevant material emerging in conference publications, book chapters, and in lower-tier journals. This work also focused on theories, contexts, characteristics and findings, and did not expand on measurement and operationalization, sample sizes, effect sizes or an analysis of the managerial impact of the observed behavioural relationships. The key foundation of the SLR is found in its search parameters and because of this there may be papers that were missed at the data capture stage

because they did not contain the words present in the BOOLEAN phrase. The review of references stage of the process in part addresses this limitation but there still may be omissions that do not capture all scholarship. The final 64 sampled papers are a robust representation of the scholarship on the topic of the sustainably minded grocery household shopper visit to the supermarket, their purchase, and to present a picture to drive future investigations. Yet there are more studies and emerging topics in related areas that will inform future research into the sustainable attitude-behaviour gap at the supermarket.

2.8 Conclusion

This systematic literature review examines what factors contribute to sustainably minded household shoppers not purchasing sustainable products at the supermarket. The SLR uncovers two major themes. First, the context of the supermarket plays a crucial role in this process of making a sustainable purchase, much of which is outside the control of the individual household shopper. Second, scholarship tends to report sustainable grocery shopping's attitude-behaviour gap as a linear process, placing the sustainably motivated everyday shopper at the beginning and claimed or actual purchase at the finish line. Our key recommendation is for future studies to change the focus from studying the micro individual household shopper to the macrolevel of the complex system of sustainable grocery behaviour. Scholars should be encouraged to adopt differing methodologies and theoretical frameworks, moving away from the traditional linear theory of planned behaviour models towards dynamic systems-based models which reflect the complex nature of the macro-, meso- and micro-level interactions that create feedback loops and learning for all stakeholders. By understanding the key trigger points of the sustainable grocery system, marketers will be able to put in place initiatives to shrink the gap between a motivated sustainable household shopper and their successful purchase of a sustainable grocery product.

Preface to Chapter 3

In chapter 2, the research sought to understand the current landscape of scholarly knowledge to explore why everyday household shoppers in general do not shop sustainably. The key outcome was that it is not all about the consumer. Even the most sustainably motivated shopper cannot purchase sustainably if that option is not on shelf. The conclusion is to move away from solely researching, examining, talking to, educating, and giving more information/knowledge to the individual shopper because context also plays a vital role. The context of the supermarket includes the motivations of those involved in the sustainable grocery system for placing (or not placing) sustainable products on the shelf. Taking a further step back, it is essential to examine the whole system that ultimately provides the opportunity for that sustainable product to be chosen and placed in the shopping cart.

Chapter 3 examines the factors, relationships and interactions within the grocery system that encourage the sustainable option being produced, imported and placed on the supermarket shelf. This chapter shifts focus to using Systematic Theory Mapping (STM), which combines the conventions of systematic narrative review and systems dynamic modelling. The work creates a causal loop map that visualises non-linearities that characterise the complex macro-systemic phenomenon of sustainable societal provisioning system in New Zealand.

Chapter 3: Sustainable Provisioning in a Grocery System

This chapter has been submitted to the Journal of Macromarketing and is under review

Munro, P., Kapitan, S., & Wooliscroft, B. Sustainable Provisioning in a Grocery System: An Analysis using Systematic Theory Mapping

3.1 Abstract

The call for increased everyday sustainable practices has never been stronger, as we grapple with the planetary challenges of today (and tomorrow). Gathering momentum is the scholarship around sustainable societal provisioning systems, where a holistic systems lens is applied to how we allocate resources to meet our collective needs within the planetary boundaries (Shapiro, 2024). This paper adds to this discussion by adopting a systems lens to understand the journey of an everyday sustainable fast moving goods (FMCG) product through the New Zealand grocery system. This work concludes that the most effective solution to increasing the share of sustainable products at the supermarket, is a balanced collaboration of a prescribed system (government) and a market exchange system (supermarket) within the provisioning system (Layton & Domegan 2021). We demonstrate that future research and policy should move away from the consumer in isolation and look to understand the macro as well as meso and micro forces in action.

Key words: Sustainability, Grocery, Supermarkets, Fast Moving Consumer Goods (FMCG) Provisioning Systems, Systematic Theory Mapping,

3.2 Introduction:

Every day, households balance available resources to enable their families to survive and prosper. The planet could be described as our extended household where a similar dilemma occurs as to how to allocate and balance earth's resources so that we all can survive and prosper. Emerging from marketing systems is the study of "sustainable societal provisioning systems" (Shapiro, 2024), where the intersection of marketing exchange systems and provisioning systems create a framework for understanding how the .how the earth's resources are "provisioned" or allocated and distributed by society to meet its ongoing long-term survival. (Fanning et al., 2020; Layton & Domegan 2021). Examining the provisioning system allows scholars and practitioners alike, to understand what is being produced, and how the changing needs of all the participants, at all levels from micro, meso and macro are satisfied within a given context (Renton et al., 2024).

By their very nature, provisioning systems are messy, untidy and complex, nonlinear, self-organising and ever evolving social network patterns (O'Neill et al., 2018; Layton et al., 2024; Wooliscroft, 2021). Provisioning systems can be "top down" structured from a governance prescribed supply systems or "bottom up" self-organised unstructured marketing exchange systems, or a combination of both operating in collaboration (Layton & Domegan 2021). Layton and Domegan (2021) state that mapping with the aim of gaining a holistic view of the whole provisioning system is critical for policy makers and marketing scholars alike in understanding the grand societal challenges facing us today.

We contribute to this scholarship in two important ways. The first is that we respond to calls to better understand how to create more sustainable societies where everyday household's sustainable consumption patterns can increase (Munro et al., 2023). Secondly, by taking a systems view we contribute to the discussion by strengthening the understanding of how the

assemblies of the prescriptive systems and market exchange systems collaborate within a sustainable societal provisioning system.

The context for our study is the system of sustainable goods within the New Zealand grocery system. Results reinforce the growing body of evidence that a combination of the prescribed systems (the government) and the market exchange system (the supermarket) are the key influencers that determine the (non) presence of sustainable product on a supermarket shelf that the everyday household shopper can then select from. By taking a holistic systems perspective focusing on understanding the complex nonlinear causal relationships between actors within the grocery provisioning system, we demonstrate that the key leverage points for possible intervention by both marketing scholars and practitioners.

3.3 Background

Sustainable societal provisioning systems are complex and multilayered. The definition of a sustainable society which is generally agreed upon is that of Brundtland (1987), where one has the foresight of doing something that meets the needs of today without compromising those of tomorrow. The Safe and Just Space framework adds to this by identifying the space between social and ecological boundaries, where societies must pursue practices (sustainability) that don't risk the crossing of planetary boundaries (Raworth, 2017).

Fanning et al. (2020 p.3) define provisioning system as a set of six interrelated elements that work together to “transform the resources available to satisfy a human need”. These are identified in two main groupings. The first are institutions, those things that give structure to people and how they operate, consisting of households, markets, the commons, and the state. The second are technologies or those instruments that enable resource utilisation and efficiency, consisting of techniques and material stocks. Fanning et al. (2020) conclude that

the two most important relationships between the elements are feedbacks and power relations.

A system dynamics approach (Forrester, 1994; Layton, 2007; Meadows, 2008) takes a holistic approach and seeks to examine the causal relationships, interactions, and the consequences of changes to those relationships. It does this by identifying feedback loops, such as stabilizing, or balancing feedback loops that keep the system in equilibrium, or reinforcing feedback loops which can be both positive or negative self-enhancing.

Marketing exchange systems are connected networks of people or groups of people working together to produce and deliver products and services to meet customer demand for economic gain (Layton, 2007). The definition of provisioning systems we use here is the intersection of marketing exchange systems (Layton, 2007) and provisioning systems (Fanning et al., 2020) and is summed up in the definition provided by Layton and Domegan (2021 p. 6) as “complex social networks, endowed with the social and economic purpose of making needed assortments available to diverse participants”. Provisioning systems are messy, complex, and nonlinear and require a systems approach to unravel and determine the nature of the relationships between actors.

The use of causal mapping is at the core of understanding provisioning systems (Domegan et al., 2017). In understanding non-linear causal complexity, it is first useful to define causality which is when one event/variable (X) links to and causes an effect on another event/variable (Y) (Hunt, 2010). Causal mapping includes non-linear causality which allows for “messy concomitant” variables and seeks to “understand and examine the social interaction pathways and processes between actors” (Domegan et al., (2017 p. 308). Non-linear causality helps researchers and managers understand that there may be different combinations of outcomes

or pathways from different combinations of inputs or interactions which may change over time. (Macy & Willer 2002; Ragin, 2008).

This study uses non-linear causality as a base to understand the "messiness" of the multifaceted, and multi-level micro- meso- and macro interactions, by actors within the provisioning system of sustainable goods in the New Zealand grocery system. We look to understand the provisioning system that determines how or if a sustainable fast moving consumer good (FMCG) products can make its way into the shopping cart of an everyday (non)sustainable household shopper. "The study seeks to understand the roles of the actors engaged in influencing directly or indirectly that journey, and the consequences, intended or otherwise, of their actions and interactions within the communities they create. We adopt the Systematic Theory Mapping Framework (STM) developed by Padela et al. (2023) which deals with systemic phenomena of the real world, by deciphering causal complexity, and developing causal theories accordingly, to understand the holistic societal provisioning system of a sustainable product in the grocery system.

3.4 Literature Review

According to the United Nations, the world is on track to achieve only 17% of UNSDGs in 2024 (General Assembly Economic and Social Council, 2024). Reporting specifically on Goal 12, which advocates for responsible sustainable consumption and production patterns, the UN notes that domestic material consumption has actually increased by 5.8 percent and that around one billion meals worth of edible food are wasted every day in homes around the world. It would seem that the world's governance calls for increased sustainable practices remain unheeded.

Evidence shows that everyday consumers continue to follow the same consumption patterns as before, including the weekly shop at the local supermarket. The global grocery market is expected to grow to \$14.8 trillion USD by 2030 (Research and Markets, 2024). The U.S. Food Industry Association reports that in 2024 the average weekly spend was \$165 USD per week spent over an average of 1.6 weekly trips (fmi.org). In 2024, Stern NUY reported that those products with a sustainable claim on the pack had a 18.5% share of the US grocery market, up from 16.1% in 2019.

Many consumer behaviourist scholars such as White et al. (2019) see this lack of advancement as being a consumer-based dilemma and have identified the sustainable attitude-behaviour gap as a main driver. This gap describes consumers who claim to have a sustainable attitude, but their behaviour differs from their stated attitude. Carrington et al. (2010) suggest that it may be the environment in which they shop that influences the actions shoppers ultimately take. Gadema and Oglethorpe (2011 p. 821) sum this up well, noting that “consumers can ultimately only buy what retailers offer them”

Frank and Brock (2018) determine that a favourable sustainable oriented supermarket setting can help consumers find and easily locate sustainable options. The key influencing factors for making a sustainable purchase decision for consumers are perceived price, time (lack of), quality and taste, and only then the product’s sustainable credentials (Moser 2016; Hurgobin, et al., 2020). At the core of this decision making is trust, (Bonn et al., 2016; Nuttavuthisit & Thøgersen 2017; Taghikhah et al., 2021). Slack et al. (2022) reports that shoppers look not only at the supermarket but also the manufacturer for credibility and authenticity to build trust. Sometimes this can be difficult to obtain where there is exaggeration or misrepresentation of sustainable claims by both the store and the manufacturer, a practice known as greenwashing (Rondoni & Grasso 2021).

While the supermarket has been identified by many scholars as having the potential to play a positive and active role in increasing the sustainable share of the grocery (Bauer et al. 2022; Kemper et al., 2024; Naidoo & Gasparatos 2023), there appears to be a slowness to actually fulfil the opportunity. Blom et al. (2023) identify this as supermarket sustainability ambition-action gap where, similar to the consumer driven attitude-behaviour gap, the sustainable intent is visible, but action is limited. Key issues identified revolve around (1) a lack of clarity or full trust in a shared definition of what makes for a sustainable good, (2) subsequent unclear and sometimes messy inconsistent measurement of sustainability, and (3) balancing internal processes such as sales targets, especially in the short term.

“Taking a holistic view, Munro et al. (2023) concluded that the grocery retailer and everyday household consumer are parts of a macro dynamic system of actors including manufacturers, government, non-governmental organizations (NGOs), consumers and supermarkets whose interactions and decisions separately and together, for better or worse, determine what sustainable products may or may not make their way into a consumer’s shopping cart.

A system is organic in nature. The elements, or sets of things such as people, cells, or organisations, cohere to construct behavioural patterns over time (Meadows, 2008). Layton (2007 p 230) builds on this definition and applies to a marketing system “network of individuals, groups, and/or entities linked directly or indirectly through sequential or shared participation in economic exchange that creates, assembles, transforms, and makes available assortments of products, both tangible and intangible, provided in response to customer demand”. A system is not a snapshot in time, but an endeavour to capture the ebbs and flows of the interactions that form behaviour over time. A marketing systems approach seeks to examine causal relationships, interactions, and the consequences of changes in those relationships. It does this through examining reciprocal exchange of information, resources, and ideas via feedback loops (Forrester, 1994; Layton, 2007; Meadows, 2008). These include

stabilizing or balancing feedback loops that keep the system in equilibrium or reinforcing feedback loops which are self-enhancing.

A provisioning system examines how a society distributes its resources to satisfy human need (O'Neill et al., 2018). Layton and Domegan (2021) determine that each provisioning system is a community of networks that are organised from either the top down (prescriptive systems) or bottom up (market exchange systems). Both are self-organised patterns of networks that develop in an ad hoc manner over time. It is possible to have overlapping communities and also complementary prescriptive and market exchange systems that collaborate as the provisioning systems grows and changes with time. A sustainable societal provisioning system looks to understand the way in which a network of actors transforms the planet's available resources to enable inhabitants to live within the planetary boundaries.

It is not an easy task for an everyday household shopper to be able to shop sustainably at the supermarket, especially if the sustainable option is not present and visible on the shelf.

Consumer intent is only one part of a provisioning system which includes many other interacting layers of actors who make decisions on how to allocate resources through marketing exchange systems. The focus for this study is therefore to understand all actors' decisions and actions, both intentional and unintentional, that effect the sustainable goods "fight" to get onto the supermarket and ultimately into the shopping cart.

The research question proposed for this study is

What factors within the New Zealand sustainable grocery provisioning system enable or limit a sustainable grocery product being placed in a shopping cart?

3.5 Methodology

Systematic Theory Mapping (STM) (Padela et al., 2023) is systematic framework that is based on qualitative systems dynamics (Wolstenholme, 1999), combined with the

conventions of non-linear causal modelling (Domegan et al., 2017). It uses qualitative data to give exploratory depth and understanding to the interactions between key actors of the multilevel and complex provisioning system of sustainable goods in the NZ grocery system.

Figure 10 illustrates this process.

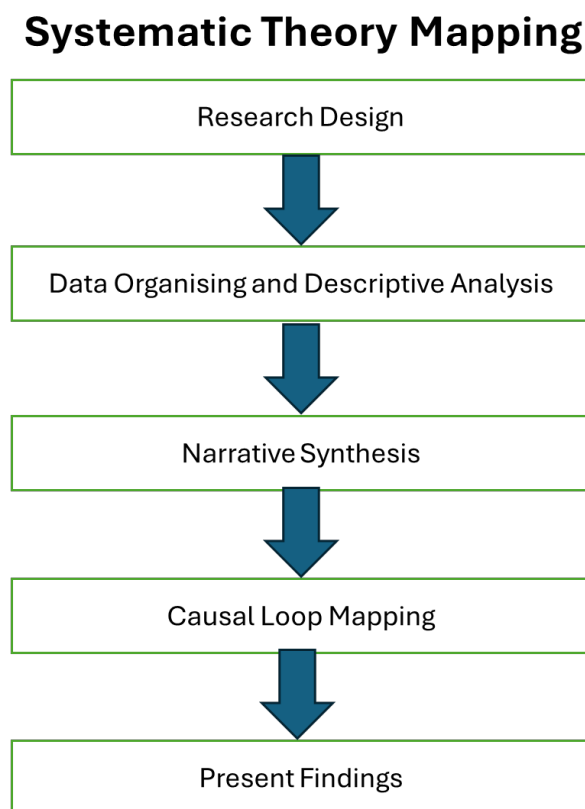


Figure 10: Systematic Theory Mapping (STM); Adapted from Padela et al., (2023)

The first step of STM is the **research design**, or the construction of the research including sampling design, data collection instrument and processes. Given the premise that the aim of STM aims is to understand the “messy” real world, it is appropriate to use case study research examines real life cases within a contemporary context through in-depth exploratory data gathering on a bounded issue (Creswell & Poth 2018). The second step requires the **data organising and descriptive analysis** of the data collected in the previous step. Here the raw data is organised into workable formats, for example interviews are transcribed and then a

descriptive analysis or a comprehensive summarization is enacted to make sense of the data. The dimensions used should reflect themes or characteristics of the sample (Lambert & Lambert 2012). The next step is **narrative synthesis**, which requires the organising and interpretation of the raw data collected into building blocks based on the thematic analysis and then analysed for relationships between variables (Mays et al., 2005). Narrative analysis seeks to determine the non-linear causal relationships that form the basis for the mapping of non-linear causal map (Padela et al., 2023). Step four is the **creation of the causal loop map** which is usually accomplished using system dynamics software such as Vensim or Stella. The map is a visual representation of the interactions between variables and seeks to determine feedback loops, those interrelationships that can be identified and whose behaviour can be targeted in future targeted strategies. Steps 3-5 represent an iterative process, as researchers continually “learn” from data and their relationships with variables. The final stage is to **present the findings** for discussion, conclusions and future research avenues.

