

Can Fast-Food be Considered as Healthy?: Unveiling Consumer Perception and Attitude Through a Hybrid Review

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Abstract

The current study examines consumer perceptions and attitudes toward the healthiness of fast food through a hybrid review using bibliometric analysis and the TCCM framework. The current study recognizes three major questions: recognition of the leading contributors in the field, identification of trends in theory and methodology, and projecting possible roads ahead for fast food as a healthy choice in diets. The key findings highlight there was a minor decline in fast-food research from 2021 to 2024, presumably because of the COVID-19 pandemic in 2020. Fast-food research experienced substantial increase between 1997 and 2021. The TCCM framework offers a comprehensive overview of fast-food health perception research by highlighting theories like the Health Belief Model, Theory of Planned Behaviour etc. It captures diverse dimensions of consumer attitudes, such as health beliefs and social influences. The framework also supports varied research methods, from surveys to experiments. The study suggests dynamic consumer attitudes shaped by public health campaigns, menu innovations, and global events, providing implications for future research, industry practices, and policymakers to promote healthier fast-food options.

Keywords: Hybrid Review, TCCM, Consumer Perception, Consumer Attitude, Fast Food, Healthy Eating.

1 Introduction

In today's interconnected world, the fast-food industry epitomises globalisation, characterised by the standardisation of food items, rapid service and extensive reach across cultures and countries. The global market for fast food, which is a dynamic segment within the food industry, is expected to experience significant growth between the years 2024 and 2030, with an estimated compound annual growth rate (CAGR) of 5.28% (Research and Markets, 2024).

Fast food has become an essential component of modern society. It is generally characterised by its convenience, affordability, and speedy preparation, making it a popular choice for individuals with busy lifestyles (Thompson et al., 2017). As people's lives have become busier, the desire for quick and convenient food options has increased. Fast-food restaurants meet this requirement by providing ready-to-eat meals that are both time-efficient and tasty.

This industry has witnessed significant increased growth over the past few years and is considered as highly lucrative due to a number of compelling factors, including high customer demand, profit margins, marketing and branding, and the availability of healthier menu options (Ahamed et al., 2024)

Key players, including Mc Donalds, KFC, Starbucks and Subway continue to expand their global footprints. Among some of the very popular international fast-food outlets are Burger King,

Barbeque Nation, Starbucks, and Pizza Hut—names that have become very household from New York to Nairobi. This intake has increased so much due to their taste, convenience, and affordability.

The key drivers of global expansion of the fast-food outlets are, rapid urbanisation, rising disposable income, changing lifestyle and globalisation where, urbanisation in developing nations has led to increased demand for convenient and affordable food options. According to studies, fast-food consumption among children and adolescents is increasing, further worsening the situation (Majabadi, 2016). Fast-food was consumed by more than one-third of youth in the United States aged 2-19 on an average day from 2015-2018. Children and adolescents consumed 13.8% of their daily calorie intake from fast-food (National Health and Nutrition Examination Survey-USA, 2020). The primary motivation behind the popularity of fast food is its ease of use. Individuals with hectic work routines, extended travel times, and numerous personal commitments struggle to find time for preparing and cooking meals at home. Consequently, they opt for a broad selection of choices catering to various tastes and preferences, simplifying the search for attractive things. Additionally, fast food offers a convenient choice for social gathering and dining out with friends or family. Thus, fast food is favoured over home-cooked meals because it saves time, is readily available, is seen as more affordable, and aligns with the demands of a busy and contemporary lifestyle (Adeosun et al., 2022). Consumers have a complex and diverse perception and attitude towards fast food, which is impacted by multiple factors. From a favourable angle, consumers perceive fast food as convenient and efficient. The taste and satisfaction of fast food contribute significantly to its positive reception. Despite the positive features, fast food is also associated with negative perceptions. The main concerns of consumers are related to the possible health concerns connected to consuming fast food. Based on previous researches, it has been found that regular consumption of fast-food can lead to an increase in body weight and an elevated risk of developing chronic conditions such as hypertension and type 2 diabetes (Bhardwaj, 2023; Jaworowska, Blackham, Davies, & Stevenson, 2013). Moreover, the elevated concentrations of trans fats, saturated fats, and sodium found in fast-food could potentially have detrimental effects of cardiovascular health (Pamuk, 2022). These conflicting views lead to ambivalent attitudes towards fast-food. Many consumers experience a sense of guilt and cognitive dissonance when they indulge in fast-food since it contradicts their health-conscious goals (Sirat, 2022). This internal conflict represents the tension between fast food's convenience and taste appeal and the desire to eat healthy. These attitudes are also significantly shaped by social and cultural factors (Majabadi et al., 2016). In many cultures fast-food consumption is normalized and even celebrated, particularly among younger demographics who view it as a convenient and socially acceptable dining option. Despite its known health risks, peer influence and social interactions often reinforce the decision to eat fast food. The concerns about sustainability and growing health-consciousness can have an impact on changing consumer attitudes. As public awareness about healthy eating and environmental issue grows, the market for healthier fast-food options is expanding. Consumers are becoming more selective while seeking menu items that offer better nutritional profiles, such as salads, grilled items and low-calorie choices (Mahmoud et al., 2024).

Amidst the growing spotlight on health concerns, specific fast-food establishments have responded by incorporating seemingly healthier menu choices, spanning from salads and grilled

chicken sandwiches to fruit cups (Anna, 2021). International chains and local QSRs alike adapted to this trend, emphasizing the use of fresh, organic, and locally sourced ingredients.

The rise of fast-food consumption has sparked an ongoing debate about whether it can be considered healthy or not (Abbas et al., 2022).

2 Exploring healthy fast-food options

There is an increasing cultural trend towards wellness and fitness. Healthy eating has become part of a broader movement to live a better, more active lifestyle, which is often influenced by social trends and cultural norms (Kercher et al., 2022). In response to increasing health-consciousness, many Quick Service restaurants (QSRs) have expanded their menus to include healthier options. Some of these options include: salads and fresh vegetables in which many QSRs now offer a variety of salads made with fresh vegetables, lean proteins (such as grilled chicken), and low-fat dressings (Schwebler et al., 2018). Also, grilled chicken sandwiches and wraps are often available as a healthier alternative in substitute of fried options. Some restaurants serve steamed vegetables, apple slices, or fruit cups as a side dish in place of regular fries. Whole grain buns, multigrain beds and wraps made from whole wheat are becoming more common. With the rise of vegetarian and vegan diets, many QSRs now offer plant-based burgers and meatless nuggets and other vegetarian-friendly options. For example, Chipotle, Subway etc.

Consumers understand that fast food often lacks key nutrients and contains artificial additives and preservatives (Awuchi et al., 2020). It is critical to investigate the nutritional content of fast-food and its overall impact on public health. We can better understand the interaction between diet and well-being in today's fast-paced world by investigating the link between fast-food consumption and various health outcomes.

The purpose of this study is to investigate how consumers perceive fast food in relation to health, specifically focussing on whether or not they consider it to be a healthy option and what factors influence their perceptions of it. Furthermore, the study will evaluate the theoretical frameworks that have been utilised in previous research on this subject, as well as identify trends and gaps in the existing literature through the utilisation of bibliometric and TCCM analysis. Consequently, the purpose of the study is to offer insights into consumer behaviour, to contribute to the development of public health strategies, and to direct future research in the field.

Due to the best of our knowledge, no study so far has integrated bibliometric analysis with the TCCM framework to explore the consumer perceptions and attitudes towards the healthiness of fast-food. Existing research frequently lacks a thorough analysis of the theoretical frameworks utilised to investigate consumer perceptions and attitudes regarding fast food.

