

Consumer knowledge in marketing: a critical review and research agenda

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Abstract

Purpose – The purpose of this study is to critically review consumer knowledge in marketing and propose a future research agenda. Despite the many works that have examined this variable, given its strong influence on behaviour, it has generally been studied in association with other constructs, and no studies have focused on it in a specific way. Its definition, measurement and approaches to its role and usefulness are superficial and underdeveloped. After structuring and analysing the existing literature, the authors establish, (I) which aspects are of little use to the discipline, and (II) which research lines have the most potential and should be developed and studied in greater depth, to advance and complete the existing consumer knowledge framework.

Design/methodology/approach – A search was undertaken for documents in the main databases in which the term “consumer knowledge” appears in a marketing or consumer context, and a critical and reflexive approach was taken to analyse the main contributions and to structure them by content blocks.

Findings – Five main content blocks were identified. A set of research gaps were detected, mainly related to the lax conceptualisation of the topic, measurement problems and the scarcity of more useful works connected with business management, and several research lines are proposed that complement the existing framework to make it more complete and operational.

Originality/value – This paper offers a critical review and proposes a research agenda for one of the most used but little studied variables in the field of marketing, which may help academics and professionals in the discipline to continue developing useful theories and models.

Keywords Information, Consumer knowledge, Objective knowledge, Consumer behaviour,

Paper type Literature review

Conocimiento del Consumidor en Marketing: Revisión Crítica y agenda de Investigación

Resumen

Objetivo – El objetivo de este trabajo es revisar críticamente el conocimiento del consumidor en marketing y proponer una agenda de investigación futura. A pesar de los numerosos trabajos que han examinado esta variable, dada su fuerte influencia en el comportamiento, generalmente se ha estudiado en asociación con otros constructos, y ningún estudio se ha centrado en ella de manera específica. Su definición, medición y aproximaciones sobre su papel y utilidad son superficiales y poco desarrollados. Después de estructurar y

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analizar la literatura existente, establecemos (I) qué aspectos tienen poco uso para la disciplina y (II) qué líneas de investigación tienen más potencial y deben ser desarrolladas y estudiadas con mayor profundidad; para avanzar y completar el marco existente sobre conocimiento del consumidor.

Diseño/metodología/enfoque – Se realizó una búsqueda de documentos en las principales bases de datos en las que aparece el término “conocimiento del consumidor” en un contexto de marketing o consumo, y se adoptó un enfoque crítico y reflexivo para analizar las principales contribuciones y estructurarlas por bloques de contenido.

Resultados – Se identificaron cinco bloques principales de contenido. Se detectó un conjunto de huecos de investigación, principalmente relacionados con la laxa conceptualización del tema, problemas de medición y la escasez de trabajos más útiles conectados con la gestión empresarial; y se proponen varias líneas de investigación que complementan el marco existente para hacerlo más completo y operativo.

Originalidad – Este documento ofrece una revisión crítica y propone una agenda de investigación para una de las variables más utilizadas pero poco estudiadas en el campo del marketing, lo que puede ayudar a académicos y profesionales en la disciplina a continuar desarrollando teorías y modelos útiles.

Palabras clave conocimiento del consumidor, conocimiento objetivo, información, comportamiento del consumidor

Tipo de papel Revisión de literatura

市场营销中的消费者知识：批判性评述与研究议程

摘要

目的 – 本文旨在对市场营销中的消费者知识进行批判性审视，并提出未来的研究议程。虽然已有许多研究检验了该变量，但由于其对行为产生强大影响，通常会与其他结构变量一起研究，而没有以特定方式专注于该变量。对其定义、测量以及其作用和用途的方法仍旧存在研究空白。通过对现有文献进行结构化分析后，确定了以下两个方面：(I) 哪些方面对该学科意义不大，(II) 哪些研究方向最具研究潜力，并且应该进一步深入发展和研究，以推进和完善现有的消费者知识框架。

设计/方法/途径 – 通过主要数据库检索市场营销或消费者背景下涉及“消费者知识”一词的文献，采取批判性和反思性方法来分析其主要贡献，并通过内容块对其进行结构化。

发现 – 识别了五个主要内容块，并发现存在一定程度的研究空白，主要涉及该主题的概念松散化、测量问题以及与管理相关的有效研究的稀缺性。此外，本文提出了几个研究线索，这些线索为现有框架补充了信息，使其更加完整且具备更强的操作性。