STM is employed here to examine the provisioning system of sustainable goods in the New Zealand grocery system by utilising the richness of qualitative data to provide insights into actor’s thinking and decision making. It identifies the variables that drive decisions and maps their interaction, thus determining consequences both intentional and unintentional. The interactions are then mapped based on their causal relationships to determine feedback loops. The work of identifying feedback loops in this way allows for a more informed understanding of the dynamic “messy” phenomenon.

3.5.1 The Research Plan

The critical realism paradigm is appropriate for researchers who wish to understand real world events and their complex relationships (Fuchs & Robinson 2023). Fuchs and Robinson (2023) explain the interactions of main actors and/or elements are likely to be caused by complex, sometimes hidden layers of systems. Case study is the most appropriate

design for this study because its exploratory methodology asks “what,” “how” and “why,” and offers an insight into the descriptive characteristics of a particular real-life complex phenomenon (Mays et al., 2005; Yin, 2018). Yin (2018) describes one of the key reasons to enact a case study is to explain complex causal links in real-life relationships and interventions. Case study is appropriate when the confines between actors, context and roles are not obviously apparent and there is a need to investigate a deeper understanding (Cherry, 1998). Collection of data usually takes place in natural settings and questions are usually of an explanatory nature that cannot be answered with a simple yes or no, instead investigating deeper interactions with how and why questions. By asking these types of probing questions, the researcher gains a better, more in-depth understanding of the phenomena (Cherry, 1998). Interviewing is used widely in critical realist work as a means of gaining rich explorative data and lends itself to the abductive model development (Rashid et al., 2019).

Methodological rigor for the STM uses Lincoln and Guba’s (1985) framework to ensure internal and external validity, reliability, and objectivity and establish trustworthiness in the research process. Validation was achieved in two ways. The first was that after the first round of thematic analysis, initial coding and results were sent to all participants who had the opportunity to give feedback as to the accuracy and credibility of the analysis. The second method of validation was a peer review, where the interviewer conducted a peer review with an independent researcher to act as a “devil’s advocate” to validate the interpretations and analysis (Creswell & Poth 2018). Reliability was achieved by following the STM framework, having one interviewer instituting the same interview guide at each interview (Yin, 2018).

3.5.1.1 The Sample

New Zealand has a population of 5.3 million and collectively New Zealand households spend \$22.3 billion at the supermarket with a weekly average spend of \$234. The New Zealand grocery industry is dominated by two organisations, with interests horizontally with differing

retail brands and vertically owning key wholesalers, who together account for 83% of the market (New Zealand Commerce Commission, 2021). An Ipsos NZ 2023 study showed that 82% of New Zealanders are concerned about the effects of climate change, while Ernst and Youngs 2023 Future Consumer Index reports only 25% say they are willing to pay more for sustainable products. (RNZ, 2024)

To represent the key actors within the provisioning system, local food manufacturers, supermarkets, government and non-governmental organisations (NGOs) within the New Zealand grocery industry—a panel of experts as “informed individuals” was formed, where each participant had extensive knowledge and experience of their role in the industry (Davis, 1992).

Participants for the study were recruited using the purposeful sampling technique (Patton, 2015), starting with those in the industry known to the researchers and then proceeding to additional participants referred to the researchers. This ensured that key players in each sector of the grocery industry were represented, providing “information rich” relevant cases (Brychkov et al. (2022)). Forrester (1968 p. 612) contends that expert knowledge is especially useful understanding the “vast amounts of information that exists in the minds of those participating in a particular system. To ignore this information is to cut off our greatest source from which we may learn”. Participants were chosen based on their expert knowledge of the grocery industry and sustainability. There were six key sectors. The first group were academics whose research informs the current grocery environment, and the role sustainability plays within. They provided an essential overview and assisted with the purposeful sampling of experts. Environmentalists provided a more macro view of the sustainability influences in the grocery industry. NGOs were included as they provide data for government decision making especially around the New Zealand Commerce Commission enquiry into the grocery Industry and the subsequent appointment of the Grocery

Commissioner. Government representatives who operated in the field of supermarket/retail competition and regulations around greenwashing and sustainable claims. Finally, the experts from the supermarkets and manufacturers were crucial to understanding the sustainable provisioning system. The thirty-two participants were interviewed using a semi-structured interview guide either in person or online via Zoom and were usually an hour in length. Interviews were conducted until theoretical saturation occurred, where in line with Lincoln and Guba (1985), the level of redundancy from respondents had been reached. See Table 6 for the breakdown of participants in the provisioning system by role and years of experience in that position. Please note that owing to the contextual constraints of conducting research within New Zealand's small population, and in accordance with ethical approval requirements, we are unable to provide additional identifying details as this could potentially compromise participant confidentiality

Table 5: Study Participants

Participant	Actors	Gender	Years experience in position
S1	Supermarket	Male	9
S2	Supermarket	Male	7
S3	Supermarket	Male	5
S4	Supermarket	Male	18
S5	Supermarket	Female	5
S6	Supermarket	Female	4
S7	Supermarket	Female	1
S8	Supermarket	Female	5
G1	Government	Female	4
G2	Government	Male	12
G3	Government	Male	7
G4	Government	Male	4
NG1	NGO	Female	4
NG2	NGO	Male	20+
NG3	NGO	Female	10
NG4	NGO	Male	4
E1	Environmentalism	Female	10
E2	Environmentalism	Female	5
E3	Environmentalism	Female	20+

M1	Manufacturer	Female	4
M2	Manufacturer	Male	4
M3	Manufacturer	Female	17
M4	Manufacturer	Female	7
A1	Academic	Female	7
A2	Academic	Male	5
A3	Academic	Male	14
A4	Academic	Male	17
A5	Academic	Female	4
A6	Academic	Female	13
A7	Academic	Male	24
A8	Academic	Male	20+
A9	Academic	Male	9

3.6 Data organising: Descriptive analysis and Narrative synthesis

The analysis is a two-step process. The first step is inductive where researchers using thematic analysis derived 1,399 free codes. These were then grouped together into 32 common themes or insights called descriptive themes (Braun & Clarks 2006). At this stage, participants were sent a summary of thematic analysis for a member sense check and given the opportunity to respond and add further to the data collected. (Lincoln & Guba 1985). This feedback, the thematic analysis and the original interviews formed the narrative synthesis. This phase explores thematic analysis to derive meaningful evidence-based cause and effect relationships which form the basis for developing the causal map (Padela et al.,2023; Robinson, 2011). The process is iterative as the entire sample is continually reviewed until theoretical saturation is achieved.

3.6.1 The Resulting Analytical Codes

a) Busy Lives leading to sustainability being low on shoppers' choice hierarchy

When discussing consumers and sustainability, participants consider the busy lifestyles of shoppers, where time - or lack of - is a key driver of convenience-driven solutions, placing sustainability low on the list of factors determining product choices. In a typical observation,

(A2) “consumers have very limited attention span and ability to deal with all the stimuli and all the information in a time pressured environment in the supermarket”.

Supermarket shopping for many consumers is seen as a functional task with little thought or enjoyment. Household shoppers look for simple solutions, not hard, complex complicated decisions when selecting a more sustainable product. Compostable packaging is an example in which a consumer is unsure which parts are compostable, or how to compost. Also, a lack of time and - possibly- confidence in knowledge leads to overreliance on heuristics to short cut the decision-making process or on pre-established habits This is line with Thøgersen et al. (2012), who found that sustainably minded grocery shoppers spent the same amount of time purchasing organic milk as their non sustainable conventional shoppers for non-organic milk.

Many talked of the actual topic of sustainability is seen by supermarket consumers to be “very abstract and time distance” (S5), and not on the immediate “to do” list, since “business trumps social responsibility” (NG2). When discussing the consumer hierarchy of choice, participants (A2/A9) report that consumers begin with price being most important, especially given the cost-of-living crisis, followed by taste, convenience, and quality, while sustainability is mentioned further down the list, if at all.

b) Supermarket seen as a gatekeeper

Most participants (A1/A9) converged on the view that the supermarket is the key to unlocking shelf space “Supermarkets have the number one power [in the supply chain] because they decide on who gets put on the shelves” (A3). The exception to this view was the supermarkets themselves, who argued that the consumer was driving choice in their store.

For many participants, the supermarket is often viewed as the agenda setter and decision maker, a fulcrum which a sustainable product must pass through to be placed on shelf in store. Because of the power of the grocer, participants note that sustainable products face the

same competition for shelf space as “non sustainable” products, on attributes such as margin, supply relationship, and marketing intangibles such as promotional support.

c) The Profit Motive

Participants (M1/A9) acknowledged that business needed to make a profit, and this is also a key driving factor in the sustainable grocery sector. “Obviously there's a financial motive to that, but it has a benefit to the environment. Well, I hope it does (S3)”; “there's a reality. We can't do any of this if we don't make money.” (M3)

Yet, these system actors also saw embracing sustainable products and offerings as an increasing marketplace norm to stay competitive. “Sustainability is a cost to doing business” (S4). Yearly growth/profit targets are challenging under a sustainable lens with a finite resources base, however, there has been some movement towards sustainability becoming part of core reporting of measures of success. “We've got KPI's [key performance indicators] related to sustainability that weren't there five years ago, 10 years ago” (M3) Although some are concerned about the potential for hypocrisy around reporting type of future sustainability objective making “frankly b*****t objectives that are in the never never, they will never actually be called upon, because many of them just extend their time frame” (M2).

d) On a journey with the aim of “doing the right thing”

Across all system actors interviewed in this case study, two phrases emerged as common parlance from respondents describing the goals and steps of creating a more sustainable grocery sector in New Zealand. First, nineteen participants described including sustainability within their business practises as “doing the right thing”. This is exemplified by (M2) “It's just honestly, we just have to do better for all of us”. Second, an oft-related sentiment of sustainability for each participant's position and context in the marketplace was that “We're on a journey” (S1, S4). Yet despite the overreliance on these shared normative statements,

there was a lack of consensus on what exactly is the right thing, the actual concrete measurable definition of sustainability and what road the system actors were on. The resulting opportunity for building mutual understanding across the system is in this way muddled, nebulous and at times lacking in substance or a sense of a shared agenda.

e) Looking Backwards

This past-focused code emerged in the data in two key components. The first factor was that at every stage of the supply chain, participants report carefully considering the organization they were partnered with before relying solely on their sustainable credentials. This is especially relevant where raw materials and products are being imported. This means that sustainable claims need to be legitimate and accurate, as trust among supply chain partners in the sustainable grocery system is a key aspect of transactions and forward claims for products arriving on shelves in supermarkets.

The second component of this code materialized as several participants spoke of the past with reverence in respect to sustainable practices. In New Zealand in the 1970s and 1960s, for instance, shoppers found meat at the butcher, who wrapped the produce in paper, and customers received reusable glassware via milk delivery service. Participants recalled jars of home preserves and the focus on fresh foods, where households bought seasonally and local. A common refrain for these vested system actors is a respect for the wisdom and simplicity of past practices that aligned with more sustainable practises. Participants spoke of their progenitors as existing unaware and almost effortlessly in a fluid system that prioritized sustainable long-term interactions. This is best expressed by (A4) “the rise of organic farming or as your grandparents called it farming, you know, it just used to be called farming”.

f) The Role of Government:

While government is acknowledged as having an oversight role, many participants were divided between those who considered there was too much government intervention in terms of increased regulation, while others believed that government has not been strong enough in creating sustainable options/direction. “Supply chain sustainability and things like that I think it's partly government incentivizing and directing and a little bit of regulation and not too much punishment hopefully” (G3)

Government has two key roles to play in the sustainable grocery system. This first role is regulation includes existing legislation. Participants generally reported a lack of effective enforcement of existing regulations around labelling and greenwashing. An example of this was the Consumer Institute New Zealand study that found that of the 14 supermarkets products randomly chosen, none of them could back up their sustainable claims. (Styles, 2023). Greenwashing, or inaccurate and misleading claims about sustainable attributes, leads to increased consumer confusion as companies push the boundaries on the enforcement resources for labelling regulation (Kapitan et al., 2019). A key development within the New Zealand grocery market came in 2019 when the government directed the Commerce Commission to investigate calls that supermarkets were charging too much for all products. Many participants spoke of this investigation. The resulting response to the investigation was seen as weak by non-supermarket participants with concerns that a recently appointed Grocery Commissioner lacks regulatory enforcement power

Discussion also emerged about the unevenness that regulation can create between products that originate from local New Zealand manufacturers and those imported from outside the country. (E3) gave the example of pork, where New Zealand has some of the highest standards for animal welfare in the world. For local pork products, this creates more positive, environmentally sustainable, and also more expensive farming practices which has resulted in

two thirds of the pork on the supermarket shelf being imported at a lower cost, but an overall higher environmental impact.

The second key role for government is the investment and consistency in long term (or lack of) infrastructure planning. Consistency and long-term commitments are two key drivers of long-term commercial investments such as plant conversion to more sustainable energy sources. The New Zealand three-year electoral cycle that can change leadership of the government led to many expressing the view that there should be more collaboration with all actors in the system to work together to a long-term cross party common goal.

g) The Claimed Consumer

Participants reported consistently asking what consumers think. "The consumer is number one, I mean, we do a lot of consumer research, so we do listen, to see where consumers get their information/ resources" (S2). This research generally took the form of surveys asking what household shoppers thought about sustainability and their expectations for the organization. This crucial claimed attitude data was what many based their decision making on. This reliance on claimed data could be problematic, though, when understanding actual consumer shopping behaviour (White et al., 2019).

h) The definition of sustainability

The continual debate of what is a precise and working definition of sustainability (Glavič & Lukman 2007; Ramsey 2015; Ruggerio 2021) continues in this study. The majority of participants (A6/A9), when asked to define sustainability, talked in abstract terms around doing something now that protects the future. This quote sums it up in simple terms "Sustainability is longevity and reducing impact". (E1). However, many (NG4/A9) also added that the term is becoming worthless as can be seen by this quote "I've never really

used the word sustainability to because it already felt like it had been greenwashed meaninglessness” NG4).

When asked how sustainability is applied to understanding business decisions, the general feeling that it was nebulous and lacking some concrete “usable’ definition to truly guide and measure progress or performance. “Sustainability doesn't mean anything. You can't define it. People use it and substitute it into so many different types of equations. It's suitably ubiquitous, and that's what companies do absolutely, 100%. (M2)”. Another participant said, “it depends on where you start and finish your measure” (M3). In summary “It’s a really horrible word, I don't like it, but the problem is what else do you use” (E2).

3.4 Findings

The findings are presented in two ways, The first is the causal loop map which visually illustrates the causal relationships and interaction between key actors and variables (Figure 2). Second, Table 4 gives an overview of the feedback loops and causal relationships connecting these subsystems within the dynamic New Zealand grocery sustainable provisioning system.

Causal loop mapping is a systems dynamic modelling technique that seeks to understand the feedback structure of the system by comprehending the causal links (cause and effect) between variables of a messy, complex non-linear nature of a system (Padela et al., 2023). Causal loop maps follow two main conventions. The first is the use of a (+) or (-) sign to reflect the positive or negative influence that one factor has on another and the arrow indicates the direction of that causal influence. A positive polarity indicates the same change of direction, for instance international climate change agreements lead to a positive effect on government policy (+). A negative polarity would be in the inverse, that is government

regulations have a negative effect (-) on a supermarkets profit (Padela et al., 2023; Rees et al., 2016).