Consequently, this study addresses the following questions.

1. Which countries, institutions, journals, and publications are most responsible for the field?
2. Which theories, contexts, features, and methodologies are often used in the literature?
3. What are the future prospects for fast-food as a healthy diet choice?

The initial research question aims to determine the most significant contributors to the investigation of consumer perceptions and attitudes concerning the healthfulness of fast-food. The study's extensive bibliometric analysis aims to identify prominent papers, leading journals, active countries, and top institutions, giving useful insights into the academic environment and guiding future research, collaboration, and policy-making activities.

The second research question seeks to outline the fundamental components of studies on consumer perceptions and attitudes about fast food healthiness. The review gives a full overview of the current status of the area by methodically categorising and summarising theoretical frameworks, contextual settings, study features, and research techniques, which will guide future research and practical applications and the third research question aims to find and propose pathways for changing fast food into a healthier dietary option. This review aims to provide a comprehensive roadmap for future endeavours to improve the healthiness of fast-food by examining innovative research areas, regulatory initiatives, industry practices, and consumer education strategies.

3 Methodology

3.1 Review Structure

Systematic literature reviews, as a technique, capture the process of assembling, arranging, and assessing current literature in a review domain (Paul et al., 2021). In addition, it has its methodology developed in such a way that it minimizes the consequences of biases that are linked to publication, selection, and data extraction (Uttley et al., 2023; Nightingale, 2009). The systematic literature review (SLR) is a widely recognised method that researchers use to evaluate the existing body of knowledge in a specific field. It is considered to be an effective and objective approach for examining the foundation of a study domain and presenting a comprehensive overview of the available literature (Jebarajakirthy et al., 2021). Moreover, systematic literature reviews (SLR) offer researchers the chance to identify gaps in existing research, areas that have already been studied, and potential ideas for future research (Paul et al., 2017, Paul and Feliciano-Cestero, 2021). As per the findings of Paul et al. (2021), there exist several cutting-edge methodologies for conducting a systematic literature review, which enable researchers to effectively analyse the existing literature. The paper discusses the presence of sub-types in the field, including hybrid reviews that combine two or more review subtypes (Saikia et al., 2023; Jain et al., 2023). The bibliometric analysis and the TCCM framework are both incorporated into this review paper, which offers a comprehensive analysis of fast-food as a healthy alternative. According to Lim et al. (2022), hybrid reviews possess methodological strength due to the integration of numerous review methods, which enables them to provide a comprehensive picture of a topic in a single research by informing multiple factors.

One of the tools used by researchers is to conduct bibliometric analysis in discovering new trends on the performance of journals and articles, patterns of collaboration, and components of research. It can also be used to investigate the intellectual framework of a specific topic within the existing literature (Donthu et al., 2021; Verma & Gustafsson, 2020).

While the primary data used in bibliometric analysis is typically large and objective (e.g., the quantity of publications and citations, the frequency of keywords and topics), the interpretation of this data frequently depends on both subjective and objective assessments that are developed through well-informed techniques and procedures.

Prior studies in marketing have used bibliometric analysis and focused on certain marketing issues such as omnichannel marketing (Mishra et al., 2020), industrial marketing (Fernandez et al., 2020), the field of digital marketing (Ghorbani et al., 2021; Paul et al., 2023), electronic marketing (Gao et al., 2021), environmental management and social marketing (Letunovska et al., 2021). Others have examined research patterns in marketing (Nicolas et al., 2020), however,

the topic of fast-food as a healthy option has not yet been considered. Despite the insights and advances made by bibliometric analysis, there is a lack of theoretical and methodological purposes.

Thus, in addition to the deliberations, the research study employed a conceptual framework referred to as the TCCM framework. Paul and Rossado-Serrano (2019) provided that TCCM framework for analyzing the most common theories, contexts, that is, countries and sectors, characteristics, that is, key factors and variables, and processes that are methods and research designs.

Furthermore, the comprehensive approach provided by TCCM, which involves examining multiple dimensions of research, results in enhanced clarity and comprehensiveness in reviews. This comparative advantage often surpasses the value and effectiveness of alternative review activities that rely on specific domains. According to Paul et al. (2021), TCCM gives a considerable amount of information about theoretical approaches, sources of data, contexts in which the studies were conducted, constructs associated with the primary and dependent variables, research designs, and analytical methodologies. Therefore, the framework was selected and deemed appropriate for the current study. Consequently, a bibliometric analysis was performed to provide a comprehensive analysis of the study.

3.2 Search Technique

The Scopus database is the most comprehensive citation and abstract database for searching the literature, and it is continually being expanded and updated. Scopus is considered better than web of science because it provides a more extensive selection of citation metrics and complex search tools which makes it an invaluable instrument for the researchers who are seeking for comprehensive assessment of the literature. The majority of academic researchers have utilised the most appropriate Scopus database for conducting bibliometric reviews (Klarin, 2024; Falcao and Roseira, 2022).

The search is carried out for over 28 years (1996-2024). The purpose of the research is to present a very recent bibliometric review. All papers with the term “Consumer perception or attitude, fast food, healthy option” the title, abstract, and keyword list is carefully evaluated based on the established criteria for inclusion and exclusion.

3.3 Criteria for inclusion and exclusion

A comprehensive search was conducted using the designated keyword, resulting in the retrieval of 191 articles from Scopus. In order to ensure the appropriate selection of scholarly papers for this study, specific criteria were established for the inclusion and exclusion of relevant literature. The publications eligible for this review must meet the following criteria: (1) they must be published only in English; (2) they must be articles (excluding book chapters and conference papers); and (3) they must primarily address the topic of business management. Figure 1 illustrates the specific criteria used to determine which articles were included or excluded in the search. The CSV files containing bibliographic datasets from the Scopus database are used to visualize mapping networks with the VOSviewer (Visualisation of Similarities viewer) program. VOSviewer is a Java-based software tool that enables the creation, visualization, and analysis of network-based maps (Bukar et al., 2023).

Figure 1: Incorporation and omission criteria

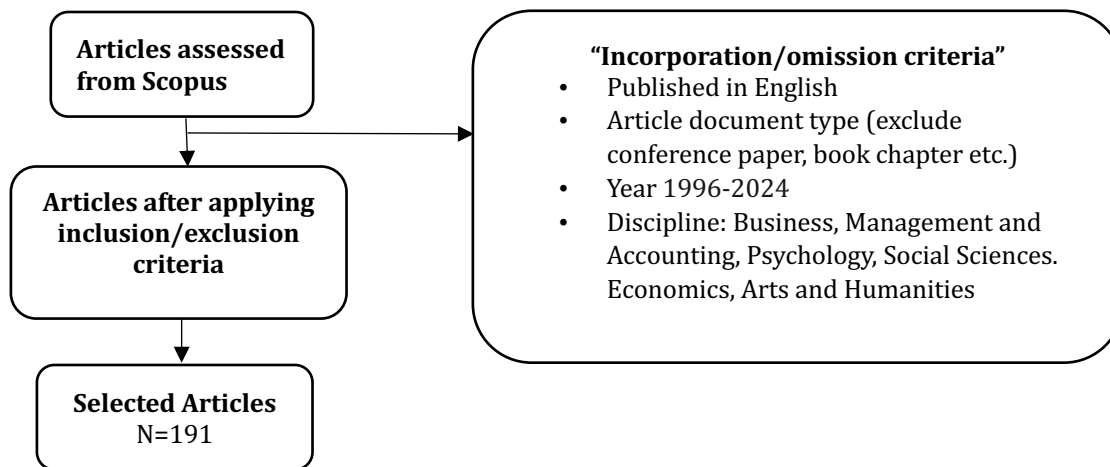
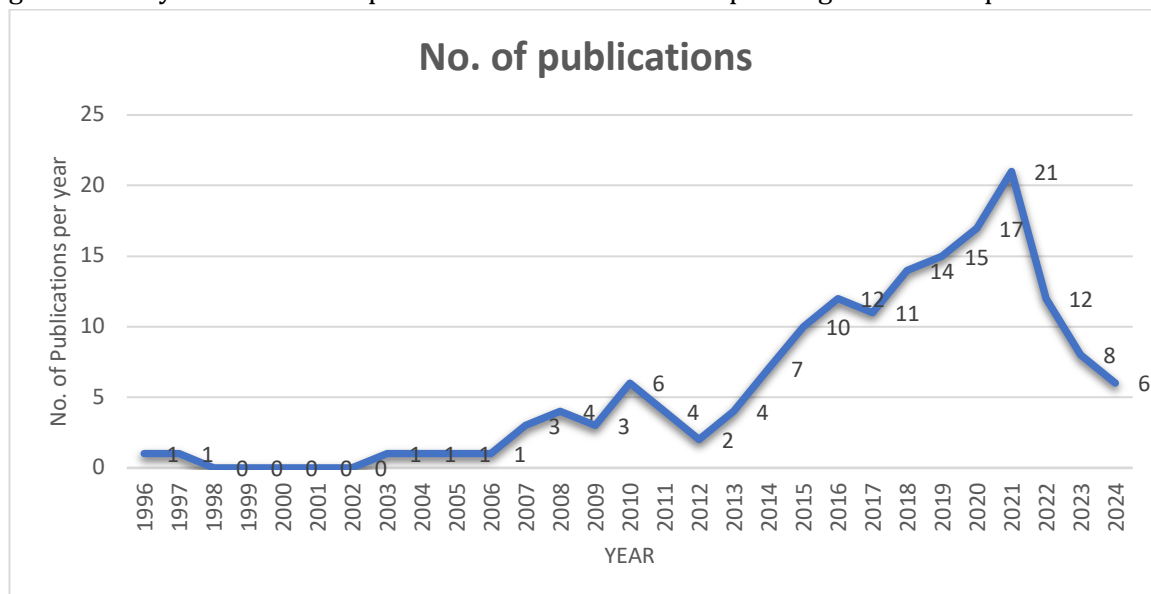


Figure 2: Analysis of Fast-food publications and their corresponding citation frequencies



4 Brief overview

The current section provides an overview of bibliometric analysis, specifically focussing on analysis of performance and mapping of scientific knowledge concepts (Zamorano et al., 2024). The information that is descriptive for research publications from the database Scopus is displayed first, and the key contributors' works, journals, and nations are then presented. The research subsequently offers a analysis of the networks of co-occurrences and co-citations of keywords.

4.1 Research publications and citations overview

In this section, Figure 2 illustrates the fast-food research publication and citation profile. Figure 2 displays the overall number of fast-food articles per year, in addition to the total number of times others cited these publications. In figure 2, the database shows a consistent increase from 2012 to 2021 and a slight dip from 2021 to 2024. 2021 has the most significant publications count

(Scopus). Despite the fact that 2021 is regarded the most popular year for fast-food research, 2020 has the second most impactful study.

4.2 Most prominent studies, academic publications, nations and organisations

The countries, journals, and works that have received the most citations in the fast-food publications are highlighted in this section. The 20 most frequently referenced works are displayed in Table 1, the 20 most frequently preferred journals are compiled in Table 2, and the countries with the highest number of citations are reported in Table 3. Table 4 lists the most-cited organisations connected to food, health, and nutrition researchers. Lists in each table show how the fast-food and nutrition fields are being shaped by the most-cited publications, journals, nations, and organisations according to Scopus.

Table 1: Most-cited works in fast-food articles

Authors	Citation Received	Year
Maison et al.	268	2004
Poelman et al.	202	2021
Loo et al.	173	2017
Finkelstein and Fishbach	158	2010
Sun y.-h.c.	150	2008
Kim et al.	149	2013
Mallinson et al.	143	2016
Gittelsohn et al.	117	2008
Goyal and Singh	111	2007
Mhurchu et al.	99	2018
Olsen et al.	95	2010
Philippe et al.	94	2021
Verneau et al.	89	2014
Jackson & Viehoff	87	2016
Grunert et al.	84	2011
Stranieri et al.	82	2017
Palmieri and Forleo	76	2020
Knight et al.	75	2007
Fleming-milici and Harris	73	2020
Morley et al.	73	2013

A list of the top 20 most influential works is presented in Table 1 that have been mentioned five or more times. The most widely referenced study, Maison et al. (2004), which included 268 citations from Scopus, examined how consumers who explicitly preferred one brand over another and frequently used it also shown implicit preferences for that brand when it came to fast food. The second-most cited work studied that individuals with overweight and obesity experienced more difficulties in making healthy food choices. Overall, the lockdown period led to mixed impacts on food-related behaviours, with some people turning to more home-cooked meals and others increasing their intake of unhealthy snacks and convenience foods stated in Poelman et al. (2021).

The Loo et al. (2017) has the third-most cited work and it also played an important contribution by examining how the consumers perceive the relationship between healthy, sustainable, and plant-based diets, and how these perceptions influence their eating habits and policy support. Then the fourth most frequently mentioned cited work by Finkelstein and Fishbach, (2010) discussed and explores the psychological and behavioural reactions consumers have towards healthy food and how these reactions can paradoxically lead to increased hunger and high calories intake. Morley et al., (2013) was one well-known example, ranking as the twentieth most cited paper on Scopus.

Table 2: Most-cited Journals

Journal	No. of documents	Citations
Appetite	62	2427
British food journal	11	283
Journal of Consumer Psychology	1	268
Food policy	2	219
International journal of hospitality management	2	165
Journal of Consumer Research	1	158
Journal of hunger and environmental nutrition	2	122
Social science and medicine	4	97
International journal of contemporary hospitality management	2	96
Foods	4	79
International journal of gastronomy and food science	1	76
Journal of retailing and consumer services	2	70
Health and place	4	67
American journal of health promotion	5	61
Journal of Business Research	1	56
Journal of Community Health	3	49
Journal of Consumer Affairs	2	47
Psychology and Health	1	43
Health psychology	2	42
The Lancet planetary health	1	38

The following are the most-cited works in fast-food, health and nutrition research, most cited journals and countries are shown. Appetite journal is the most-cited journal in Scopus. British Food Journal is the second most widely referenced journal followed by the American Journal of Health Promotion (see Table 2 for reference). The investigation identified a considerable presence of area-specific journals on consumer psychology, hospitality, hunger and environmental nutrition, retailing, and consumer services, showing that fast food has piqued that the scholars are interested in a range of fields.

The top ten nations are listed in Table 3 by number of citations in Scopus. According to the findings, authors affiliated with the United States emerging as the leading contributor in terms of both publications and citations (1768 citations in 63 documents).

Additionally, it demonstrated a significant advantage over the second country, which was the United Kingdom. It is crucial to note that, despite publishing a large number of articles, other countries, such as the Netherlands and Italy, received fewer citations.