The second convention is where a chain of associations loops back on itself to create a feedback loop. Feedback loops reflect the dynamism of the system under review. There are two types of feedback loops: reinforcing (R) or balancing (B). A reinforcing loop (R) has all the same associated interactions either positive or negative, and without an external intervention, will incrementally grow each of the variables in the loop. A balancing loop is a mix of (+) and (-) interactions, and this tends to keep the feedback loop in equilibrium, hence the name balancing.

Using the Vensim systems dynamics software, the study's causal loop map was developed based on the narrative synthesis analysis to determine evidence-based causal relationships.

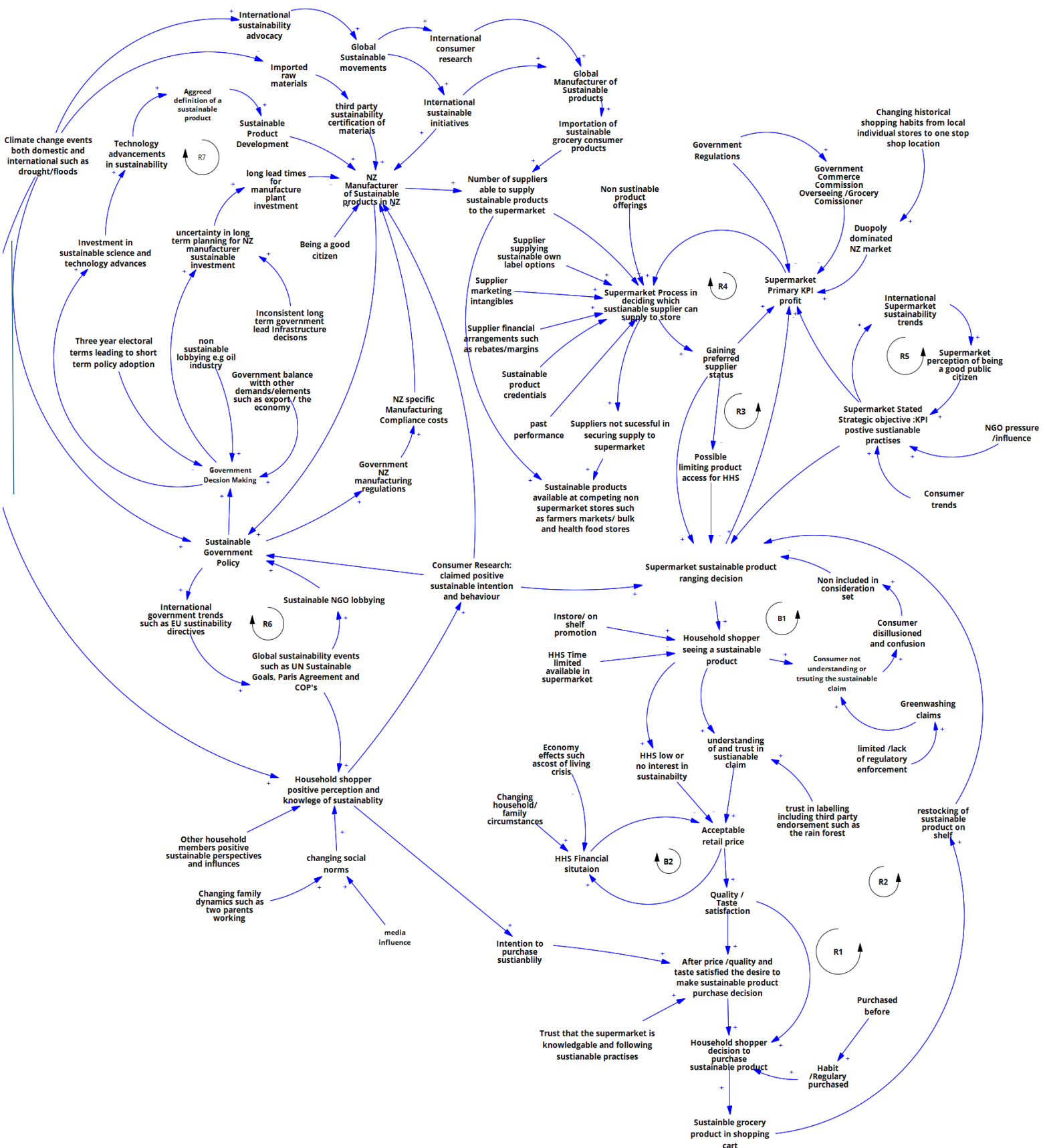


Figure 11: Causal Loop Map for the Sustainable Grocery Provisioning System in New Zealand

Table 6: Feedback Loops within the Causal loop Map

Feedback Loops within the Causal Loop Map			
System Level	Sub/sub systems	Feedback loop and causal chain	Variables
Micro system from supermarket shelf to shopping cart	Sustainable grocery product in shopping cart sustainably motivated shopper	R1	Supermarket sustainable product ranging decision (+) Household shopper seeing a sustainable product (+) Understanding the claim and trust in sustainable claim (+) acceptable retail price (+) Quality/taste satisfaction (+) After price/quality/taste satisfied the desire to make sustainable purchase decision (+) Household shopper decision to purchase sustainable product (+) sustainable product in cart (+) stocking of sustainable product on shelf (+)
		Other Causal chains	# Intention to purchase sustainably (+) HHS positive perception and knowledge of sustainability (+) Changing social norms (+) media influence (+) Changing family dynamics (+) Other household member influences (+)
			# Trust in Supermarket is knowledgeable and following sustainable practices
	Sustainable grocery product in shopping cart (sustainably motivated HHS)	R2	Supermarket sustainable product ranging decision (+) HHS low or no interest in sustainability (+) Acceptable retail price (+) Quality/taste satisfaction (+) Household shopper decision to purchase sustainable product (+) restocking of sustainable product on shelf
		Other Causal chains	# HHS time limited available in the supermarket (-) instore /on shelf promotion (+) trust in labelling including third party endorsement (+) # Purchased before (+) Habit/regular purchased (+) Trust that the supermarket is knowledgeable and following sustainable practices (+)
	Mistrust or confusion in sustainable claims	B1 Other Causal chains	Household shoppers see the sustainable claim (+) consumer not understanding or trusting the sustainable claim (+) Consumer disillusionment and or confusion (+) not included in consideration set (+) supermarket sustainable product ranging decision (-) Greenwashing claims (+) Limited/lack of regulatory enforcement

	Household shopper ability to afford sustainable option	B2 Other Causal chains	Household shopper's financial situation (+) Acceptable retail price (-) #Economy effects such as the cost-of-living crisis (-) Changing household/family circumstances
Meso system From Supplier to Supermarket Shelf	Preferred supplier to supermarket	R3	Supermarket ranging decision to range a sustainable product (+) Supermarket primary KPI: profit (+) process in deciding which sustainable supplier can supply to store (+) gaining preferred supplier status (+) Supermarket primary KPI: profit (+)
	Preferred supplier to supermarket (2)	R4	Gaining preferred supplier status (+) Supermarket primary KPI of profit (+) process deciding which sustainable supplier can supply the store
	Supermarket Sustainability plan/objective	Other causal links	# Duopoly dominated the market (+) Changing historical shopping habits from local individual stores to one stop shop location (+) (-) #Government regulations (+) Government Commerce Commission overseeing Grocery Commissioner (-) Supermarket KPI Profit # Suppliers not successful in securing supply to supermarket (-) Sustainable products available at competing non supermarket stores such as farmers markets/ bulk and health food store (-)
		R5	Supermarket Stated Strategic objective: KPI positive sustainable practises (+) International Supermarket sustainability trends (+) Supermarket perception of being a good public citizen (+)
		Other causal links	# Number of suppliers to be able to supply sustainable products to supermarkets ; Importation of sustainable consumer products(+) Global manufacturing of sustainable products(+) International Sustainable Initiatives (+) International consumer research (+) Global sustainable movements (+) International Sustainability Advocacy (+) Climate change events both domestic and international such as droughts/floods (+)
Macro system of Sustainable Governance	Government Environmental Policy	R6	International government trends such as EU sustainability directives (+) Global sustainability events such as UN Sustainable goals, Paris Agreement and COP's (+) Environmental

		Other causal chains	/sustainable NGO lobbying (+) Climate change events (+) Non sustainable lobbying e.g. oil industry (-) Government balance with other demands/balances each as export /the economy (-) Three year election terms leading to short term thinking (-) Consumer research claimed positive sustainable intention and behaviour (+)
	Sustainable NZ Product Investment	R7	Government decision making (+) Investment in science and technology advances (+) Technology advancements in sustainability (+) Agreement on definition of a sustainable product (+) Sustainable product development (+) NZ manufacturer of sustainable products in NZ (+)
		other causal chains	Inconsistent long term government lead infrastructure decisions (-) uncertainty in long term planning for NZ manufacturer sustainable investment (-) Long lead times for manufacturer plant investment (-) NZ manufacturer sustainable products in NZ (+) Government NZ manufacturing regulations (+) NZ Manufacturing compliance costs (-) Consumer Research claimed positive sustainable intention and behaviour

The insights gained from the narrative synthesis and the subsequent causal loop map generate an understanding of the holistic view of the provisioning system of sustainable goods in the NZ grocery system. Systems can be viewed in three levels: micro, meso, and macro. The micro-level occurs at the individual level and probes how people respond and act in situations. The meso or middle level looks to determine the action of organizations and the macro layer the governing or universal influences. (Andreasen, 2006; Layton, 2011). These layers of the system are not discrete levels, but rather a means of assisting understanding of the complex nature of a system providing insights into the multiple layers that affect

relationships (Domegan et al., 2017; Andreasen, 2006). The macro, meso, and micro levels are interlinked, where drivers and barriers at one level affect drivers and barriers at other levels.

The first finding in the provisioning system of sustainable goods in the NZ grocery system is at the micro-level, from grocery store shelf to shopping cart where the everyday household shopper is at the centre of activity. The second system, meso-level, occupies the space from organisation, in the guise of the manufacturer, the importer of raw material and/or finished goods, to supermarket shelf. The final system level is the macro system of sustainable governance from the New Zealand government and international agencies such as The United Nations. Key influences exist such as NGOs, the climate and the media at all levels.

3.4.1 Micro system: From supermarket shelf to shopping cart

The micro system focuses on the path of the sustainable product from supermarket shelf to shopping cart. To be selected by the consumer, the product must be seen, visible and accessible by the consumer. Importantly this differs from the product simply being placed on the shelf.

Several factors assist the product being seen. The product must be easily and clearly visible, such as being at shopper eye-level or offered as a prominent part of a promotion, because the consumer has limited time due to busy lives to actively search for or passively see the product. (Munro et al., 2023). A shopper must have trust in the information provided on the sustainable product on shelf in terms its sustainable product and labelling credentials. Claims that are confusing or misleading, via greenwashing, will have a negative effect on consumer understanding and trust and will lead to sustainable products not being included in the consideration set (Frostling-Henningsson et al., 2014). The study reported that although regulation could be an answer to limiting these claims, many saw the current enforcement as lacking.

The purchase hierarchy puts price acceptability as the most important consideration in purchasing any product, sustainable or not (Hurgobin et al., 2020; Moser, 2016). Acceptable pricing does not always mean the lowest price, but the price point in which consumers find acceptable value. Affecting this decision is the financial situation of the shopper, impacted by economic factors and the cost-of-living crisis or changing life circumstances such as a having a family, or retirement. These inputs create a balancing loop (see B2 in Figure 11 or Table 6) whereby the price of a sustainable grocery product and the household circumstance is kept in equilibrium.

After consideration of price, quality and taste are the next important factors for selection. It is only then once these features have been satisfied, that the consumer typically looks to add sustainability credentials to the purchase decision matrix. Factors affecting the sustainability choice decision include consumer belief in and intention to purchase sustainability. This stems from the shopper having a positive perception and knowledge of sustainability, which is influenced by (1) social norms, (2) climate change events both domestically and internationally, (3) media and (4) the preferences and desires of other members of the household. Trust in the supermarket's knowledge around sustainability and following sustainable practises also play a role (Bonn et al., 2016; Taghikhah et al., 2021). Finally, a shopper may have purchased the sustainable good previously and now purchases based on heuristics and habit (Thøgersen et al., 2012). The resulting reinforcing loop (R1 in Figure 11 or Table 6) shows that once the product is in the shopping cart it then feeds back to the supermarket to restock the item, as it sells and meets the supermarket's key performance criteria.

A possible path from shelf to shopping cart also emerges where a household shopper might place the sustainable product into the cart because of price, quality and/or taste, having little-to-no interest in sustainability. In this path to shopping cart, the end result of a sustainable

purchase has been successfully achieved, although not based on the product's sustainable attributes, or the (non) sustainable consumer motivation (R2 in Figure 11 or Table 6)

3.4.2 Meso system: Supplier to Supermarket to Shelf

Because of their dominance in the provisioning system, the supermarket is a fulcrum. The supermarket determines through their actions and decisions what is available on shelf, and this starts with who the supermarket selects to supply goods. It is a competitive environment because the majority of households look to the supermarket to be their main source of pantry filling. Many participants describe the supermarket as the gatekeeper who determines what products, sustainable or not, appear on a supermarket shelf. This is represented participants in each informant group outside the supermarket. A2 notes that "Supermarkets have the number one power in the supply chain because they decide on who gets on put on the shelf".. "the power that the supermarkets have at the moment is almost unbelievable, you know they can do anything, and the manufacturer has no power whatsoever" NG (2). "you have a lot to lose by stepping out of line, you can't really afford to rock the boat" (M1).

A government respondent notes that the supermarket "preserves the status quo options because they are highly profitable" (G12). Manufacturers noted the pressure to respond to the supermarket, "We don't have that much power, supermarkets is all powerful. That you're expected to demonstrate what you're doing sustained and then have a conversation about planograms and buybacks and all the other stuff, yes very complex because they seem to be able to. Its not just a margin discussion, it's a lot of other stuff that's it's the real estate discussion. Its all sorts of things" (M4). Finally, an NGO commented "Basically the manufacturers do what the supermarket tell them" (NG2)

A New Zealand Commerce Commission investigation (2024) concluded that supermarkets follow restrictive practices such as acquiring "preferred" supplier status to gain shelf space for their products, which was reinforced by participants. A number of factors arise to gaining

the coveted position of preferred supplier identified in this study: (a) a supplier supplying sustainable own-label supermarket options and thus the supermarket can have access to sustainable technologies, IP and production economies, (b) providing marketing intangibles such as in-store real estate payments, (c) supplier financial arrangements such as rebates/margins, (d) sustainable product credentials which assist in creating a halo effect for the overall sustainable supermarket brand, (e) past performance of the sustainable product on shelf, and (f) the relationship of a sustainable product to other non-sustainable profitable products within the supplier's portfolio. The New Zealand Commerce Commission (2021) noted that there is an imbalance of bargaining power, as the supermarket can shift costs onto the supplier and dictate how that supplier operates including restricting that supplier's interaction with other grocery retailers. Preferred supplier status aids the supermarket to increase its primary key performance indicator around profit (R4 in Figure 11 and Table 6). The reinforcing feedback loop R3 shows that this preferred supplier status also has the possible effect of limiting product access on shelf.

The alternative for a supplier of sustainable products who is not successful in securing preferred supplier status lies in seeking alternative distribution solutions such as farmers markets, smaller local stores or direct-to-consumer sales. This represents a limited market opportunity, given that generally household shoppers prefer the convenience of the one-stop supermarket. It also limits innovation in sustainable product initiatives as the entrepreneurs with little capital and influence who cannot compete with entrenched preferred supermarket suppliers.

A reinforcing link (R5 in Figure 11 and Table 6) shows the growing importance of the inclusion of sustainability considerations in key performance indicators (KPIs) within the supermarket sector. This is driven by international and domestic trends around sustainability becoming stronger, and the importance of being seen to all their audiences as being socially

responsible, as a good public citizen. On supermarket participant noted that “there has been a change in mindset from 5 years ago and management teams are now taking sustainability more seriously” (S8)

Like supermarkets, manufacturers also want to be “good citizens. “It’s a journey and we want to do the right thing” (M1) Reported reasons for being responsive to consumer-driven sustainability trends includes internal pressure from those who work for the organisation to be sustainable, and the ability to attract good human resource talent whose stated work objectives include sustainability. Manufacturers agree that they wish to produce more sustainable products within a profitable framework. Key considerations for production of sustainable products include long factory lead times for plant modifications, and investment in research and development. There is also some confusion over what sustainable goods looks like and how to measure success in developing and marketing such a product. Many participants in this study seek to use international measurement tools, but there appears to be little global or industry agreement in what is measured, and how it is measured.

Suppliers of similar products to supermarkets are subjected to differing regulations.