Table3: Most cited countries

Countries	No. of Document	Citations
United States	63	1768
United Kingdom	19	618
Netherlands	11	504
Italy	9	351
Canada	9	348
Poland	2	282
France	7	267
Belgium	4	244
Taiwan	5	200
Australia	7	198

Table 4: Most-cited universities

Organization	No. of documents	Citations	Country
Medical Data Management Group	1	268	United States
Psychology department, university of Warsaw	1	268	Poland
University of Washington	1	268	US
Chair group consumption and healthy lifestyles, Wageningen University & Research	1	202	Netherlands
Department of health promotion, school of nutrition and translational research in metabolism (nutrim), Maastricht university	1	202	Netherlands
Department of health sciences, faculty of science, vrije universiteit amsterdam, Amsterdam public health research Institute	1	202	Netherlands
Department of social, health and organisational psychology, Utrecht university	1	202	Netherlands
Flycatcher internet research	1	202	Netherlands
The Netherlands Nutrition Centre	1	202	Netherlands
Department of agricultural economics, Ghent university	1	173	Belgium
Department of behavioural science and marketing, booth school of business, university of Chicago, Chicago	1	158	US
Program of hospitality management and education, department of human development and family studies, national Taiwan normal university, Taipei	1	150	Taiwan
Department of apparel events and hospitality management, Iowa state university	1	149	US
Department of food and nutrition, Yonsei university, Seoul, South Korea	1	149	South Korea
Department of tourism management, Gachon university, South Korea	1	149	South Korea
Kyunghee University, Seoul	1	149	South Korea
Corporate information and computing service, the University of Sheffield	1	143	United Kingdom
Department of oncology and metabolism, human nutrition unit, the university of Sheffield medical school	1	143	United Kingdom
Centre for human nutrition, department of international health, Bloomberg school of public health, Johns Hopkins university	1	117	US

The countries with the highest number of citations are subsequently associated with the institutes that have the highest number of citations in the field of fast-food research. According to Table 4, the top 20 universities are ranked based on the highest number of citations. According to the data that is currently available, the universities in the top 3 are ranked one as it has received the most citations, despite the fact that it has only one paper that has been published. It is closely followed by Wageningen University and Research in the Netherlands and the University of Washington in the United States. Researchers at some of the top-ranked universities studying fast-food and healthy lifestyle, affiliated with the Netherlands, had the most citations, similar to other top countries. However, as shown in Table 3, within the time span of this research study, the aforementioned top 20 universities have collectively published an equivalent number of works, with a predominant focus on a singular topic.

4.3 Co-citation analysis

The most popular bibliometric technique in the library and information science fields is co-citation analysis (Toom, 2018). Co-citation, as defined by Small (1973), is a form of subject similarity metric that quantifies the frequency at which two publications are referenced together. The co-citation study is a widely used research method for assessing the relative significance or impact of an author, article, or publication. It involves quantifying the number of times that other researchers have referenced or cited the particular author, article, or publication in their own work (Saif, 2020). Through the emphasis on key publications and their links, this co-citation analysis enables researchers to gain understanding of how the exploratory field evolved (Kim & McMillan, 2008). Co-citation analyses in the study were centred on citations that were at least three times mentioned together. The particular references that were chosen were organised into groups, and the co-citation networks were utilised to assist in gaining an understanding of the foundational literature and school of thought in the fields of nutrition and fast-food.

The information presented in Figure 3 illustrates the number of citations that the articles have, as indicated by the size of the node. Additionally, the co-citation relationship between two articles signifies the connection between them. The relationship between two nodes is determined by the distance needed to separate the said nodes (Kleminski et al., 2022). The closer the nodes are from one another, the stronger the relationship. In co-citation networks, colours refer to the cluster an article falls into. The journal, initial author, and year of publication for each node are also provided. Within the scopus co-citation network, three clusters were identified, as shown in Figure 3 and these clusters included beliefs, intention, and consumer perception.

The citation network generated three clusters, as illustrated in Figure 3 and Table 5, with each cluster summarising its primary topics and represented articles. From the fundamental network of co-citation, the initial cluster described the service quality of the fast-food restaurants. Figure 3 depicts Fornell and Larcker who investigated the structured links between food image, meal enjoyment, culinary quality, and behavioural goals were interconnected with the other two clusters.

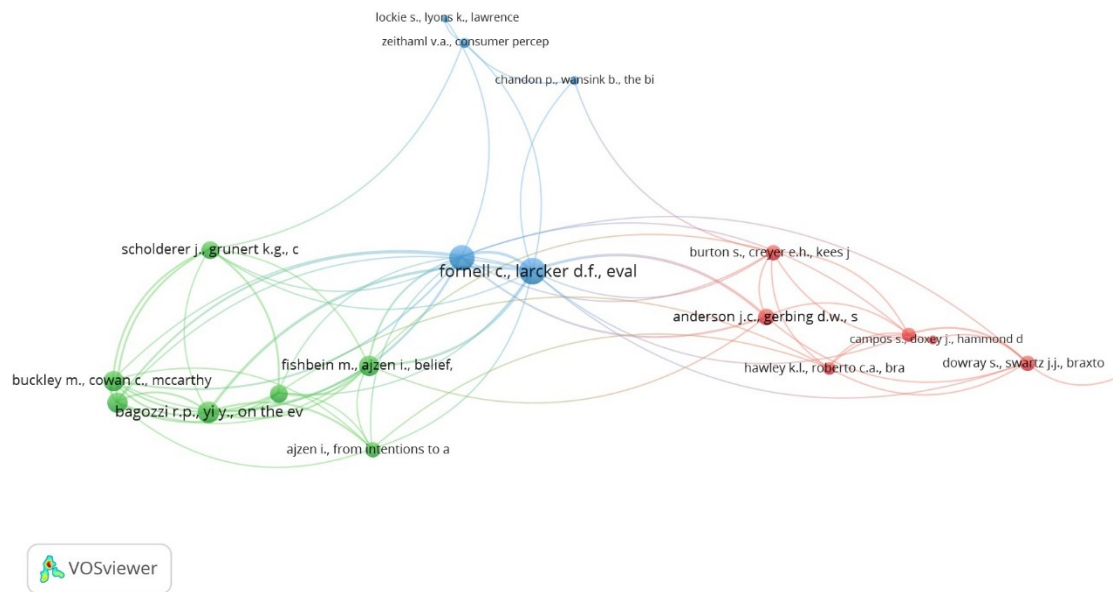


Figure 3: The structure of co-citations in Scopus

4.4 Analysing Keyword Co-Occurrence

Although this type of analysis based on citations is valuable, it does not provide a comprehensive picture of the field of study or trends in the literature. Therefore, the co-occurrence of authors' keywords is a method that is currently being implemented in bibliometric analysis research to identify and analyse the relationships between two or more documents that have influence over subjects, ideas, or concepts (Wong, 2020; Ding et al., 2001). In this regard, the current research integrated all the keywords from all the publications incorporated into the analysis by keyword co-occurrence analysis using the VOS viewer to identify the most common themes in fast food research. These are presented in Table 6. The highest frequency three keywords rank in the order of human, consumer behavior, and fast-food.

We used VOSviewer for the visualization of co-occurrence networks in which it indicated the relationship between keywords existing in the research area, hence helping in visualizations for the occurrences of such keywords. Node size is proportional to the frequency of use of keywords. The more or less density of the line indicates either strong or weak co-occurrence. The fact that the two are connected will denote that the two have been combined. Figure 4 shows the network of keyword co-occurrence in Scopus.

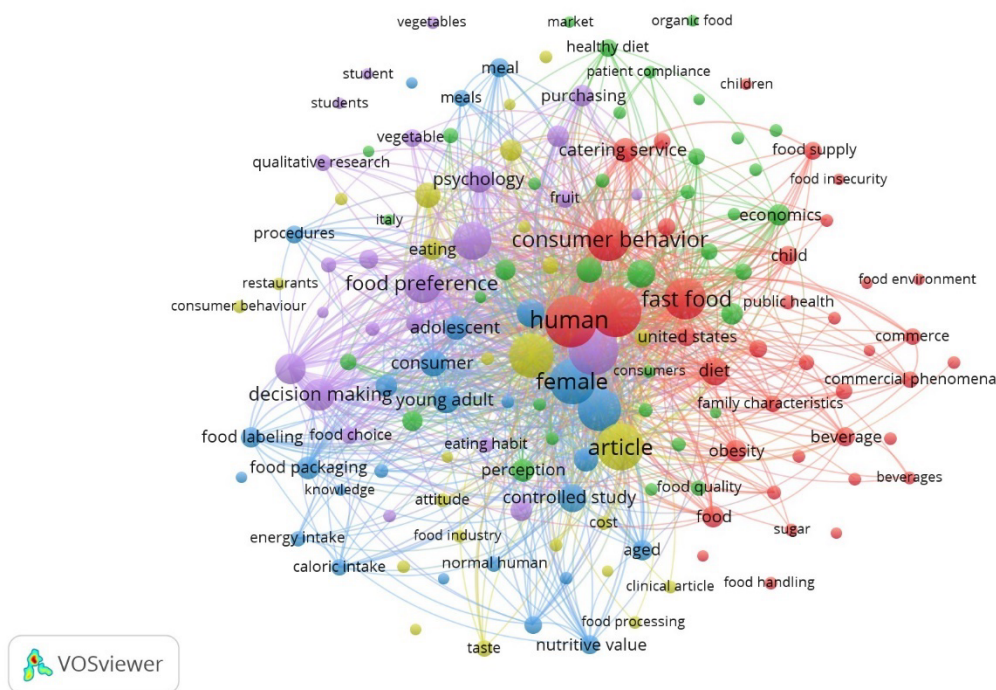
The Scopus analysis focused on consumer behaviour, fast-food preference with a specific word healthy diet in mind.

Table 5: Clusters identified through co-citation analysis

Cluster	Main focus topics	Titles	Authors	Year	Citation received
Scopus					
1	Impact of providing nutritional	"Attacking the Obesity Epidemic: The Potential Health	Burton et al.	2011	4

	information at restaurants on public health	Benefits of Providing Nutrition Information in Restaurants"	Campos et al.	2011	4
		"Nutrition labels on pre-packaged foods: a systematic review"	Hawley et al.	2012	4
	Analysis of front-of-package (FOP) food labels and their effectiveness in influencing consumer behaviour,	"The science on front-of-package food labels"			
2.	How limited time availability influences food choices and dietary behaviours	"Time scarcity and food choices: An overview"	Jabs and Devine	2006	6
	Relationship between consumer preferences for convenience, resource constraints,	"Consumers, food and convenience: The long way from resource constraints to actual consumption patterns"	Joachin and Grunert	2005	4
3.	Psychological effects of health claims made by fast-food restaurants	"The Biasing Health Halos of Fast-Food Restaurant Health Claims: Lower Calorie Estimates and Higher Side-Dish Consumption Intentions"	Chandon and Wansink	2007	5
	Understanding the various factors in choosing organic food	"Choosing organics: a path analysis of factors underlying the selection of organic food among Australian consumers"	Lockie et al.	2004	4

Keyword	Key word occurrence	Total Link Strength
Human	102	2143
Consumer attitude	95	1998
Humans	90	1991
Article	81	1735
Female	77	1808
Male	75	1752
Consumer behaviour	71	1431
Adult	69	1589
Fast food	65	1339
Food preference	53	1258



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Justin Paul's TCCM Framework offers a systematic methodology for Meta-analysis by highlighting the significance of theory, context, characteristics and methods (Paul and Barari, 2022).

5.1 Theories (T)

Within the scope of this systematic review, the TCCM framework that was proposed by Paul and Rosado-Serrano (2019) is investigated to further clarify the theoretical foundations of research pertaining to fast food marketing.

Figure 5 illustrates how the literature produced many of the well-known theories and concepts for analyzing fast food. The ten ideas, concepts, and frameworks are compiled in Table 7, along with other features that were more frequently employed in earlier studies. The study of fast food can be associated with various theoretical frameworks and conceptual models to effectively explain this issue.

According to the current review, different theories could be applied in the future to investigate this research area.

The analysis revealed a considerable number of studies that did not include theories whereas others employed theories to establish comparisons with prior research to explain their findings without formulating hypothesis.

Additionally, as shown in Table 7, prior publications that established a foundation for more fast food research utilised a diverse range of theoretical frameworks. The present study ascertained that the Stimulus-Organism-Response theory (Lacap et al., 2023; Asghar et al., 2023) and the theory of planned behaviour (Watson et al., 2024; Milici and Harris, 2020; James et al., 2019), and Elaboration Likelihood Model (Tshiangala and Nhedzi 2022; Shamhyuenhanzva et al., 2016) were the theories that were frequently applied in the field of study. These theories have been frequently used in fast-food research to analyze fast-food consumption, consumer behavior, regional dimensions, and health consciousness. Within the field of sociology, various theories have been identified and subsequently employed in the study of consumer behaviour; one such theory is social identity theory, (Lorgnier et al., 2022). In order to gain insights into customer perceptions of fast food, researchers commonly employed psychological frameworks, such as the Theory of Planned Behaviour (Watson et al., 2024; Milici and Harris, 2020; James et al., 2019), Schema Congruity Theory (Zinko et al., 2021). Additional theories, like the Social Cognitive Theory (Powell et al., 2021), concentrated on consumer behavior. Furthermore, instead of theories, some literature used models to explain, such as the Elaboration Likelihood Model. (Tshiangala and Nhedzi, 2022; Shamhyuenhanzva et al., 2016).

Fig 5: Application of TCCM framework

Theories (T)		Contexts (C)	Characteristics (C)	Methods (M)
Stimuli-Organism-Response Theory	Quality Theory	Countries - Philippines - Senegal - USA - India - France - Italy - Netherlands - UK	Independent variables - Perceived value - Perceived enjoyment - Socio-demographic changes - Urbanisation - Environmental beliefs - Environmental knowledge - Opportunities - Motivation	Quantitative Qualitative Mixed-method Conceptual analysis Case-study approach
Theory of Planned Behaviour	Theory of International franchising			

Value-Belief Norm Theory	Dual process Theory		• Ireland • South Africa • China • Serbia • Taiwan • Germany • Australia • New Zealand • Malaysia • Mexico Brazil • Canada • Denmark • Japan • Austria • Spain • Turkey • Cambodia • Portugal • Singapore • Pakistan • Finland • Iran • Nigeria • Switzerland • Peru • Sweden • Poland • South Korea • Ghana	Media Exposure Perception of healthiness Status symbol Attitude Subjective norms Perceived Behavioural Control Product knowledge Environmental Concern Socio-demographic factors Health-consciousness Attitude towards healthy eating Income level Demographic factors Product knowledge	
Means-End Theory	Rubicon model of Action phases				
Social – adaptation Theory	Multidimensional and hierarchical model				
Trust-commitment Theory	Schema Congruity Thoery				
Selective-Exposure Theory	Delay discounting				
COM-B model	Theory of Parallel Distributed Processing				
Heuristic or peripheral route processing model	Thaler's Exchange Theory				
Elaboration-Likelihood Model (ELM)	Trust theory				
Social Identity theory	Higgin's Regulatory Focus Theory				
New Demand Theory					
				<i>Dependent Variables</i> Consumer attitude Loyalty Consumer's purchase decision Brand Loyalty Behaviour Perceived Healthfulness Purchase intention Customer satisfaction Consumption Behaviour	
				<i>Mediator Variables</i> Perceived quality Brand authenticity Ecological motives Marketing strategies Trait mindfulness Product appeal Source trustworthiness	
				<i>Moderator variables</i> Socio-cultural Factors Behavioural traits Consumption mode External influence Market trends Brand positioning Ethnic diversity	