Local manufacturers report being subjected to different sustainable regulations from imported finished products, and this can lead to an uneven playing field in terms of sustainable production costs and claims. For instance, international climate change protocols and agreements New Zealand has signed, mean that carbon emissions are accounted for at country of origin, therefore products imported whole into New Zealand do not attract a “carbon tax” while products made in New Zealand must adhere to different standards. Some regulations around health and safety that are applicable in New Zealand are not required in some country-of-origin imported sustainable products, enabling some imported goods to be offered at a lower price.

When sourcing raw materials from offshore for production in New Zealand, the manufacturer relies on the source organisation to provide bonafide sustainable materials that have been tested and approved to meet sustainable requirements, such as via third party. This can surface issues of trust, consistency, and compliance with international third parties. The raw material itself may further be affected by climate change events such as drought or floods and may become scarce and expensive, putting increased pressure on the supply chain.

A key driver for supermarket and manufacturers alike when determining sustainable production and marketing, is that they constantly research their customers. This research heavily relies, however, on reported attitudes and claimed behaviour through on-going surveys.

3.4.3 Macro system of sustainable governance

The role of governance is to respond to (1) the incumbents, or those who benefit from the system, and (2) the challengers, who benefit less from the system, to balance the power of both entities for the common good (Kapitan, 2021). Government sustainability policy is fed by the positive reinforcing link (R6) of international government directives such as the European Union, global sustainability events such United Nations Climate Change Conferences of Parties (COPs), and sustainable non-government organisation (NGOs) lobbying. Other major influences on policy include claimed consumer intentions to support the introduction of sustainable options, and the ongoing international and domestic climate change driven weather events. The sustainable provisioning system in New Zealand is best understood as: “Supply chain sustainability and things like that. I think it's partly government incentivizing and directing and a little bit of regulation and not too much punishment hopefully” (G3).

Government decision making is a key influence and has two roles within the sustainable grocery provisioning system. The first is regulation in determining the boundaries of what

can and cannot be claimed, sold and how it can be manufactured and/or imported.

Participants in the study generally report a lack of enforcement surrounding existing regulations especially in the area of labelling and potential for greenwashing as companies push the enforcement boundaries (Kapitan et al., 2019; Styles, 2023). The level of investment in enforcement is related to the level of government intent, which is in part determined by the agenda set in response to the electorate. An exemplar in the New Zealand market includes the introduction of a Grocery Commissioner in 2023 to monitor supermarket regulatory compliance.

Longterm and consistent investment in sustainable infrastructure is crucial for effective manufacturer investment and planning in areas such as plant conversion to sustainable options and research investment into sustainable product and packaging alternatives.

Democracies, such as New Zealand, with shorter term electoral cycle (3 years) lead the government, focusing on shorter-term fiscal demands of the economy and electorate, as opposed to longer term 10-to-30-year planning horizons. “You end up with a very weird situation where these things flip flop because of the electoral cycle of 3 years (S2)” The government in its role of balancing the competing needs of incumbents and challengers is also subject to active lobbying from ‘non’ sustainable industries such as oil and gas. In New Zealand, this was seen in the reversal in 2024 of a previous ban on oil and gas exploration. The shorter three-year electoral cycle in New Zealand is thus at odds with the longer-term investment horizon of sustainable infrastructure such as changing manufacturing processes. There was agreement among differing actors of the provisioning system for the need for cross-party agreement on the long-term sustainable programmes and goals to give certainty to future planning.

Investment into sustainable science and technology is seen as an important government initiative that helps create advances in product development and subsequently the

manufacturing of sustainable products. “Government policy needs to make sure that it has long term vision of the humanity in the type of society that it wants to create, it’s not its role to determine how supermarkets procure products (S2)” Government initiatives in this area are crucial for

a) supplying direction to industry, b) developing embryonic possibility in the initial stages non-commercial breakthrough sustainable initiatives, and c) the size of the investment made by government, which via subsidies and support can outweigh what many individual manufacturers can afford. The success of sustainable research and development projects are then fed back into government policy, creating a positive feedback loop (R7) with many participants expressing need for further investment.

3. 5 Discussion

The overall objective of this study was to use a provisioning systems lens to understand the allocation of resources that cohere to drive greater accessibility of sustainable products on a supermarket shelf. By creating a CLM for the sustainable provisioning system in the context of the New Zealand grocery system, we added empirical evidence to Layton and Domegan (2021)’s theory of sustainable provisioning systems where there is interaction and tension between the prescriptive non corporate governance, the government of the day and the market exchange system of the supermarket and their dominant relationship over the suppliers of sustainable products. This tension leads to key leverage points that can identified understood, and to which marketing scholars and practitioners alike can developed targeted intervention strategies.

3.51 Theoretical Implications

By applying a provisioning system lens to this study, the first research contribution is that demonstrate that the attention needs to shift away from the from individual siloed entities the dynamic causal relationships of all actors. By understanding the causal relationships between

actors, we demonstrate the key influences are at play when decisions to invest in sustainable grocery product. It is not the consumer's level of knowledge or intent, whilst it does play a small role, where all actors in the system look to try to understand the consumer through claimed behaviour research, the key leverage points lie with the gatekeeper supermarket and the government policy, regulation and investments decisions and actions.

The supermarket is the dominant decider of the selection on shelf available which is generally driven by profit matrices and not the household shopper's level of sustainable knowledge or intent (Carrington et al., 2010). The context plays an important if not the decisive role in the much-studied sustainable attitude behavioural gap. To study a consumer's intent by increasing their knowledge load will not change behaviour because they cannot physically follow through their intent.

The second key leverage point is government, both from a policy and investment perspective and also from a regulatory one. Other actors within the system must have faith in long term investments so that their strategies align. An example of this is for a manufacturing plant to become carbon neutral will take over 10 years investment, and within that time there could be three differing governments in place, with vastly different policies.

The nexus where the prescriptive and the market exchange meet in this study could be argued is profit. One of the key reinforcing loops identified was R3 and R4, both relating to profit. By identifying a reinforcing loop, the phenomenon is continual, ie not balanced and intervention is necessary to change the dynamic. The supermarket and also the manufacturer will continue to be primary motivated by profit. Generally, the sustainable option has a higher margin than the non-sustainable option which leads to little desire for the supermarket to increase the shelf share of sustainable products. Here the challenge is to find the balance of increased hierarchical controlling supply system, such as government regulation or changing

market exchange parameters, such as alternative distribution channels such as farmers markets, or increased manufacturing investment in sustainable options to create economies of scale benefits of cost reduction.

3.52 Methodological Implications

The study extends the scholarship of the framework the Systematic Theory Mapping (Padela et al, 2023) The framework does this by providing a robust process for developing in depth knowledge and understanding of the actors within a system. The resulting casual loop map provides a comprehensive visual representation of the system allowing for the ease of identification of key relationships and interactions of a complex messy system (Domegan et al. 2017).

3.53 Practical Implications

Given that the profit motive is at the core of the supermarkets decision to stock a sustainable product, the practical implication is to focus on ways of making the sustainable option have increased margin. The first is prescriptive controlling through government regulation where a non-sustainable tax or a quota approach could be placed on those items deemed to be unsustainable, similar to the much-discussed sugar tax on fizzy drinks. This comes with a set of added complications such as product definition and enforcement.

It is essential for all actors within the provisioning system to have trust in long term sustainable policies and investment strategies at a governance level. In practise this will require governments to form cross party agreements as to where long term, consistent and trusted to deliver agenda will be required. They should also develop a detailed framework or road map to how they will achieve the 2030 and 2050 sustainability goals.

When understanding the grocery sustainable provisioning systems, the future societal needs of balancing resources sustainably within an existing grocery system that has profit as its core motivator may not be fit for purpose and an essentially barrier to the presence of sustainable

options. This could lead to rethinking of the grocery provisioning system that prioritizing ecological goals versus mainstream supermarket that are structured around efficiency, profit maximization, and scale. Alternative distribution mechanisms such as farmers markets, community organisations that foster local and sustainable practices may be worth pursuing for environmental policy makers. However, this does come with a rider that most everyday people shop at the supermarket because of convenience. Shopping at a number of different outlets for different food groups could be time consuming and unattractive to current society ways of life. One of the participants on the study discussed that the 1970's household was more sustainable because they brought locally and seasonally and cooked from scratch. It may be that a wider "how we live" conversation is required to consider lifestyle changes of which the current grocery provisioning system is symptom or an expression of how we live our lives.

3.6 Conclusions and Limitations

This study reinforces the view that moving away from a consumer centric view of sustainability to a holistic provisioning systems lens to understand the interactions, and the relationships of all actors and influencers, provides a better understanding and more useful actionable insights (Munro et al., 2023; Layton & Domegan, 2021). Using the Systems Theory Mapping (STM) framework we developed a causal loop map that illustrates the complex nonlinear interrelationships between actors at the macro, meso and micro levels of the system, and identified two key areas for attention.

The first is the supermarket, which is currently perceived by many as a gatekeeper due to its perceived restrictive practices. There is potential here for supermarkets to reverse this and to play a positive and supportive role by championing the growth of the number of sustainable products within a profitable context. The other key influential actor for intervention and change is the government, which has a far-reaching influence within the system in two ways.

The first is in investment decision making where long-term sustainable goals and related infrastructure are genuine, consistent and believed by industry. The second role of government is the area of regulation and investment in effective enforcement to ensure products on the shelf reflect truly sustainable attributes instead of misleading via greenwashing, and the supermarkets create a fair and level playing field for the busy household shopper to trust that they are putting the most sustainable option in their shopping cart.

The study also showed that there is confusion and possible subterfuge around the term sustainability. It has become a “catch all” for any activity that can be linked to Brundtland’s (1987) statement around looking after future generations. This study shows that there is a clear need for a more prescriptive detailed definition, one which has a global acceptance and clear and shared measures, so that all actors understand and can determine what is and what is not a sustainable FMCG product. Work is needed around understanding the specific definitions for what a sustainable FMCG product looks like. This is important to enable clearer objectives being developed and measured to effectively determine progress.

The term stakeholder has been deliberately not used in the text of this paper. Stakeholders implies one core central controlling body who then “manage” their stakeholder interests and relationships (Freeman, 1984), and as Kennedy (2017) suggests, this stakeholder mentality can perpetuate the problem with defined boundaries and interests. For a provisioning system to function effectively, all participants must be described as actors, where their interests are seen as interrelated and value viewed as being co-created.

As with any research study there are a number of limitations. The first is that the study was conducted in the New Zealand market, which is small by global comparison, and with only

two dominating supermarket companies; this means that the results may not be as applicable in a different - larger - market with more competition

The robustness of the methodology depends on the objectiveness of the interviewers, analysts and modelers and because of this we accept that there may be some bias which we mitigate with constant reviewing and checking and following the process laid out by the STM framework.

Future studies should examine actual behaviour of all actors within the system. An example is a review of publicly available information, such as annual reports from key actors to measure changes in sustainable objectives, key performance indicators, actions, and or behaviour.

Future research could also include reviewing enacted sustainable legislation to trace consistency over time.

The current sustainable societal provisioning system in New Zealand has a perceived bottle neck in the form of the supermarket and as the incumbent of the current system, they appear to see no need to change. To enable the share of sustainable products in the supermarket shopping cart to increase, intervention should come via the government through top-down structure changes of regulation of the supermarket's power, recognised long term commitment to sustainable infrastructure and stringent and enforced labelling and packaging claims. As one participant put it “a little regulation is a good thing ... but not too much”.

This study demonstrates that a balance of the two assemblies of prescriptive systems and marketing systems, within a sustainable societal provisioning system, is crucial to determine the most effective and efficient way for a network of communities to stay within the planetary boundaries.

Chapter 4 Conclusions and Contributions

Sustainability continues to be the most widely used term to describe how inhabitants must live to keep within planetary boundaries and not face dire environmental consequences in the generations to come. Everyday people, in their role as consumers, continue to behave in the same unsustainable ways, though their collective sustainable awareness or knowledge is objectively high. Household pantries are replenished by generally the same products and brands by weekly habitual visits to the supermarket. In New Zealand, food is the second largest expense after housing (Stats NZ, 2023), so it follows that the supermarket is a key gateway to the composition of the nation's pantries. Because of the role supermarkets have in daily lives as a source of grocery supplies, there is an opportunity to grow sustainable consumption in line with the United Nation's Sustainable Development Goal number 12 which advocates for responsible sustainable consumption.

The Systematic Literature Review (SLR) in Chapter 2 revealed that scholarship to date has generally focused on the individual consumer, most commonly relying on the linear Theory of Planned Behaviour (TPB) model. The SLR revealed that the widely acknowledged sustainable consumer attitude-behaviour gap, in which consumers erroneously claim to follow their sustainable intentions to buy sustainably, shows that the household shopper with even the most sustainable climate knowledge and intent cannot fulfil that desire to be sustainable if the sustainable product is not available to be chosen. If the sustainable option hasn't been manufactured, marketed or shipped to store to be made available, then it cannot be bought.

Supermarkets play a crucial role in determining the selection of products the household shopper can choose from. Selection is limited to what that supermarket's category manager decides should be placed on shelf. Their ranging decision criteria is not solely based on what is sustainable, though it may be a consideration. Evidence reflects that sustainability

considerations are becoming of more importance in the mix, though priority continues to be given to the KPI (key performance indicator) of profit.

Building on the lessons that the consumer centric analysis is not generating strong gains within sustainable grocery consumption, the second study in chapter 3 takes a systems perspective, utilising provisioning systems theory. This chapter's analysis draws the conclusion that the consumer, whilst part of the system, is not the primary driver of a sustainable product being placed in the shopping cart. There are two other key actors or leverage points. The first is the supermarket, which decides what is ranged, ie what product appears on shelf. The second is the governance, whose agenda determines investment and who puts regulation in place to create the desired playing field, rule book and refereeing.

4.1 Review of the Research Questions

Research Question One: *What are the factors and forces that exist that (dis)encourage everyday household shoppers to shop sustainably at the supermarket?*

Research Question Two: *What factors within the New Zealand sustainable grocery provisioning system enable or limit a sustainable grocery product being placed in a shopping cart?*

The thesis answers these two questions via two large-scale studies. The first focuses on a systematic literature review to understand the first research question. Building on its findings, the second study employs the Systems Theory Mapping (STM) framework to understand the second research question: what factors in the New Zealand sustainable grocery provisioning

system. The STM study developed a causal loop map based to understand the complex nonlinear interrelationships between actors at the macro, meso and micro levels of the sustainable grocery provisioning system.

The first study systematically reviews the literature around the sustainable consumer attitude-behaviour gap faced by household shoppers who seek to shop sustainably at the supermarket. Using a domain-based systematic literature review method, the study revealed that a majority of scholarship - as of December 2022 - focused on the role of the individual consumer in shopping sustainably, and their level of sustainable purchases in the supermarket. The scholarship purports that the more sustainably motivated a consumer is, because of their increased levels of sustainable knowledge, the more likely they will purchase sustainably. Yet in contrast to that generalised research view, the SLR found that even the most sustainably motivated shopper can encounter difficulty shopping sustainably. Issues such as trust of the supermarket, availability, placement, accessibility, and price, which are outside the control of the household shopper, play a role in whether the shopper can successfully meet their sustainable shopping objective.

Based on this analysis the following research problems were developed and formed the basis for the second study. The understanding of why household shoppers cannot shop sustainably at the supermarket is larger in context than the grocery shopping attitude-behaviour gap would suggest. The supermarket is a dynamic, complex system of stakeholders who interact to influence the context of sustainable product options. Sustainable grocery shopping is not a linear process. Feedback loops exist, where learnings can be made by both sustainably and non-sustainably motivated household shoppers.

The conclusion emerged that research process needed to step back from a focus solely on the micro-level consumer view. Expanding the scope to a macro systems view opens up the

opportunity for understanding key leverage or intervention points within the greater whole. This is key to determining the landscape of relationships and the interactions of all the actors within the grocery system. Included in this system are considerations of how a sustainable option or product can be ranged on a supermarket shelf and ultimately be chosen and placed in an everyday household shopper's shopping cart. This system can be viewed through the lens of the sustainable grocery provisioning system

The second study revealed that the consumer is not the most influential part of the system. Instead, household shopper is the final cog that places the sustainable product in the shopping basket for household consumption. The analysis of the sustainable grocery provisioning system using the Systematic Theory Mapping (STM) framework to develop a casual loop map (CLM) visually showed that there are two key actors within the sustainable grocery provisioning system that determine whether or not a sustainable product makes a successful journey to the household pantry.