Table 7: Theories/concepts/frameworks

Theory/Concepts/Frameworks	No. of articles	Related Characteristics	References
Stimulus-Organism-Response Theory	2	Consumer's attitude; perceived value; perceived novelty	Lacap et al. (2023); Asghar et al. (2023)
Theory of Planned Behaviour	13	Environmental beliefs; perception of healthiness; social influence	Watson et al. (2024); Milici and Harris (2020); James et al. (2019)
Elaboration Likelihood model	2	Brand authenticity; source trustworthiness	Tshiangala and Nhedzi (2022); Shamhyuenhanzva et al. (2016)
Higgins' Regulatory Focus Theory (RFT)	1	Demographic factors	Boer and Schosler (2016)
New Demand Theory	1	Product type, Brand,	Hartmann et al. (2016)
Schema Congruity Theory	1	Purchase intention, Consumer perception	Zinko et al. (2021)
Trust Theory	1	Hedonic motivation, trust	Souiden et al. (2019)
Social Cognitive Theory	1	Behaviour changes	Powell et al. (2021)
Social Identity Theory	1	Economic development, CSR perceptions	Lorgnier et al. (2022)
Theory of Parallel Distributed Processing	1	Money saving, control	Souiden et al. (2019)

5.2 Contexts (C)

The TCCM framework suggested by Paul et al., (2023) defines context as the specific circumstances or situations in which the research is conducted. This component is critical for determining the external elements that may impact the study's outcomes and the generalizability of its findings. Table 8 displays the contexts (countries) studied in fast-food research. Researchers in the fast-food industry predominantly included various stakeholders, including customers such as personnels, experts, and marketers, in their studies. Fast food research was undertaken across 34 nations. Yet, certain researches (Osman and Thornton, 2021; Ma and Zhuang, 2021) did not mention specific countries and only offered data specific to the region. A more thorough analysis indicated that the regions most frequently examined in fast-food research were the United States (24) followed by East Asia (17) and Western Europe (13). Some countries such as Peru, Mexico, Sweden, England, Denmark, Finland, Spain have only conducted fast-food research once. This demonstrates the widespread interest in the study of fast-food throughout America, Europe, Asia, and Africa.

Table 8: Countries investigated in fast-food research

Country	No. of articles	References
USA	20	Romero et al. (2018); Milici and Harris (2020); Rogus (2018)
South America		
Peru	1	Buttorff et al. (2015)
Brazil	3	Machado et al. (2017); Mazzonetto and Fiates (2014)
North America		
Mexico	1	Hernandez-F et al. (2021)
Canada	2	Souiden at al. (2019); Henson et al. (2010)
Asia		
Turkey	3	Can (2023); Sarica et al. (2021)
East Asia (China, Japan)	17	Teng (2009); Veeck (2020); Oe and Weeks (2022)
Southeast Asia (Singapore, Philippines, Taiwan, Malaysia, Cambodia)	6	Lim et al. (2021); Sun (2008); Lacap et al (2023); Sigh (2018)
Southern Asia (India, Iran, Pakistan)	6	Sondhi (2014); Ghoochani (2018); Asghar (2023)
Europe		
Northern Europe		
Sweden	1	Neuman (2014)
England	1	Pechey (2019)
Ireland	2	Crofton (2020); Flaherty (2020)
Denmark	1	Hertz and Halkier (2017)
Finland	1	Kantola et al. (2023)
Southern/ Southeastern Europe (Italy, Portugal)	9	Verneau et al. (2014); Duarte and Teixeira (2021)
Southwestern Europe (Spain)	1	Macein et al. (2023)
Central Europe (Germany, Austria)	6	Mohr et al. (2019); Steiner and Florack (2023)
UK	7	Farrar et al. (2022); Collins et al. (2019); Mallinson et al. (2016)
Western Europe (Netherlands, France, Belgium)	13	Waterlander et al. (2014); Degreef (2015); Watson (2023)
Australia	5	Niven et. (2019); Hunter and Worsley (2009)
Africa (Nigeria, Ghana)	4	Iwarere and Fakokunde (2007); Omari (2007)
Multiple Countries	14	Rodda et al. (2020); Lindstrom et al. (2023); Kellershohn et al. (2021)
Without country mentioned	24	Osman and Thornton (2021); Ma and Zhuang (2021)

5.3 Characteristics (C)

The independent, mediating, dependent, and moderating factors discovered in fast-food research literature are summarised in this part.

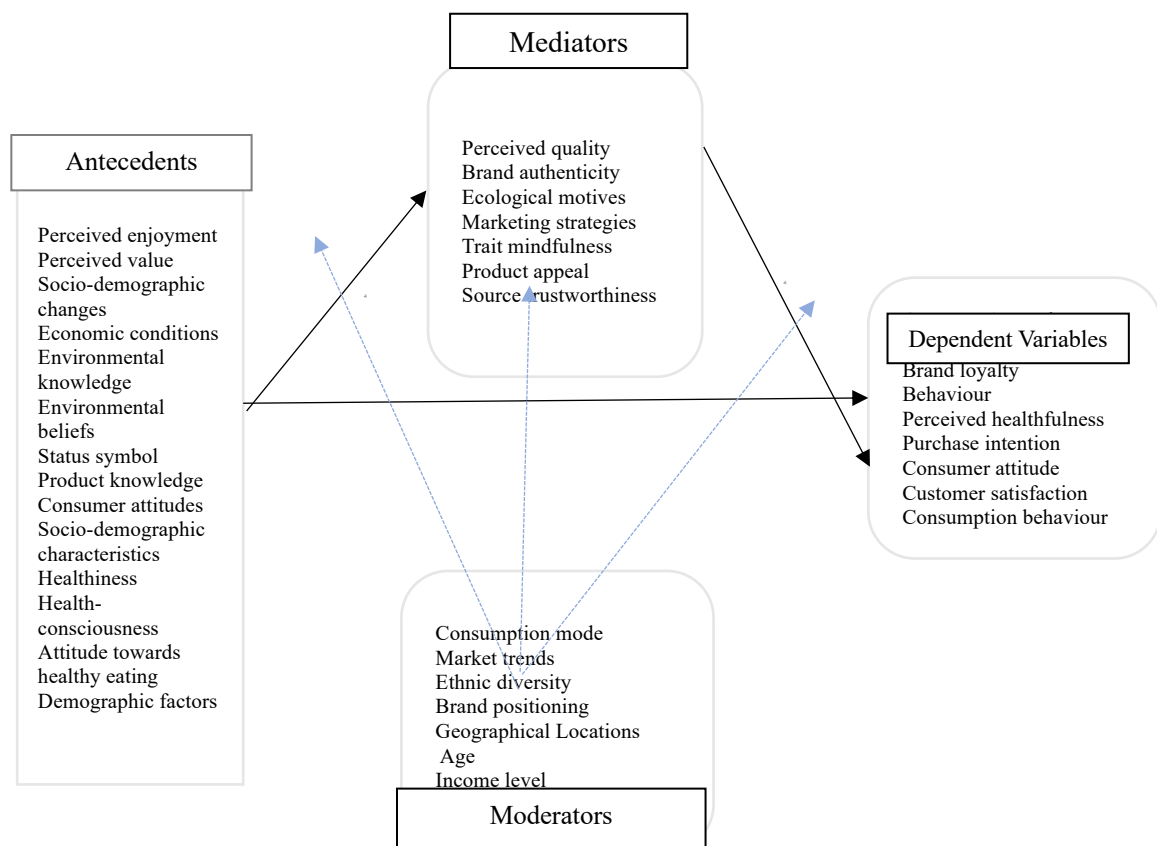
Table 9 classifies the variables in accordance with the theme of the analysis. Furthermore, as depicted in Figure 6, this publication provides a comprehensive theoretical framework for fast food research.