The first key actor within the sustainable grocery provisioning systems is the supermarket, who has been described as a gatekeeper due to its control over which suppliers and products gain access to consumers. In New Zealand there is a duopoly of major supermarket chains, where there is limited competition and suppliers, and both local manufacturers and importers must compete to gain preferred supplier status. Once this status is achieved, preferred supplier follows a strictly enforced supermarket set of demands, from promotional incentives, ie paying for instore display to financial demands such as long stock payment dates. As one manufacturer observed "it doesn't pay to rock the boat" because the supermarket is where the vast majority of shop for their weekly supplies. With the exception of a small number of other non-supermarket less easily accessed options such as the weekend farmer's market. The key reason for this is as busy society, we now enjoy the convenience of grocery shopping at one place. That one place in some cases also includes non-traditional items such as pharmacy and

florist. The days of shopping at a number of specialist stores such as a butcher, baker, or fish monger were for the majority too time consuming. Moving to the one-stop shopping trip concentrated power into fewer and fewer organizations. In the case of New Zealand, that distribution and gateway power emerged via two main supermarket organizations. This power is one that decides who will supply what and what will ultimately be presented to the consumer. Note there are a small number of regional supermarkets that operate in niche markets such as artisan products. In the main however, suppliers to the supermarkets compete to gain preferred supplier status because without that there is very little opportunity to present their products to the consumer, and those preferred supplier agreements tend to be one-sided in favour of the supermarket. Opportunities identified in the CLM include an increase in the desire to be seen by the supermarkets to be in touch with and responsive to their communities. There is some evidence that supermarkets are moving to be more sustainable. This is evidenced by the reasonably recent introduction of sustainability roles within supermarkets, with one supermarket reporting that sustainability is now on the agenda for supplier relationship discussions. “Almost every supplier that we deal with has some level of commitment to sustainability ...every time we sit down, sustainability is on the agenda” (S1), but then the comment “its not overnight because economics and sustainability play against each other sometimes”

The second major actor is the government, whose influence is exercised through two principal functions. The first one is the decisions made around long term investment and policy direction in infrastructure and research and development. Government direction and policy development on sustainability/climate change goals directly affect all actors within the sustainable grocery provisioning system business investment strategies. For example, under a carbon-neutral policy, a firm may transition from oil-fired factories to alternative energy sources. Such a shift represents a significant undertaking for the organisation, requiring

substantial financial investment and long project timeframes such as 5-10 years. The democratic electoral cycle can add uncertainty to the mix of long-term consistent planning for manufacturers. For example, traditionally a right wing commercially minded government may favour support of less sustainable options such as oil and gas, versus a left wing more environmentally aware government that may favour wind and solar generation of power. This coupled with short-term political attributed party “wins” versus long term broad ranging coalitions agreements that are less obvious “wins” for the implementing government at election time. A long-term environmental agenda will also drives what research is funded. In 2022 the government invested \$NZ2.15 billion in research (Ministry of Business, Innovation & Employment). Investment in research, technology and development of sustainable grocery products, will in the long term be ultimately commercialised for everyday household’s purchase.

The second role is the role of regulator in the market. The government creates the legislation with the aim of a fair and just playing field. Decisions around what and how is subject to regulation is based on the policy advice given to current ministers of the crown combined with a layer of politics. The policy makers derive their advice from NGO’s, Universities and “think tanks” both private and public to determine suitable recommendations for government consideration. Many of these said organisations have differing views and the power of their respective lobbying plays an important role in which proposed regulation makes it into law. Once these regulations are in place, it is the government's role to monitor and, if necessary, penalise foul play. This takes continual investment in regulatory bodies, such as the New Zealand Commerce Commission. Grocery manufactures; importers and supermarkets alike challenge the boundaries on a daily basis. Insufficient or lax enforcement leads to claims of greenwashing where products on shelf can carry misleading environmental/sustainable claims. This can have the effect of confusing the consumer and devaluing the trust of both the

suppliers of the product and the supermarket in which it is bought (Teng & Wang, 2015). This can be seen in a recent study the NGO Consumer NZ tested a basket of nine grocery products from a range of categories and found them all had unsubstantiated environmental claims (Styles 2023)

Sustainability motivated decisions by these two key actors are shaped by a number of influences. Scientific based information and actions that are disseminated through credible global organizations such as the United Nations and the European Union. For example, the European Union's Corporate Sustainability Due Diligence Directive (CSDDD), adopted in July 2024, mandates greater transparency and accountability regarding climate and environmental impacts. Although developed in a European context, such directives affect New Zealand supermarkets and manufacturers in several ways. First, many of the products sold in New Zealand originate from multinational companies that must comply with these standards. Second, New Zealand manufacturers engaged in exporting are required to align with such regulations, making it operationally more efficient to apply consistent sustainability practices across all products. Finally, supermarkets are aware that the New Zealand Government may adopt similar policies in the future and therefore may seek to position themselves proactively.

Another significant influencing factor is the increasing number of climate events around the world and locally. Once in hundred-year floods or mass fires that tear through parched drought-stricken landscapes, are happening more frequently with catastrophic results. The events have direct effects on supply chains within the sustainable grocery provisioning system. At the same time, they also highlight the systematic need to embrace sustainability action strengthening the narrative for NGO's advocacy. Although this is a slow process, there is evidence based on these findings that sustainability is gradually becoming part of corporate strategic objectives.

The science is also having a continual and ongoing positive effect on the household shopper, who is at the starting point of this thesis. In general, the knowledge of sustainable needs exists and is widely accepted, as many studies demonstrate. However, given the distraction of busy lives and the immediate short-term gains the everyday consumer seeks such as low price, the grocery system must play its part in making it easy to choose the sustainable option. The everyday household shopper to some extent relies on the provisioning system to do the heavy lifting in terms of sustainability with some reportedly expecting it as a base line of all product offerings. Imagine if the grocery system accepted collectively its role in the social provisioning system and enabled the sustainable product option to be the most favourable on shelf so that the level of sustainable knowledge of the household shopper was irrelevant.

4.2 Contributions and Implications

This thesis contributes to scholarship by examining how the share of sustainable fast moving consumer goods (FMCG) products can be increased in the supermarket. For the earth to sustain generations to come, it is vital that we all live sustainably. One key activity of our lives is the weekly visit to the supermarket for supplies. The key contributions of this thesis are discussed in the following sections.

4.2.1 Theoretical Contributions

This research makes the following major theoretical contributions. When understanding sustainability with the aim of increasing its uptake, research needs to move beyond the narrow focus on individual behaviour to consider the broader systemic forces and interactions that shape outcomes. Scholarship to date has often assumed that a positive change in sustainability occurs primarily through end-user decisions, but this approach underestimates the complexity of the grocery provisioning system, where multiple actors including supermarkets, suppliers, government, and non-governmental organisations (NGOs) interact to

determine what sustainable products are available, accessible, and promoted. This thesis examines these dynamics through a systems lens highlighting how sustainability is facilitated through relationships at all levels (actors) of the sustainable grocery provisioning system in New Zealand.

The first study, in chapter two, reviewed the literature on sustainable supermarket shopping to understand the factors that exist that (dis) encourage everyday household shopper to shop sustainably at the supermarket (RQ1). The answer to RQ1 revealed a dominant shopper orientation, where the prevailing assumption is the increased greater consumer centric sustainability education leads to more sustainable purchasing decisions. This perspective aligns with linear behavioural models such as the Theory of Planned Behaviour, which conceptualise consumption as a rational linear progression from attitude formation to action. Study one findings demonstrated the limits of this view as even the most highly motivated consumers can face systemic barriers such as limited availability, product placement, price structures, and lack of trust in supermarket claims, which are outside their direct control. These barriers indicate that sustainable consumption outcomes are not solely determined by individual shopper cognition or intent, but by broader system dynamics.

The second study, presented in Chapter 3, built on the learning of RQ1 to review and understand what factors within whole grocery provisioning system that enable or limit a sustainable grocery product being placed in the shopping cart (RQ2). Answering RQ2 by applying the sustainable societal provisioning systems framework (Layton and Domegan 2021), the pathways through which sustainable products move through the grocery provisioning system were mapped and relationships between actors investigated. The results indicate that supermarkets, by acting as a gatekeeper for suppliers (manufacturers) to market their sustainable products and government through policy decisions and regulatory mechanisms are the key actors that shape the system. The study extends the work by Layton

and Domegan (2021) by understanding of the tensions created at the nexus between the bottom up self-organised market exchange (supermarket) and top-down prescription supply (government) system, This collaborative exchange is complex and multi layered with differing actors having differing levels of power and influence, that change over time. It also aligns with Meadows' (2008) concept of leverage points, demonstrating that interventions at the meso and macro levels are likely to be more impactful than strategies focused solely on individual behaviour.

4.2.2 Methodological Contribution

This research also extends scholarship through the application and adaptation of two systematic academic frameworks. The first is the Systematic Literature Review (SLR) using the domain-based SPAR-4-SLR (Paul et al., 2021). This structural approach provides a rigorous and transparent process for collecting, reviewing, and synthesizing all relevant literature to develop a comprehensive understanding of a given subject. This thesis extends the SLR by applying it to the household shopper's (in)ability to purchase sustainable products in supermarkets, thereby connecting individual-level behaviours to broader systemic and structural constraints.

The second framework is the Systematic Theory Mapping (STM) framework, which provides a structured approach for developing causal loop maps to illuminate the interactions and relationships among all actors within a system. In this research, STM is employed to generate an in-depth understanding of the New Zealand grocery provisioning system for sustainable goods. Layton and Domegan (2010) p12 when understanding a provisioning system recommend "identifying and mapping the rich diversity of networks and stakeholders... identifying and understanding the flows of information, power and capital (economic social

and political)” This thesis extends the application of STM to another context, the New Zealand Grocery Provisioning System.

4.2.3 Practical Implications

At the core of this thesis is a rethinking of the consumer’s role—not as the primary driver of sustainable product purchases in supermarkets, but as a beneficiary within a complex, multi-layered system. Rather than seeing consumers as isolated decision-makers, this research frames them as recipients of a provisioning system

The first practical implication relates to academic scholarship that reflects the narrow consumer behaviour studies that typically examine motivations and actions in linear, planned-behaviour models. Evidence to date has shown that this research avenue is limited in significantly increasing the purchasing of sustainable grocery products. In order to meet the challenge of becoming a more sustainable society scholars must widen their view from the individual shopper to understanding the wider macro/meso environment.

Study two highlighted that some government decision making is made in line with other possibly non-sustainability demands such as those of an election year. Sustainability is a long-term game, one where very few short terms wins can be made. As one supermarket put it “set consistent pathways beyond electoral terms. bipartisan solutions, secondly sit down and talk to business about what makes sense, but they (government) are almost anathema to do it” (S1). Because of the power and influence of government, it is essential going forward that there is a cross-party agreement and long terms commitment and investment into sustainable goals such as 2050 carbon neutral. There should also be a complementary year by year road map as to how to get there. This would reduce the uncertainty held by other actors in the system and assist in their long term robust planning. For example, a supermarket may

hesitate to invest in renewable energy for its distribution centers if possible subsidies or regulations shift with a new administration.

Effective regulation is also key. Supermarkets who know that they will be prosecuted will refrain from placing products on their shelves that have spurious green washing claims. This requires that more resources to be invested in policing and prosecuting organisations that cannot substantiate their sustainable product/packaging claims.

NGOs have a continual role to play of highlighting and educating all actors in the system about the reasons why sustainable investments, manufacturing and distribution is crucial for the health and survival of the planet. Their increased voice effects all actors within the provisioning system, but in particular government policy.

Grocery marketing practitioners need to move from consumer only initiatives to understand B2B sustainable programmes. To understand the supply chain, and to develop strong marketing strategies to ensure that all stages are complying to sustainable ideals.

Organisations such as New Zealand based Karma Cola is an example of a successful organisation whose marketing strategies are based around being accountable to their mission to be the world most ethical soft drink from grower to consumer.

The power of the supermarket over the supplier is well known but very rarely addressed in the public arena. The Commerce Commission has taken the first steps in addressing this power with the Grocery Investigation Study in 2022. The result of which was a number of actions under the Grocery Industry Competition Act 2023, including the establishment of the Grocery Commissioner in attempt to create a more competitive sector. This included establishing a new supply code of conduct to create a level playing field for all suppliers (New Zealand Commerce Commission, 2023). The 2025 Annual Grocery 2024 report notes that there is still some work to be done as seen in this statement “Key negative themes

reflected unfair negotiations; feeling pressured into unfavourable terms; and inconsistent or unclear communication around pricing, terms, or decision-making processes with smaller suppliers feeling less confident” (NZ Commerce Commission Annual Grocery Report, pg 12). This represents a first good step in freeing up the “gateway” power, however more is needed.

Supermarkets have the opportunity to become the community hub that discusses and enacts sustainability activities. As one supermarket put it “I think we have a role to play in how we you know, what’s our store experience like that actually helps maybe encourage behavioural change” (S7). Although in reality still lies with the driving key KPI of profit, supermarket have this becomes this essential role in an everyday householder lives because as a society we highly value convenience in our busy lives. A changing society may, in the future value survival of the planet, either through prescriptive top-down government legislation, or the market exchange responding to market forces.

4.3 Future Research

The development of a broader scope to view the problem of sustainable grocery provisioning is, importantly, not where this work ends. It is only the beginning. Work must be done to broaden the set of interventions, research, and translation efforts to activate change on a larger scale. I address some key inflection points to pursue future research in the below table, which yields 5 main objectives for future research.

Table 7: Future Research Agenda

Research Objective	Current State	Research Opportunity	Research Goals
1. Develop an evidence-based systems dynamics model of the Sustainable Grocery Provisioning System	The Causal Loop Map determines the relationships, but not magnitude.	To employ system dynamics modelling to understand the sensitivity of the interactions and relationships to determine sensitivity of links	Proposition: To determine which causal links are more important and therefore be able to direct strategic effort at those leverage points

2.To continue to investigate and expand the current causal loop relationships to further relationships such as the everyday household shopper and their use/of the product and after such as possible recycling.	The data set for this thesis was a panel of experts, it did not include consumers, farmers/growers or other food retail options such as farmers markets.	To build on the current causal loop map to add understanding of the interactions and relationships of additional actors	Proposition: To understand perspectives and relationships of those additional actors.
3.Adopting a systems lens when understanding messy multilayered societal issues	A majority of marketing scholarship is based on the consumer, their thoughts, motivations and behaviour. The consumer is almost seen in isolation, and it is their decisions and actions that make the difference in sustainable action	Adopting a systems lens when understanding messy multilayered societal issues such as the retirement sector.	Proposition: To use STM framework to understand other key societal issues in other contexts.
4. “To understand the externalities associated with sustainable practices of industries	Current industry measurement systems are based on profit driven key and lack the inclusion of sustainable externalities	To understand the externalities associated sustainable practices of industries.	Proposition: To identify and quantify key externalities that relate to sustainability, so that these can be included in industry reporting
5. Clarity, and measurement around the definition of “sustainability”	Sustainability is a nebulous which can mean a number of things and cover a multitude of interpretations	To create tighter more meaningful definitions that are directly applicable to one context and can be used to effectively measure progress	Proposition: To research the common traits of sustainability to determine a definition that can be actively used in a recognised commercial SMART objective.

4.3.1 Research Objective 1: Develop an evidence-based system dynamics model of the Sustainable Grocery Provisioning System

Using the STM framework, the causal loop map of the system of sustainable goods within the New Zealand grocery system systematically identified which relationships are key to shifting behaviours. The next step answers the question as to which of those relationships and feedback loops would have the most effect on changing the behaviour of a system. This could be achieved using evidence-based quantitative system dynamic modelling, which evaluates the significance of the relationship and how dominance can change over time (Sterman, 2001). Simulation such as structural equation modelling (SEM) can assist in effective planning of future resource allocation (Padela et al., 2023).

4.3.2 Research objective 2: To continue to investigate and expand the current causal loop relationships to further relationships such as the everyday household shopper

Study two of this thesis in chapter 3 relies on data from a panel of grocery industry experts. It did not include other interested parties such as consumers, farmers and growers or other direct retail food outlets such as farmer markets, or side of the road direct grower “honesty box” actors. There is an opportunity to further grow the understanding of sustainable grocery or everyday food items that fill a household pantry by including more voices into the system. The panel discussion was a one-off set-in time project. Sustainability is an ever-changing landscape as the effects of climate change, changing government policy, and the changing demographic of household shoppers and those in management positions, such Millennials, change. There is an opportunity to create an ongoing panel, possibly annually, where changes and possible improvements can be monitored and explored. In doing so, new opportunities may arise to increase the sustainable share.

4.3.3 Research objective 3: Adopting a systems lens to understand complex messy multilayered societal issues

Layton (2015) shows marketing systems as a messy, complex macro environment with a number of entities that are part of a “social matrix” that participate in exchange to create economic value. This study shows that placing emphasis on one actor in the system is limiting and possibly does not produce effective and long lasting outcomes.. In chapter 2 the majority of the scholarship placed the emphasis for change on the shoulders of the consumer in the form of the sustainable consumption attitude-behaviour gap. Recommendations from this scholarship included giving the consumer more knowledge about the consequences of not being sustainable. To date this one-actor approach has made only marginal gains. By adopting systems thinking and developing a systems lens, two other entities, the government and the supermarket, were shown to have more influence and leverage to create change.

“Building on the Systems Theory Mapping framework, other societal issues, such as retirement, vaping, or gambling could be mapped to understand the interactions and relationships between actors and the key leverage points for effective intervention strategies that could be implemented.

It would be beneficial to replicate the study in larger, more competitive grocery markets beyond New Zealand, particularly where markets are not dominated by duopoly and/or in non-European centric contexts, in order to generate potentially transferable and differentiated insights.

4.3.4 Research objective 4: Consideration of broader externalities

Fisk (1981) first listed social externalities as an essential macromarketing concern. The concept of externalities are those elements that are not directly accounted for in the exchange process. Plastics is a good example. The cost of the plastic to manufacturer is included in the price to the consumer, however what is not included in that price is the cost of disposal of that

plastic, or the possible effect of microplastics now found in the food chain. These effects are not encapsulated by the value exchange but are present and are needed to be addressed by a third party. There are two types of externalities. One is negative, where there is an indirect cost to another entity outside the transaction, such as plastic pollution in the sea. Positive externalities exist where there is an indirect benefit to another part in the system. “For instance, tree planting helps diminish erosion on a farmer's land and also sequesters carbon from the atmosphere, limiting the effects of climate change

Currently, commercially driven organisations within sustainable grocery system are driven by profits from the exchange of goods. The negative social externalities of sustainability are not accounted for in these transactions. “It is important - if society is to live within planetary boundaries by following sustainable practices of meeting today’s needs without affecting future generations’ ability to meet theirs 18 - that a fairer distribution of societal negative externalities be incorporated into those exchanges by organisations, to fully represent the true and total cost. Future research is required to understand how to move purely profit driven matrixes (KPIs) to those that include effective, and not greenwashed, performance measures that ensure negative externalities are internalised.

4.3.5 Research objective 5: Clarity, and measurement of the term sustainability

A Google Scholar search (in 2025) of the terms “definition sustainable product” and “sustainable grocery product” yields 4,520,000 and 122,000 references respectively. A key learning from this thesis is the nebulous nature of the definition of ‘sustainability’, which casts doubt on its effectiveness or usefulness as a measure. Peter Drucker is credited with the saying “You can’t manage what you can’t measure.” This statement applies here.

“Throughout this thesis, many people I talked to grappled with the definition of a sustainable product. Questions related to the way it is produced (e.g., organic), manufactured (e.g., using

solar energy), packaged (e.g., including elements that are compostable) emerged during the interview process. One industry expert explained “Sustainability doesn't mean anything. You can't define it. People use it and substitute it into so many different types of equations. It's suitably ubiquitous, and that's what companies do absolutely, one hundred percent!”

Sustainable is a “catch all” for any activity that can be linked to the United Nations definition of doing today what doesn't take away from future generations. For real identifiable gains to be made, there must be an international accepted definition of what a sustainable grocery product looks like. Ferguson et al. (2021) concluded that “sustainability” has become so commonplace and lacking in certainty that it could possibly lose its true meaning. Fodness (2015) called to better define what a sustainable grocery product is to enable marketers and consumers alike to have a clearer definition.

This research found that sustainability objectives are becoming more common in corporate reporting. This is a positive advancement; there is some sentiment in some quarters that this could be construed as window dressing or green washing. A future recommendation would be to monitor and analyse on an ongoing basis supermarket reporting on sustainability key performance indicators (KPIs) to understand commitment and progress.

While there has been a significant amount of work already done, the proverbial nut has yet to be cracked in a useful practical way. There is the need for ongoing work on more effectively defining what a sustainable supermarket good looks like. It may be that a basket of everyday grocery goods can be analysed for key and common “sustainable” features, and this could form the basis for ultimately an industry standard. The basket could be based on the non-government agency NZ Consumer, regularly review basket of essential 22 grocery items for price changes to add sustainability measures (NZ Consumer 2024).

4.4 Limitations:

Though this research makes many contributions to the body of knowledge of sustainable purchasing at the supermarket, it is important to note some limitations. The systematic literature review in chapter 2 was global and provided the avenue for in-depth knowledge development; nonetheless, the interviews and analysis of the second study are relevant to a single context market. The New Zealand supermarket industry is small by global standards, with an annual turnover of around \$22.3 billion NZD a year (NZ Commerce Commission). The market is also dominated by two organizations, a duopoly, which differs in character from other global markets. To determine if the size of the market and lack of competition were relevant factors, it is recommended that this study be replicated in larger markets with increased competition. Both studies followed defined frameworks (i.e., SLR and STM); thus, replication in other markets would be both feasible and valuable for generating differentiated, potentially transferable, insights that can inform and support recommended actions.

The STM follows an identifiable framework that provides rigor and confidence in the outcome. The study is based on the opinions of the panel of experts at the time of the interview. “At the time of the interviews (in 2023), there was a Labour-led government with a broad climate change and sustainability agenda. In October 2023, this changed to a National-led government, with a more conservative approach; therefore, the opinions of the panel experts might be different, should they be interviewed today. Coupled with this is the change in international politics with the return of the Trump administration in the U.S.A, where one of the first actions was to withdraw from the Paris Accord and to famously say it's time to “drill baby drill” (World Economic Forum, 2025).

A final limitation relates to the timing of the data collection. Thus, participants may have changed roles and organisations may have altered or advanced sustainability practices.

4.5 Concluding Remarks

This thesis was motivated by the core question in the climate crisis context: “How can everyday households act to live within the planetary boundaries. Household shoppers know the science and are aware of the issues at least at an abstract level, however there is little evidence that this knowledge is changing actual everyday behaviour. One common activity for most everyday households is the visit to the local supermarket. It is the place where pantry supplies are sourced and where, in New Zealand, the second largest weekly spend is made after housing. This important fulcrum provides the opportunity to increase the number of climate friendly products ranged and subsequently purchased by any everyday household shopper with active knowledge about sustainable choices or not. In summary, the supermarket is an essential touchstone in most everyone's lives and conduit for behaviour change.

This thesis began with a focus on the individual consumer and evolved with the understanding that the consumer is just one part of a larger landscape. A large sector of marketing scholarship begins and ends with the consumer. As marketers, our role is to understand their wants and needs, and once these desires are articulated, the marketer's role is then to cater to them, and by doing so build a profitable organisation. In practise it's not so simple as can be seen with the sustainable attitude-behaviour gap. Well recognised and researched, the gap between having the environmental climate knowledge and acting on that knowledge, is as wide as it has ever been. People understand the science and the need for change, but with their household shopper hat on, seem unable in the main, to action that change. In order to achieve these known climate change goals and live within planetary boundaries, the share of sustainable options in nation's pantries must increase. Chapter two hinted at the need to move away from the focus of the individual household shopper to that of the macro environment of the grocery system. By moving the lens from a micro individual

one to a macro systems lens, we were able to learn that the consumer is one actor in system of many stakeholders. The consumer while playing an important role, does not wholly determine what sustainable products are available on shelf at the supermarket for them to choose from. That decision is made by a combination of interactions of other stakeholders within the system, whose influence is unseen at the point of purchase. Government policy and regulation set the tone for the macro system by determining what is in focus and possible, given election cycles, and long-term strategy. Supermarkets and manufacturers are commercial organisations driven primarily by profit. In many cases organisations are taking sustainability into account, however they still are primarily determining supplier relationships that can provide the most cost-effective and profitable, but not necessarily the most sustainable outcomes. The challenge is to have these relationships and interactions focus on increasing sustainable practices. If all actors within the sustainable grocery provision system place greater value on sustainability goals, the resulting products on supermarket shelves will inherently be more sustainable for household shoppers to choose regardless of the sustainability related knowledge or intent those shoppers possess.

APPENDICES

Appendix A Ethics Approval



TE WĀNANGA ARONUI
O TĀMAKI MAKAU RAU

Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

26 July 2022

Sommer Kapitan
Faculty of Business Economics and Law

Dear Sommer

Re Ethics Application: **22/164 The Challenges faced by everyday grocery shoppers to shop sustainably within a supermarket**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved in stages for three years until 26 July 2025.

This approval is for the interview phase of the research. Full information about the other two streams needs to be provided to and approved by AUTEC before data collection for those streams commences.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the [Auckland University of Technology Code of Conduct for Research](#) and as approved by AUTEC in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard and that all the dates on the documents are updated.
8. AUTEC grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

Please quote the application number and title on all future correspondence related to this project.

For any enquiries please contact ethics@aut.ac.nz. The forms mentioned above are available online through <http://www.aut.ac.nz/research/researchethics>

(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: rwb5177@aut.ac.nz; Ben Wooliscroft

Appendix B: Interview Guide

General Questions

- What is your definition of sustainability?
- What makes a product sustainable?
 - Describe what a sustainable grocery product that appears on a supermarket shelf looks like?
- What determines its existence/being there?
 - Key influencing factors .e.g. consumer demand
- Is being sustainable (providing sustainable products) important part of your strategy?
- What determines its successful existence? – i.e., makes its way into the shopper's basket?

Supporting questions

- What is the definition of sustainable grocery product?
- What factors do you believe affect a grocery shopper's decisions to choose a sustainable option?
- How much emphasis is placed on sustainability when creating grocery marketing strategies? Product development, promotion, price?
- What affect does / How important is sustainability have on ranging decisions? Products manufacturing?
- What affect does/ How important is government regulations have on the stocking/creating a sustainable option?
- What affect does/ How important is the science of climate change have on grocery strategies?
- Labelling: What roles does/How important is labelling play in communicating trusted information to the consumer?
- Packaging- what role does the type of packaging play – in terms of cost/recyclability/Product life cycle?
- Where does sustainability appear on the list of what they are looking for in their product decision?
- What leaver/prompts nudges do you think are necessary to see sustainability becoming more to the fore front of policy/product development

Appendix C: Participants Information Guide



Project Title: The Challenges faced by everyday grocery shoppers to shop sustainably within a supermarket”.

An invitation.

My name is Penny Munro, and I am currently undertaking the Doctor of Philosophy (marketing) degree at the Auckland University of Technology, and I am interested in the disconnect between what household shopper say they will do and what they actually do with regards to shopping sustainably at the supermarket. Hence, I am interested in conducting a research project that looks at factors that affect, both those that encourage and dissuade shopping sustainably. Given your expertise and interest in the field of grocery, I would like to invite you to participate in my research project.

Your participation in this project will be a face-to-face interview with, myself, the researcher for between 45-60 minutes. This will be at a time and location to be specified convenient to you.

What is the purpose of this research?

Sustainability, the environment, and climate change are now an essential strategic focus for corporations, NGO’s and governments worldwide. The science is clear, following sustainable practices are important is important to the health and future of our planet.

However, in New Zealand, only a third are worried about climate change, while “most others see it as an issue but not one that motivates them”. One of the most common places where every day sustainable practises can be followed is the supermarket.

For effective gains to be made in sustainable grocery consumption it is important to understand the processes, opportunities, and constraints everyday grocery household shoppers face. Therefore, the purpose of my doctoral research is to draw a picture of the landscape of shopping sustainably at a supermarket. I am interested in discovering what are the factors that both influence and deter a household shopper from placing the sustainable option in their shopping basket. The learnings gained by identifying key levers for change will assist future effective marketing programmes to increase sustainably shopping in the supermarket.

The research project will be reported as a thesis to meet the requirements for the award of Doctor of Philosophy (Marketing). I also expect to gain publications in professional journals and present the work at appropriate conferences.

How was I identified and why am I being invited to participate in this research?

I am contacting experts with current knowledge, such as yourself, to participate in this research to determine the key levers that exist within the grocery industry that influence directly or indirectly the everyday household shopper to shop with a supermarket sustainably. Your insight, experience and knowledge is a valuable resource for this research.

I have used your email/Linkedin information to contact you.

How do I agree to participate in this research?

You agree to participate by completing the attached consent form.

Participation is voluntary and you may withdraw at any time. There is no requirement to share all aspects of your perspective during the research if you feel uncomfortable doing so, without consequences and without giving reason. It is entirely your decision on whether or not you wish to participate, and our professional relationship will not be advantaged or disadvantaged by your decision.

What will happen in this research?

I will approach approximately 40 individuals that I have identified as having an interest in the sustainability and the grocery industry within New Zealand. These people include grocery retailers, academic researchers, government, NGOs, and other interested parties.

Each individual will be asked to take part in a one-on-one interview, preferably in person, to obtain their views and opinions on the research topic. The session will be at a time and place that suits you, the participant. This session will be audio recorded, and notes will be taken with your permission. During this time, you will be asked to engage in discussion to respond with your opinions to the research questions.

Data collected from the interview and surveys will be used only for the purpose of this research and will be kept confidential by Penny Munro at AUT. The interviews will be transcribed verbatim, and you will be given the opportunity to read the transcripts after they have been transcribed.

What are the discomforts and risks?

It is not anticipated that there will be any discomfort or risk to yourself.

What are the benefits?

The benefits of undertaking the research include:

- Adding to the body of knowledge about sustainable grocery purchasing
- Provide a collaborative opportunity across the sector
- Gain NZ consensus on the key levers to enhance household sustainable grocery shopping
- Completion of my Doctor of Philosophy (Marketing)

How will my privacy be protected?

With your permission, I would like to record the interview. This information will be transcribed by myself. All information will be confidential, and you will not be identified personally in anyway.

Once the analysis of the information is completed, the records are securely stored in the Faculty of Business, Economics and Law at AUT for a period of six years and will then be destroyed, The consent forms will also be securely stored in the Faculty of Business, Economics and Law at AUT for a period of six years and also destroyed.

The final results will not be able to be linked to you; there will be no identifying material, and the identity of the participants will be protected.

What are the costs of participating in this research?

There are no anticipated costs for you. It is expected that your participation will require a total of approximately 2 hours of your time over a three-part process.

What is the opportunity do I have to consider this invitation?

I would request a response within 10 working days. This can be by return email or LinkedIn message. At this time, I will ask if you have any questions which need to be clarified before signing the consent form and confirming a time to meet and discuss your expert views.

How do I agree to participate in this research?

If you agree to participate, you are required to sign the consent form which can be found attached to the email invitation. At this point I will contact you to confirm a time to meet and discuss your expert views.

Will I receive feedback on the results of this research?

A copy of the final report from the research will be made available. If you wish to obtain a copy, please indicated on the consent form, The report will be emailed to you once completed

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor,

Dr Sommer Kapitan. She can be contacted by email sommer.kapitan@aut.ac.nz or by telephone at 09 921 999

Concerns regarding the conduct of the research should be notified to the Executive Secretary of ATEC, ethics@aut.ac.nz, 09 921 9999 ext. 6038

Researcher Contact Details

Penny Munro

Email: penny.munro@aut.ac.nz. Telephone 09 921999

Project Supervisor Contact details

Dr Sommer Kapitan

Email: sommer.kapitan@aut.ac.nz Telephone 09 921999

Approved by the Auckland University of Technology Ethics Committee on 26.7.22, ATEC Reference number 22/164

Appendix D: Participant Consent Form

AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

Consent Form

Project title: **The challenges faced by everyday grocery shoppers to shop sustainably within a supermarket**

Project Supervisor: *Dr. Sommer Kapitan*

Researcher: *Penny Munro*

- ☐ I have read and understood the information provided about this research project in the Information Sheet
- ☐ I have had an opportunity to ask questions and to have them answered.
- ☐ I understand that notes will be taken during the interview and that they will also be audio-taped and transcribed.
- ☐ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- ☐ I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- ☐ I agree to take part in this research.
- ☐ I wish to receive a summary of the research findings on completion of the project (please tick one)
Yes ☐ No ☐

Participant's signature:

Participant's name:

.....