Table 9: Variables examined in studies on fast-food.

Variables	No. of articles	References
<i>Independent Variables</i>		
Perceived value	1	Lacap et al. (2023)
Perceived enjoyment	1	Lacap et al. (2023)
Socio-demographic changes	1	Romero et al. (2018)
Economic conditions	1	Romero et al. (2018)
Environmental knowledge	2	Watson et al. (2023); Milici and Harris (2020)
Status symbol	1	James et al. (2019)
Product knowledge	1	Shen and Chen (2020)
Consumer attitudes	1	Migliore et al. (2020)
Socio-demographic characteristics	4	Mc Arthur et al. (2018); Poelman et al. (2021); Mackenbach et al. (2022); Macein et al. (2023)
Healthiness	1	Grasso and Jaworska (2020)
Health-consciousness	1	Aksoy et al. (2021)
Attitude towards healthy eating	1	Aksoy et al. (2021)
Demographic factors	3	Mallinson et al. (2016); Moran MPH et al. (2017); Grzelak and Maciejczak (2013)
<i>Dependent Variables</i>		
Loyalty	1	Lacap et al. (2023)
Consumer's purchase decision	1	Seko et al. (2020)
Brand loyalty	2	Watson et al. (2023); Milici and Harris (2020)
Behaviour	2	Screti et al. (2024); Oe and Weeks (2022)
Perceived healthfulness	1	Iles et al. (2017)
Purchase intention	1	Shen and; Chen (2020)
Consumer attitude	2	Lacap et al. (2023); Grasso and Jaworska (2020)
Customer satisfaction	1	Oe and Weeks (2022)
Consumption behaviour	1	Verneau et al. (2014)
<i>Moderator Variables</i>		
Socio-cultural factors	1	Mallinson et al. (2016)
Behavioural traits	1	Mallinson et al. (2016)
Consumption mode	1	Finkelstein and Fiscbach (2010)
External influence	1	Macein et al. (2023)
Market trends	1	Grasso and Jaworska (2020)
Ethnic diversity	1	Screti et al. (2024)

Brand positioning	1	Watson et al. (2023)
<i>Mediating Variables</i>		
Perceived quality	1	Seko et al. (2020)
Brand authenticity	1	Tshiangala and Nhedzi (2022)
Ecological motives	1	Sandran et al. (2020)
Marketing strategies	1	Basch and Fera (2021)
Product appeal	1	Pechey et al. (2019)
Trait mindfulness	1	Farrar et al. (2022)
Source trustworthiness	1	Shamhyuenhanzva et al. (2016)

Figure 6: Comprehensive conceptual framework for research on fast food marketing



5.3.1 Independent Variables

The independent parameters in this study include perceived value, perceived enjoyment, socio-demographic changes, economic conditions, environmental knowledge, status symbol, product knowledge, consumer attitudes, and socio-demographic characteristics and many more are highlighted in this research.

5.3.2 Mediating and moderating variables

There were seven studies that incorporated mediating variables. The current review indicates that the mediating variables included perceived quality, brand authenticity, ecological motives, marketing strategies, product appeal, trait mindfulness and source trust worthiness.

The review identified only seven studies that incorporated moderating variables such as socio-cultural characteristics, behavioral traits, consumption mode, external influence, market trend, ethnic diversity, and brand positioning.

5.3.3 Dependent variables

It was discovered through the examination of dependent variables that research on fast food was primarily concerned with factors such as loyalty, consumer purchase decision, brand loyalty, behaviour, perceived healthfulness, buy intention, consumer attitude, customer satisfaction, and consumption behaviour. The most desired result was consumer attitude, which is often studied since it relates to buying behaviour (Lacap et al., 2023; Grasso and Jaworska, 2020).

5.4 Methods (M)

According to the current study, five research strategies were used by fast-food academicians to study the topic: case studies, mixed-methods, qualitative, quantitative, and conceptual papers (Figure 5). Lists in Table 10 also shows the analytical methods and research tools used in the fast-food industry.

The majority of fast-food studies (64 studies) employed quantitative data, whereas 27 studies used qualitative data). Only one study used conceptual papers or case studies, whereas seventeen studies employed the mixed method. SEM, modelling, and many more research instruments were used in quantitative approaches. SEM (Structure equation modelling) was most widely used in six studies.

Table 10: Methods adopted in consumption of fast-food

Method	No. of articles	References
Qualitative	27	Screti et al. (2024); Cohen et al. (2020); Crofton and Scannell (2020)
Quantitative	64	Veeck et al. (2020); Luick et al. (2023); James et al. (2019)
Research tools		
Simulation	1	Zinko et al. (2021)
Others (Secondary data)	41	
Analysis Techniques	7	
SEM	6	Shen and Chen (2020); Lefrid (2021)
Case study	1	Lim and Loh (2013)
Mixed-methods	17	Romero et al. (2017); Lorgnier et al. (2022)
Conceptual	1	Jackson and Veihoff (2016)

6 Future Research Directions

The present study provides evidence of various potential avenues for future research through the application of bibliometric analysis and the TCCM framework. Paul and Rosado-Serrano's (2019) TCCM paradigm has been used to reevaluate and reorganise the agenda. The effectiveness of this framework in determining research needs in four critical areas—theory development, settings, characteristics, and methodologies—justifies its use. Hence, the next section lays out the future research agenda for fast-food studies, developed using the TCCM model.

6.1 Theory development

A thorough review of the literature shows that the stimulus-organism-response model and the theory of planned behaviour are the most popular theories used in fast-food research. However, various ideas can be applied to the study such as social cognitive theory and expectancy-value theory.

In this respect, schema congruity theory (Zinko et al., 2021) helps explain why certain fast-food marketing strategies succeed or fail and how the consumers form opinions about new fast-food products, brands, or health claims. According to Social Cognitive Theory (Flores-Vazquez et al., 2024), individuals acquire behaviours through observation of others. In the context of fast food, consumers may acquire information regarding the perceived healthfulness of fast food from social media influencers, celebrities, or role models. Expectancy-Value Theory (Lin and Roberts, 2020) investigates the manner in which individuals evaluate the advantages and disadvantages of fast food and the extent to which social pressure affects their decisions.

Furthermore, to develop integrated models that combine elements from multiple theories to better capture the multi-faceted nature of consumer perception and attitudes towards fast-food healthiness.

The consumer culture theory (Srivastava et al., 2022) examines the socio-cultural and the experiential aspects of consumer behaviour, providing insights into how cultural and societal norms shape perceptions of fast-food healthiness. By combining several theories like Theory of Planned behaviour, Social Cognitive theory, Consumer culture theory and cognitive dissonance theory it would help better understand and predict consumer perception and attitude.

6.2 Contexts

A thorough study into fast-food research has been conducted in 33 countries, with the United States being the primary source of empirical data. China, Japan, the Netherlands, France, and Belgium follow closely in terms of data contribution. Though the data was scattered over several sites, the goal of the fast-food research was to include data from both developed and developing nations that have been under-represented in current bodies of literature. Additionally, an analysis of subjects related to cross-cultural features and the variations in fast food in search of similarities or contrasts might be valuable in a study integrating the marketplaces of other countries. Therefore, this research recommends that researchers in the future employ cross-cultural studies to perform comparison studies across cultures to better understand how cultural norms and values influence perceptions of fast-food healthfulness. Furthermore, the examination of demographic variables, including age, gender, and lifestyle, can significantly impact individuals' perceptions and attitudes towards the healthiness of fat-based food. This analysis has

the potential to provide valuable insights for personalising strategies in the context of fast-food establishments.

6.3 Characteristics

The analysis of the literature indicates that the authors of the different publications concentrated on the variables such as perceived value, socio-demographic changes, urbanisation, perception of healthiness, health-consciousness, behaviour, purchase intention, customer satisfaction, product appeal and brand positioning with the integration of TCCM framework and also focused on perception, belief and health-consciousness congruent with theoretical foundation clusters derived from the bibliometric analysis. Future fast-food research should concentrate on the role of health consciousness and personal health goals in shaping attitudes towards healthier fast-food options. Earlier work has concentrated on the consumer perception towards fast-food and its adverse effects on health. Consequently, it is essential to monitor additional constructions of interest in future research.

The impact of brand reputation and marketing strategies on consumer attitudes towards fast-food health claims have questioned the restaurants' claims on healthy products. The role of health-consciousness (Sandran et al., 2020) and personal health goals in shaping attitudes towards healthier fast-food options are another vital areas for future research.

6.4 Methods

The review at hand shows that because fast-food studies are so diverse, quantitative research methodologies (such modelling and experiments) were often used in them. With the use of new advanced methods like behavioural economics, the future researchers can apply principles from this domain too study how consumer decision-making processes regarding fast-food choices are influenced by various psychological factors.

The second commonly used method is qualitative (e.g interviews, focus group discussions) to gain deeper insights into the underlying reasons behind consumer attitudes and behaviours. Furthermore, with only 17 articles, mixed methods research has been mostly neglected in the discipline. The study suggests that in order to further explore fast-food research with the moderator of health consciousness, future researchers should utilize mixed research methodologies. Conceptual papers and case studies are among the least commonly used research approaches. The current study also encourages academics to consider these strategies, taking into account their ability to integrate and suggest distinct links between variables in a consistent and logical manner.

7 Conclusions

The present review offers an in-depth exploration of consumer's perception and attitudes towards the healthiness of fast-food. Fast food qualities such as nutritional information, ingredients, and brand image plays a significant role in influencing the perception of consumers. Clear and accurate nutritional labelling can enhance the perceived healthiness of fast food, but misleading or missing information might contribute to unfavourable judgements.

This study illuminates the diverse nature of consumer attitudes and the complex interplay of numerous elements impacting these perceptions by employing the Paul and Rosado-Serrano's (2019) TCCM framework followed by the bibliometric study. The implementation of these two

techniques is essential for comprehending the fast-food literature between 1996 and 2024. The bibliometric analysis applied in the overview section is crucial in identifying the key research trends and patterns in the field. It helps to map the evolution of research on consumer perceptions of fast-food healthiness, highlighting shifts in focus and emerging areas of interest. By doing so, it is possible to have a thorough understanding of how the area has evolved over time. The analysis depicts the geographical distribution of research contributions, highlighting top countries and institutions in the subject. This geographical perspective aids in understanding regional research goals as well as the global distribution of knowledge on fast-food healthiness.

According to the findings, there was a minor decline in fast-food research from 2021 to 2024, presumably as a consequence of the COVID-19 pandemic in 2020. Fast-food research experienced substantial increase between 1997 and 2021. The year 2021 was the most popular in the sector, however the most impactful research took place between 2019 and 2020. In terms of research, Poelman et al.'s study from 2021 is the most influential, and the most prominent journal is *Appetite*. The top three universities shown in Figure 4 has the highest affiliation with the largest number of publications and citations contributed by the US. The study also showed the broad theoretical basis of the fast-food literature, as well as the connections between the publications. The TCCM framework explored further in-depth insights into theories, settings, characteristics, and methodologies, providing a roadmap for future scholars (Behera and Kumra, 2023; Kumar et al., 2023). The commonly used theories are the theory of Planned Behaviour and stimulus-organism-response theory. Also, TCCM helps in combining multiple theoretical perspectives, such as the Health Belief Model, Theory of Planned Behaviour, Social Cognitive Theory, Cognitive Dissonance theory, and Consumer Culture Theory. This integration provides a comprehensive understanding of consumer attitudes by capturing various dimensions of health beliefs, behavioural intentions, social influences, and cultural norms. It also supports the use of a diverse range of research methods, combining qualitative and quantitative approaches to gather comprehensive data. Surveys, experiments, focus groups, and interviews are employed to capture a wide array of insights and perspectives.

8 Theoretical and Practical Implications

This study provides a significant contribution by conducting an in-depth review of current fast-food research and recommending theoretical, contextual, and methodological approaches for future research. The TCCM framework provides a comprehensive overview of the existing literature on this topic by identifying the theories, countries, characteristics (i.e., variables), and approaches utilised among the studies (Saikia and Bhattacharjee, 2023).

The study contributes to consumer behaviour theories by including insights into how perceptions and attitudes towards fast food are developed and influenced by a variety of factors. It has the potential to refine existing theories about health perception and consumer decision-making. This review paper emphasizes the need for integrating various theoretical frameworks to comprehensively understand consumer perceptions and attitudes towards the healthiness of fast-food. This multidisciplinary approach provides a richer understanding of the factors influencing consumer behaviour.

It suggests that consumer attitudes towards fast-food healthiness are dynamic and can change over time because of multiple factors, including public health campaigns, changes in fast-food

offerings, and global events like pandemics. Theoretical models should incorporate temporal elements to understand how consumer perceptions evolve and the factors driving these changes. Moreover, the present study concluded a hybrid review methodology that combines a bibliometric analysis review with the TCCM framework. A deeper comprehension of the research domain is possible using the hybrid review approach.

The key practical implications for the **fast-food companies** would be menu reformulation and innovation. In this study, various variables have been identified which influences the fast-food restaurants and from this we can conclude that for healthier options, they can create and introduce healthier menu choices that are fewer in calories, fats, sugars, and sodium but higher in vital elements like fibre, vitamins, and minerals. The restaurants can also consider plant-based alternatives and whole-food ingredients that are consistent with current health trends (Alcorta et al., 2021).

For portion control, they can offer lower portion sizes and clearly specify serving sizes to assist customers in making informed choices.

The findings obtained from this analysis provide substantial implications for policymakers, public health professionals, and the fast food industry. Policymakers can use this insights to design targeted interventions that will address the specific needs and perceptions of different demographic groups. The fast-food business can use these findings to improve and market healthier options, improve nutritional labelling, and build a positive brand image to align with consumer expectations of healthiness.

The implications for consumers would be informed decision-making. For nutritional awareness, educate oneself about the nutritional content of fast-food items and make informed choices based on personal health goals and dietary needs and for healthy substitutions, look for and choose healthier substitutions available on the menu, such as opting for grilled instead of fried items, or choosing water over sugary drinks.

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