Date:

References

- Ackoff, R. L. (1971). Towards a system of systems concepts. *Management science*, 17(11), 661-671.
- Aitken, R., Watkins, L., Williams, J., & Kean, A. (2020). The positive role of labelling on consumers' perceived behavioural control and intention to purchase organic food. *Journal of Cleaner Production*, 255, 1-9.
- Alderson, W. (1957). *Marketing behavior and executive action: A functionalist approach to marketing theory*. Richard D. Irwin.
- Andreasen, A. R. (2006). *Social marketing in the 21st century*. Sage.
- Anselmsson, J., & Johansson, U. (2007). Corporate social responsibility and the positioning of grocery brands: An exploratory study of retailer and manufacturer brands at point of purchase. *International Journal of Retail & Distribution Management*, 35(10), 835-856.
- Arndt, J. (1982). The conceptual domain of marketing: Evaluation of Shelby Hunt's three dichotomies model. *European Journal of Marketing*, 16(1), 27-35.
- Aschemann-Witzel, J., & Niebuhr Aagaard, E. M. (2014). Elaborating on the attitude-behaviour gap regarding organic products: young Danish consumers and in-store food choice. *International Journal of Consumer Studies*, 38(5), 550-558.
- Barbarossa, C., & Pastore, A. (2015). Why environmentally conscious consumers do not purchase green products, A cognitive mapping approach. *Qualitative Market Research: An International Journal*, 18(2), 188-209.
- Basha, M. B., & Lal, D. (2019). Indian consumers' attitudes towards purchasing organically produced foods: An empirical study. *Journal of Cleaner Production*, 215, 99-111.
- Bauer, J., Reisch, L., Aarestrup, S., & Hansen, P. (2022). Nudging more sustainable grocery purchases: Behavioural innovations in a supermarket setting. *Technological Forecasting and Social Change*, 179, 1-10.
doi:<https://doi.org/10.1016/j.techfore.2022.121605>
- Bishop, M. M., & Barber, N. A. (2015). Should I Pay More? The Relationship Between Normative Beliefs and Willingness-to-Pay for Organic and Local Products. *Journal of Marketing Theory & Practice*, 23(1).
- Blom, A., Rosengren, S., & Perzon, J. (2023). Towards a better understanding of sustainability gaps in retail organizations . *International Review of Retail, Distribution & Consumer Research*, 33(5), 539-557.
doi:<https://doi.org/10.1080/09593969.2023.2247588>
- Bonn, M. A., Cronin, J. J., & Cho, M. (2016). Do Environmental Sustainable Practices of Organic Wine Suppliers Affect Consumers' Behavioral Intentions? The Moderating Role of Trust. *Cornell Hospitality Quarterly*, 57(1), 21-37.

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Brečić, R., Sinčić Ćorić, D., Lučić, A., Gorton, M., & Filipović, J. (2021). Local food sales and point of sale priming: evidence from a supermarket field experiment. *European Journal of Marketing*, 55(13), 41-62.
- Brundtland, G. H. (1987). Our common future—Call for action. *Environmental conservation*, 14(4), 291-294.
- Brychkov, D., Domegan, C., & McHugh, P. (2022). Coming and Going in Loops: Participatory Modelling of a System with All its Complexity. *Journal of Macromarketing*, 42(1), 12-29. doi:<https://doi.org/10.1177/02761467211062504>
- Campbell, M. J., & Fairhurst, E. A. (2016). Reducing the intention-to-behaviour gap for locally produced foods purchasing The role of store, trust, and price. *International Journal of Retail & Distribution Management*, 44(5), 508-523.
- Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2010). Why Ethical Consumers Don't Walk Their Talk: Towards a Framework for Understanding the Gap Between the Ethical Purchase Intentions and Actual Buying Behaviour of Ethically Minded Consumers. *Journal of Business Ethics*, 139–158.
- Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2014). Lost in translation: Exploring the ethical consumer intention–behavior gap. *Journal of Business Research*, 67(1), 2759-2767.
- Carson, R. (1962). *Silent Spring*. London: Hamish Hamilton Ltd.
- Cerri, J., Testa, F., & Rizzi, F. (2018). The more I care, the less I will listen to you: How information, environmental concern and ethical production influence consumers' attitudes and the purchasing of sustainable products. *Journal of Cleaner Production*, 175, 343-353.
- Chatzidakis, A., Hibbert, S., & Smith, A. (2007). Why People Don't Take their Concerns about Fair Trade to the Supermarket: The Role of Neutralisation. *Journal of Business Ethics*, 74(1), 89-100.
- Cherry, E. (1998). *Programming for design: From theory to practice*. John Wiley & Sons.
- Claudy, M. C., Peterson, M., & O'Driscoll, A. (2013). Understanding the attitude-behavior gap for renewable energy systems using behavioral reasoning theory. *Journal of Macromarketing*, 33(4), 273-287.
- Commission, N. Z. (2024). *Annual Grocery Report*. Wellington.
- Consumer. (2024, November). *Consumer NZ questions supermarket specials: Are they really saving you money?* Retrieved from <https://www.consumer.org.nz>:
<https://www.consumer.org.nz/articles/consumer-nz-questions-supermarket-specials-are-they-really-saving-you-money>
- Council, G. A. (2024). *Progress towards the Sustainable Development Goals*.

- Council, General Assembly Economic and Social. (2024). *Progress towards the Sustainable Development Goals*.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage.
- Creswell, J. W., & Poth, C. N. (2025). *Qualitative inquiry & research design: Choosing among five approaches* (Fifth ed.). Sage.
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Allen & Unwin.
- Davis, L. L. (1992). Instrument review: Getting the most from a panel of experts. *Applied nursing research*, 5(4), 194-197.
- Deloitte. (2022). Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/at/Documents/consumer-business/at-global-powers-retailing-2022.pdf>
- Dewey, J. (1938). *Logic: The theory of Inquiry*. Henry Holt and Company.
- Dilkes-Hoffman, L. S., Pratt, S., Laycock, B., Ashworth, P., & Lant, P. A. (2019). Public attitudes towards plastics. *Resources, Conservation & Recycling*, 147, 227-235.
- Dixon, D., & Mikolon, S. (2021). Cents of self: How and when self-signals influence consumer value derived from choices of green products. *International Journal of Research in Marketing*, 38, 365-386.
- Domegan, C., Collins, K., Stead, M., McHugh, T., & Hughes, T. (2013). Value co-creation in social marketing: functional or fanciful? *Journal of Social Marketing*, 3(3), 239-256.
- Domegan, C., McHugh, P., Biroscak, B. J., Bryant, C., & Calis, T. (2017). Non-linear causal modelling in social marketing for wicked problems. *Journal of Social Marketing*, 7(3), 305-329. doi:<https://doi.org/10.1108/JSOCM-02-2017-0007>
- Dong, X., Jiang, B., Zeng, H., & Kassoh, F. S. (2022). Impact of trust and knowledge in the food chain on motivation-behavior gap in green consumption. *Journal of Retailing and Consumer Services*, 66, 1-10.
- Duong, C. D. (2021). Big Five personality traits and green consumption: bridging the attitude-intention-behavior gap. *Asia Pacific Journal of Marketing and Logistics*, 34(6), 1123-1144. Retrieved from <https://doi-org.ezproxy.aut.ac.nz/10.1108/APJML-04-2021-0276>
- Fanning, A. L., O'Neill, D. W., & Buchs, M. (2020). Provisioning systems for a good life within planetary boundaries. *Global Environmental Change*, 64, 1-11. doi:<https://doi.org/10.1016/j.gloenvcha.2020.102135>
- Ferguson, R. J., Schattke, K., & Paulin, M. (2021). Persuasions by Corporate and Activist NGO Strategic Website Communications: Impacts on Perceptions of Sustainability Messages and Greenwashing. *Humanistic Management Journal*, 6, 117-131.

- Fisk, G. (2006). Envisioning a future for macromarketing. *Journal of Macromarketing*, 26(2), 214-218.
- Fisk, G., & White, P. D. (1981). Macromarketing: A state of the art review. *Review of Marketing*, 173-184.
- Fodness, D. (2015). Managing the wickedness of socially responsible marketing. *Journal of Business Strategy*, 36(5), 10-17.
- Forrester, J. W. (1968). Industrial dynamics—after the first decade. *Management science*, 398-415.
- Frank, P. (2018). Me, my family or the public good? Do inter-role conflicts of consumer-citizens reduce their ethical consumption behaviour? *International Journal of Consumer Studies*, 42(3), 306-315. doi:10.1111/ijcs.12417
- Frank, P., & Brock, C. (2018). Bridging the intention-behavior gap among organic grocery customers: The crucial role of point-of-sale information. *Psychology & Marketing*, 35(8), 586-602. doi:10.1002/mar.21108
- Frank, P., & Brock, C. (2019). Green cannibalism” or an “organic inside job”? Empirical insights into the rivalry of ethical grocery types. *Psychology & Marketing*, 36(6), 597-617.
- Freeman, R. E. (1984). *Strategic Management: A stakeholder approach*. Boston: Pitman.
- Frostling-Henningsson, M., Hedbom, M., & Wilandh, L. (2014). Intentions to buy “organic” not manifested in practice. *British Food Journal*, 116(5), 872-887.
- Fuchs, O., & Robinson, C. (2024). Operationalising critical realism for case study research. *Qualitative Research Journal*, 24(3), 245-266. doi:https://doi.org/10.1108/QRJ-07-2023-0118
- Gadema, Z., & Oglethorpe, D. (2011). The use and usefulness of carbon labelling food: A policy perspective from a survey of UK supermarket shoppers. *Food Policy*, 36, 815-822.
- Glavič, P., & Lukman, R. (2007). Review of sustainability terms and their definitions. *Journal of Cleaner Production*, 15(18), 1875-1885. doi:https://doi.org/10.1016/j.jclepro.2006.12.006
- Gleim, M. R., Smith, J. S., Andrews, D., & Cronin Jnr, J. J. (2013). Against the Green: A Multi-method Examination of the Barriers to Green Consumption. *Journal of retailing*, 89(1), 44-61.
- Grimmer, M., Kilburn, A. P., & Miles, M. P. (2016). The effect of purchase situation on realized pro-environmental consumer behavior. *Journal of Business Research*, 69(5), 1582-1586.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research* 2, 163-194.

- Gupta, P., Chauhan, S., Paul, J., & Jaiswal, M. P. (2020). Social entrepreneurship research: A review and future reserach agenda. *Journal of Buisness Research*, 113, 209-229.
- Habib, R., White, K., Hardisty, D. J., & Zhao, J. (2021). Shifting consumer behavior to address climate change. *Current Opinion in Psychology*, 42, 108-113.
- Hempel, C., & Hamm, U. (2016). How important is local food to organic-minded consumers? *Appetite*, 96, 309-318.
- Henryks, J., Cooksey,, R., & Wright, R. (2014). Organic Food at the Point of Purchase: Understanding Inconsistency in Consumer Choice Patterns. *Journal of Food Products Marketing*, 20(5), 452-475.
- Huang, I. Y., Manning,, L., James, K. L., Grigoriadis, V., Millington, A., Wood, V., & Ward, S. (2021, February). Food waste management: A review of retailers' business practices and their implications for sustainable value. *Journal of Cleaner Production*, 285, 1-15. Retrieved from <https://doi.org/10.1016/j.jclepro.2020.125484>
- Hunt , S. D. (1976). The Nature and Scope of Marketing. *Journal of Marketing*, 17-28.
- Hunt, S. D. (2010). *Marketing Theory: Foundations, Controversy, Strategy, Resource-Advantage Theory*. Armonk NY: M.E. Sharpe.
- Hurgobin, Y., Le Floch, V., & Lemercier, C. (2020). Effect of multiple extrinsic cues on consumers' willingness to buy apples: A scenario-based study. *Food Quality and Preference*, 1-8.
- IPCC. (2022). *Climate Change 2022 Impacts, Adaptation and Vulnerability*. Intergovernment Panel on Climate Change.
- IPOS. (2024). *Climate Change; Public opinion on climate change*.
- Ipsos Reserach. (2023). *Ipsos NZ 2023 Global Advisor Climate Change Report*. Auckland. Retrieved from <https://www.ipsos.com/en-nz/ipsos-nz-2023-global-advisor-climate-change-report>
- Iweala, S., Spiller, A., & Meyerding, S. (2019). Buy good, feel good? The influence of the warm glow of giving on the evaluation of food items with ethical claims in the UK and Germany. *Journal of cleaner production*, 215, 315-328.
- Jackson, M. C. (2024). *Critical Systems Thinking, A practitioners guide*. Wiley.
- Jackson, S. L. (2016). *Research Methods and Statistics: A Critical Thinking Approach*. Boston: Cengage Learning.
- Janssen, M. (2018). Determinants of organic food purchases: Evidence from household panel data. *Food Quality and Preference*, 68, 19-28.
- Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic Management Review*, 128-143.
- Juhl, H. J., Fenger, M. H., & ThØGersen, J. (2017). Will the Consistent Organic Food Consumer Step Forward? An Empirical Analysis. *Journal of Consumer Research*, 44(3), 519-535.

- Kantar New Zealand. (2024). *Better Futures 2024*. Auckland. Retrieved from <https://sbc.org.nz/wp-content/uploads/2024/03/Better-Futures-Report-2024.pdf>
- Kapitan, S. (2021). Macro-Social marketing as a tool to increase the share of renewable energy in developing nations. In A.-M. Kennedy, *Macro-Social Marketing Insights* (pp. 27-53).
- Kapitan, S., Berth, N., & Kennedy, A.-M. (2019). Sustainably superior versus greenwasher: A scale measure of B2B sustainability positioning. *Industrial Marketing Management*, 76, 84-97. doi:<https://doi.org/10.1016/j.indmarman.2018.08.003>
- Kemper, J. A., Spotswood, F., & White, S. K. (n.d.). The emergence of plastic-free grocery shopping: Understanding opportunities for practice transformation. *Journal of Environmental Management*, 349, 1-11. doi:<https://doi.org/10.1016/j.jenvman.2023.119290>
- Kennedy, A.-M. (2017). Macro-Social Marketing Research: Philosophy, Methodology and Methods. *Journal of Macromarketing*, 37(4), 347-355. doi:<https://doi-org.ezproxy.aut.ac.nz/10.1177/0276146717735467>
- Kennedy, A.-M., Kapitan, S., & Soo, S. (2016). Eco-warriors: Shifting sustainable retail strategy via authentic retail brand image. *Australasian Marketing Journal*, 125-134.
- Khare, A., & Pandey, S. (2017). Role of green self-identity and peer influence in fostering trust towards organic food retailers. *International Journal of Retail & Distribution Management*, 45(9), 969-990.
- Lambert, V. A., & Lambert, C. E. (2012). Editorial: Qualitative Descriptive Research: An Acceptable Design. *Pacific Rim International Journal of Nursing Research*, 16(4), 255-256.
- Laszlo, E. (1972). *Introduction to systems philosophy: Toward a new paradigm of contemporary thought*. Routledge.
- Laszlo, E. (1978). Systems philosophy. *Ultimate Reality and Meaning*, 1(3), 223-230.
- Layton, R. A. (2007). Marketing Systems—A Core Macromarketing Concept. *Journal of macromarketing*, 27(3), 227-242.
- Layton, R. A. (2011). Towards a theory of marketing systems. *European Journal of Marketing*, 45(1/2), 259-276. doi:<https://doi.org/10.1108/03090561111095694>
- Layton, R. A. (2015). Formation, growth, and adaptive change in marketing systems. *Journal of Macromarketing*, 302-319.
- Layton, R. A., & Domegan, C. (2021). The Next Normal for Marketing — The Dynamics of a Pandemic, Provisioning Systems, and the Changing Patterns of Daily Life. *Australasian Marketing Journal*, 29(1), 4-14. doi:<https://doi.org/10.1177/1839334921998514>
- Layton, R., Domegan, C., & Duffy, S. (2024). Getting Things Right; Diagnose and Design in The Evolution of Community Provisioning Systems. *Journal of Macromarketing*, 44(2), 356-370. doi:<https://doi.org/10.1177/02761467221109136>

- Lehner, M. (2015). Retail store influence on sustainable consumption behaviour. *International Journal of Quality and Service Science*, 7(4), 404-423.
- Leonidou, E., Christofi, M., Vrontis, D., & Thrassou, A. (2020). An integrative framework of stakeholder engagement for innovation management and entrepreneurship development. *Journal of Business Research*, 245–258.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Sage Publications.
- Luchs, M. G., Naylor, R. W., Irwin, J. R., & Raghunathan, R. (2010). The sustainability liability: Potential negative effects of ethicality on product preference. *Journal of Marketing*, 74, 18-31.
- Macy, M. W., & Willer, R. (2002). From Factors to Actors: Computational Sociology and Agent-Based Modeling. *Annual Review of Sociology*, 143-166.
- Mai, F., Hoffmann, S., Lasarov, W., & Buhs, A. (2019). Ethical Products = Less Strong: How Explicit and Implicit Reliance on the Lay Theory Affects Consumption Behaviors. *Journal of Business Ethics*, 158(3), 659-677.
- Mays, N., Pope, C., & Popay, J. (2005). Systematically reviewing qualitative and quantitative evidence to inform management and policy-making in the health field. *Journal of Health Services Research & Policy*, 10(1), 6-20.
- McEachern, M. G., & McClean, P. (2002). Organic purchasing motivations and attitudes: are they ethical? *International Journal of Consumer Studies*, 26(2), 85-92.
- McKinsey. (2021a). Retrieved from <https://www.mckinsey.com/industries/retail/our-insights/a-year-like-no-other-for-european-grocery-retailers-the-state-of-the-industry-post-2020>
- McKinsey. (2021b). Retrieved from <https://www.mckinsey.com/industries/retail/our-insights/the-path-forward-for-sustainability-in-european-grocery-retail>
- McLelland, M., Foster, J., & Pollitte, W. (2022). Perceptual deterrents of the green consumer. *Qualitative Market Research: An International Journal*, 25(2), 293-318.
- McNeill, L., & Moore, R. (2015). Sustainable fashion consumption and the fast fashion conundrum: fashionable consumers and attitudes to sustainability in clothing choice. *International Journal of Consumer Studies*, 39(3), 212-222.
- Meadows, D. H. (2008). *Thinking Systems: a primer*. London: Chelsea Green Publishing.
- Memery, J., Megicks, P., & Williams, J. (2005). Ethical and social responsibility issues in grocery shopping: a preliminary typology. *Qualitative Market Research: An International Journal*, 8(4), 399-412.
- Ministry for the Environment. (2025, January 30). *Government announces second international climate target under the Paris Agreement*. Retrieved from environment.govt.nz: <https://environment.govt.nz/news/second-international-climate-target-under-the-paris-agreement/>

- Ministry of Environment. (2018). *Environmental Attitudes Baseline*. Auckland: Colmar and Brunton.
- Moser, A. K. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of Consumer Marketing*, 32(3), 167-175.
- Moser, A. K. (2016). Consumers' purchasing decisions regarding environmentally friendly products: An empirical analysis of German consumers. *Journal of Retailing & Consumer Services*, 31, 389-397.
- Munro, P., Kapitan, S., & Wooliscroft, B. (2023). The sustainable attitude-behavior gap dynamic when shopping at the supermarket: A systematic literature review and framework for future research. *Journal of Cleaner Production*, 426, 1-11. doi:<https://doi.org/10.1016/j.jclepro.2023.138740>
- Naidoo, M., & Gasparatos, A. (2023). Consumer worldviews and perspectives on environmental sustainability initiatives in the South African supermarket sector. *Journal of Cleaner Production*, 413, 1-13. doi:<https://doi.org/10.1016/j.jclepro.2023.137496>
- New Zealand Commerce Commission. (2021). *Market study into the retail grocery sector*. Wellington.
- Ngobo, P. V. (2011). What Drives Household Choice of Organic Products in Grocery Stores? *Journal of Retailing*, 87(1), 90-100.
- Nguyen, A. T., Parker, L., Brennan, L., & Lockrey, S. (2020). A consumer definition of eco-friendly packaging. *Journal of Cleaner Production*, 1-11.
- Nguyen, N. P., & Dang, H. D. (2022). Organic food purchase decisions from a context-based behavioral reasoning approach. *Appetite*, 1-12.
- Nuttavuthisit, K., & Thøgersen, J. (2017). The Importance of Consumer Trust for the Emergence of a Market for Green Products: The Case of Organic Food. *Journal of Business Ethics*, 140(2), 323-337.
- NYU STERN. (2024). *Sustainable Market Share Index*. Retrieved from <https://www.stern.nyu.edu/sites/default/files/2024-05/2024%20CSB%20Report%20for%20website.pdf>
- O'Neill, D. W., Fanning, A. L., Lamb, W. F., & Steinberger, J. K. (2018). A good life for all within planetary boundaries. *Nature sustainability*, 1(2), 88-95. doi:<https://doi.org/10.1038/s41893-018-0021-4>
- Organics Exporters Association of NZ. (2025). *New Zealand Organics*. Retrieved from <https://www.organictradenz.com>: <https://www.organictradenz.com/organics-in-nz>
- Otto, M. O., Wiedermann, M., Cremades, R., Donges, J. F., Auer, C., & Lucht, W. (2020). Human agency in Anthropocene. *Ecological Economics*, 167, 1-9.
- Padela, S. M., Wooliscroft, B., & Ganglmair-Wooliscroft, A. (2023). Systematic Theory Mapping: Deciphering Causal Complexity of Brand Externalities. *Journal of Macromarketing*, 1-35. doi: <https://doi.org/10.1177/02761467231157616>

- Panzone, L., Hilton, D., Sale, L., & Cohen, D. (2016). Socio-demographics, implicit attitudes, explicit attitudes, and sustainable consumption in supermarket shopping. *Journal of Economic Psychology*, 55, 77-95.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice / Michael Quinn Patton (Fourth edition.)*. Sage Publications Inc.
- Paul, J., Lim, W. M., O'Cass, A., Hao, A. W., & Bresciani, S. (2021). Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR). *International Journal of Consumer Studies*, 45(4), 1-16.
- Pedro, J., Luzio, J. P., & Lemke, F. (2013). Exploring green consumers' product demands and consumption processes: The case of Portuguese green consumers. *European Business Review*, 25(3), 281-300.
- Penney, U., & Prior, C. (2014). Exploring the urban consumer's perception of local food. *International Journal of Retail & Distribution Management*, 42(7), 580-594.
- Prieto-Sandoval, V., Alfaro, J. A., Mejía-Villa, A., & Ormazabal, M. (2016, November). ECO-labels as a multidimensional research topic: Trends and opportunities. *Journal of Cleaner Production*, 135, 806-818. Retrieved from <https://doi.org/10.1016/j.jclepro.2016.06.167>
- Rachel, C. (1962). *Silent Spring*. London: Penguin Books.
- Ragin, C. C. (2008). *Redesigning Social Inquiry: Fuzzy Sets and Beyond*. Chicago and London: University of Chicago Press.
- Ramsey, J. L. (2015). On not defining sustainability. *Journal of Agricultural and Environmental Ethics*, 28, 1075-1087.
- Rana, J., & Paul, J. (2017). Consumer behavior and purchase intention for organic food: A review and research agenda. *Journal of Retailing and Consumer Services*, 38, 157-165.
- Rashid, Y., Warraich, M., Sabir, S., Waseem, A., & Rashid, A. (2019). Case Study Method: A Step-by-Step Guide for Business Researchers. *International Journal of Qualitative Methods*, 18, 1-13. doi:<https://doi.org/10.1177/1609406919862424>
- Raworth, K. (2017). A Doughnut for the Anthropocene: Humanity's compass in the 21st century. *The Lancet Planetary Health*, 1, e48-e49. doi:[https://doi.org/10.1016/S2542-5196\(17\)30028-1](https://doi.org/10.1016/S2542-5196(17)30028-1)
- Renton, M., Hooper, V., & Renton, A. (2024). Extending Layton's Marketing Systems for Future Transformation - Deepening Connections Between Marketing and Provisioning Systems: A Case-Based Approach. *Journal of Macromarketing*, 44(2), 441-452. doi: <https://doi.org/10.1177/02761467241227374>
- Research and Markets. (2024). *Food & Grocery Retail Market Size, Share & Trends Analysis Report by Product (Food Cupboard, Beverages), by Distribution Channel (Supermarkets & Hypermarkets, Online), by Region (APAC, Europe), and Segment Forecasts, 2022-2030*. Retrieved from

https://www.researchandmarkets.com/reports/4613444/food-and-grocery-retail-market-size-share-and?utm_source=BW&utm_medium=PressRelease&utm_code=6w39tp&utm_campaign=1685688+-+Global+Food+%26+Grocery+Retail+Market+Analysis+Report+2022%3a+Market+Size+is+Expe

- RNZ. (2024, February 8). *Finding out the truth behind sustainability claims from brands*. Retrieved from [rnz.co.nz: https://www.rnz.co.nz/national/programmes/afternoons/audio/2018925238/finding-out-the-truth-behind-sustainability-claims-from-brands](https://www.rnz.co.nz/national/programmes/afternoons/audio/2018925238/finding-out-the-truth-behind-sustainability-claims-from-brands)
- Rokka, J., & Uusitalo, L. (2008). Preference for green packaging in consumer product choices – Do consumers care? *International Journal of Consumer Studies*, 32, 516-525.
- Rondoni, A., & Grasso, S. (2021). Consumers behaviour towards carbon footprint labels on food: A review of the literature and discussion of industry implications. *Journal of Cleaner Production*, 301, 1-11.
- Ruggerio, C. A. (2021). Sustainability and sustainable development: A review of principles and definitions. *Science of the Total Environment*, 786, 147481-147491. doi:<https://doi.org/10.1016/j.scitotenv.2021.147481>
- Sadiq, M., Adil, M., & Paul, J. (2021). Does social influence turn pessimistic consumers green? *Business Strategy and the Environment*, 30(7), 2937-2950.
- Sarti, S., Darnall, N., & Testa, F. (2018). Market segmentation of consumers based on their actual sustainability and health-related purchases. *Journal of Cleaner Production*, 192, 270-280.
- Schaufele, I., Pashkova, D., & Hamm, U. (2018). Which consumers opt for organic wine and why? An analysis of the attitude-behaviour link. *British Food Journal*, 120(8), 1901-1914.
- Schills, L. (2022, January 13). *How FMCG brands can capitalize on soaring eco-consumer spending power*. Retrieved from [gfk.com: https://www.gfk.com/blog/how-fmcg-brands-can-capitalize-on-soaring-eco-consumer-spending-power](https://www.gfk.com/blog/how-fmcg-brands-can-capitalize-on-soaring-eco-consumer-spending-power)
- Sebastani, R., Montagnini, F., & Dalli, D. (2013). Ethical consumption and new business models in the food industry. Evidence from Eataly case. *Journal of Business Ethics*, 114, 473-488.
- Shapiro, S. (2024). Towards a Sharper “Golden Anniversary” Focus for Macromarketing? *Journal of Macromarketing*, 44(2), 335-338. doi:<https://doi.org/10.1177/02761467241229637>
- Sharp, A., & Wheeler, M. (2013). Reducing householders’ grocery carbon emissions: Carbon literacy and carbon label preferences. *Australasian Marketing Journal*, 21(4), 240-249. Retrieved from <https://doi-org.ezproxy.aut.ac.nz/10.1016/j.ausmj.2013.08.004>

- Siemieniako, D., Kubacki, K., & Mitrega, M. (2021). Inter-organisational relationships for social impact: A systematic literature review. *Journal of Business Research*, 453-469.
- Slack , N. J., Cug, J., & Singh, G. (2022). Factors forming consumer willingness to pay a premium for free-range eggs. *British Food Journal*, 125(7), 2439-2459.
- Sorensen, H., Bogomolova, S., Anderson, K., Trinh, G., Sharp, A., Kennedy, R., . . . Wright, M. (2017). Fundamental patterns of in-store shopper behavior. *Journal of Retailing and Consumer Services*, 37, 182-194.
- Statista . (2023). Retrieved from <https://www.statista.com/statistics/1288909/grocery-sales-worldwide-by-channel/>
- Stats NZ Tatauranga Aotearoa. (2023, December). *Stats NZ*. Retrieved from <https://www.stats.govt.nz>: <https://www.stats.govt.nz/information-releases/>
- Sterman , J. D. (2001). System dynamics modeling: tools for learning in a complex world. *California management review*, 43(4), 8-25.
- Stros, M., & Lee, N. (2015). Marketing Dimensions in prescription pharmaceutical industry: a systematic literature review. *Journal of Strategic marketing* , 318-336.
- Styles, R. (2023, June 8). *consumer.org.nz*. Retrieved from consumer: <https://www.consumer.org.nz/articles/greenwashing-can-we-trust-environmental-claims>
- Styles, R. (2023). Greenwashing at the supermarket: Can we trust environmental claims? *Conusmer NZ*.
- Suciu, N. A., Ferrari, F., & Trevisan, M. (2019, February). Organic and conventional food: Comparison and future research. *Trends in Food Science & Technology*, 84, 49-51. Retrieved from <https://doi.org/10.1016/j.tifs.2018.12.008>
- Taghikhah, F., Voinov, A., Shukla, N., & Filatova, T. (2021). Shifts in consumer behavior towards organic products: Theory-driven data analytics. *Journal of Retailing and Consumer Services*, 38, 157-165.
- Tanner, C., & Wölfling Kast, S. (2003). Promoting Sustainable Consumption: Determinants of Green Purchases by Swiss Consumers. *Psychology & Marketing*, 20(10), 883-902.
- Taufique, K., Siwar, C., Chamhuri, N., & Sarah, F. H. (2015). Integrating General Environmental Knowledge and Eco-Label Knowledge in Understanding Ecologically Conscious Consumer Behavior. *Procedia Economics and Finance* , 39-45.
- Teng, C. C., & Wang, Y. M. (2015). Decisional factors driving organic food consumption, Generation of consumer purchase intentions. *British Food Journal*, 117(3), 1066-1081.
- Testa, F., Sarti, S., & Frey, M. (2019). Are green consumers really green? Exploring the factors behind the actual consumption of organic food products. *Business Strategy & the Environment*, 28(2), 327-338.

- The Food Industry Association. (2024). *2024 Year in Review*. The Food Industry Association. Retrieved from fmi.org.
- The Food Industry Association. (2024, November). *U.S Shopper Trends*. Retrieved from The Food Industry Association: <https://www.fmi.org/our-research/research-reports/u-s-grocery-shopper-trends>
- Thøgersen, J., de Barcellos, M., Perin, M., & Zhou, Y. (2015). Consumer buying motives and attitudes towards organic food in two emerging markets: China and Brazil. *International Marketing Review*, 32(3/4), 389-413.
- Thøgersen, J., Jørgensen, A. K., & Sandager, S. (2012). Consumer decision making regarding a “green” everyday product. *Psychology & Marketing*, 29(4), 187-197.
- Torma, G., & Thøgersen, J. (2021, April). A systematic literature review on meta sustainability labeling—What do we (not) know? *Journal of Cleaner Production*, 1-16. Retrieved from <https://doi.org/10.1016/j.jclepro.2021.126194>
- Tsakiridou, E., Boutsouki, C., Zotos, Y., & Mattas, K. (2008). Attitudes and behaviour towards organic products: An exploratory study. *International Journal of Retail and Distribution Management*, 36(2), 158-175.
- van Bussel, L. M., Kuijsten, A., Mars, M., & van't Veer, P. (2022, March). Consumers' perceptions on food-related sustainability: A systematic review. *Journal of Cleaner Production*, 341, 1-17. Retrieved from <https://doi.org/10.1016/j.jclepro.2022.130904>
- Van Doorn, J., & Verhoef, P. C. (2015). Drivers of and Barriers to Organic Purchase Behavior. *Journal of Retailing*, 91(3), 436-450.
- von Bertalanffy, L. (1950). An outline of general system theory. *The British Journal for the Philosophy of Science*, 1(2), 134-165.
- Vrontis, D., & Christofi, M. (2021). R&D internationalization and innovation: A systematic review, integrative framework and future research directions. *Journal of Business Research*, 812-823.
- White, K., Hardisty, D. J., & Habib, R. (2019, July - August). The Elusive Green Consumer. *Harvard Business Review*, 124-133.
- Wolstenholme, E. F. (1999). Qualitative vs Quantitative Modelling: The Evolving Balance. *The Journal of the Operational Research Society*, 50(4), 422-428. doi: <https://doi.org/10.2307/3010462>
- Wooliscroft, B. (2021). Macromarketing and the systems imperative. *Journal of Macromarketing*, 41(1), 116-123.
- World Commission on Environment and Development (WCED). (1987). *Our Common Future*. Oxford University Press.
- World Economic Forum. (2025, March). *The US enters its 'drill, baby, drill' era. Here's what a top energy leader has to say*. Retrieved from [www.weforum.org](https://www.weforum.org/stories/2025/03/us-enters-drill-era-top-energy-leader-oil-gas/): <https://www.weforum.org/stories/2025/03/us-enters-drill-era-top-energy-leader-oil-gas/>

- Yamoah, F., & Acquaye, A. (2019). Unravelling the attitude-behaviour gap paradox for sustainable food consumption: Insight from the UK apple market. *Journal of Cleaner Production*, 217, 172-184.
- Yamoah, F., Duffy, R., Petrovici, D., & Fearne, A. (2016). Towards a Framework for Understanding Fairtrade Purchase Intention in the Mainstream Environment of Supermarkets. *Journal of Business Ethics*, 136(1), 181-197.
- Yin, R. K. (2018). *Case Study Research and Applications*. Los Angeles: Sage Publications.