独创性 – 本文对市场营销领域中广泛使用但研究较少的变量进行了批判性评述，并提出了相关研究议程。这一工作有助于学术界和专业人士继续发展实用的理论和模型。

关键词 消费者知识, 客观知识, 信息, 消费者行为
文章类型 研究型论文

1. Introduction

If one had to select just one universal variable of consumer behaviour that is present in all purchase/consumption decisions, it would probably be consumer knowledge. It has been considered to be one of the strongest predictors of consumers' behaviours (Beghin and Gustafson, 2021; Dodd *et al.*, 2005; Festa *et al.*, 2016; Hoque *et al.*, 2018; Likoudis *et al.*, 2015), is relevant for understanding consumers actions (Alba and Hutchinson, 2000; Lewellyn, 2021; Park *et al.*, 1994) and has been shown to be present in all phases of the purchase process (Laroche *et al.*, 2003). In turn, it is the basis on which other behavioural determinants have been formed (Fazio, 2007; Fishbein, 1963; Gil and Soler, 2006; Solomon *et al.*, 2010), and is a mediating or moderating variable widely used in the explanation of consumer behaviour. Thus, it is easy to understand that knowledge forms part of or is behind many of the constructs used in marketing to explain consumer behaviour. Therefore, it can be clearly identified with the cognitive component of attitude, beliefs, perceptions or image, thoughts or values, or the results of the behaviour of theories such as reasoned action or planned behaviour. Consequently, knowledge could play a key role in purchase, consumption or in generating certain consumer behaviour in relation to a product or service. This would be the

case of product categories in which the image of the generic product is more important than the image of specific brands; products with functional advantages (Pounis *et al.*, 2011; Ong *et al.*, 2014; Xin and Seo, 2019); products in which there is a high level of confusion in the market; or in the case of new products, unknown to the consumer, where information and knowledge are crucial for purchase (Bica *et al.*, 2023; Graciano *et al.*, 2022; Lermen *et al.*, 2023; Tuu and Olsen, 2012).

However, although a great deal of research has examined consumer knowledge, this has generally been in association with other constructs and no studies have focused on it in isolation. In general, it tends to have been treated as of secondary importance in research, as an accompanying variable used to explain more clearly relationships between other variables. In this context, there are numerous studies that relate knowledge to consumption (Gambaro *et al.*, 2013; Garrido-Castro and Torres-Ruiz, 2019; Wang and Hazen, 2016), involvement (Lutz *et al.*, 1983; Park and Moon, 2003; McClure and Seock, 2020; Recchia *et al.*, 2012; Roe and Bruwer, 2017), search and processing of information (Alba and Hutchinson, 1987; Jamil *et al.*, 2022; Park *et al.*, 1992, 1994; Perrouty *et al.*, 2006; Peschel *et al.*, 2016; Puligadda *et al.*, 2010; Wirtz and Mattila, 2003), favourable attitudes and willingness to pay more (Chaihanchai and Anantachart, 2023; Cordell, 1997; Fatha and Ayoubi, 2023; Hossain *et al.*, 2022; Marakis *et al.*, 2021; Oh and Abraham, 2016; Piha *et al.*, 2018), loyalty (Chiou *et al.*, 2002; Espejel *et al.*, 2009; Sharma *et al.*, 2022) satisfaction (Espejel *et al.*, 2009; Lin *et al.*, 2018; Salameh *et al.*, 2022), perceived quality (Aksoy and Ozsonmez, 2019; Cicerale *et al.*, 2016; Espejel *et al.*, 2009) or purchase intention (Bamber *et al.*, 2011; Ercis and Celik, 2018; Lee *et al.*, 2020; Wang *et al.*, 2019; Zhang *et al.*, 2023), among others, in the context of multiple products and services.

Probably for this reason (that study of consumer knowledge in association with other variables), it has only been studied partially, i.e. its theoretical and operational development is limited. Its definition, measurement and approaches to its role and usefulness in marketing are superficial and underdeveloped, the understanding of knowledge can be further advanced and looked into and its study completed with new research and focuses. This highlights a certain imbalance in the research, where important central questions about consumer knowledge have been largely ignored. For example, what does the consumer have to know to consume? How to increase the consumer's knowledge in low involvement contexts? In addition, other concepts of less use to the discipline, for example, the effects of the consumer's confidence in what (s)he knows on the ease of modifying his/her beliefs, have been studied in greater depth. Thus, important gaps exist which, in turn, suggest interesting lines of research that could increase the understanding, research potential and usefulness of consumer knowledge for academic and professional marketing.

In this sense, the present work considers several important aspects of consumer knowledge that have not been addressed or have not been the object of sufficient interest and analysis from previous studies. Specifically, this paper undertakes a critical analysis of the content of literature with three objectives: firstly, to structure and systematise the existing literature into content blocks by synthesising the main thematic strands and their characteristics. Secondly, to establish which lines/aspects seem less useful or promising, and those which show potential and should be further developed. Thirdly, based on a content analysis, to propose a research agenda, highlighting some dimensions or lines, that could contribute to increase the study and usefulness, of consumer knowledge in the field of marketing.

2. Method and structure

Following the methodology used in other recent review works (Aleem *et al.*, 2022; Arici *et al.*, 2022; Branca *et al.*, 2023; Cano-Marin *et al.*, 2023; Denyer *et al.*, 2008; Nguyen *et al.*, 2018; Xiao and Nicholson, 2013), a qualitative, critical and reflexive analysis was undertaken of the

specific content of each contribution. As part of the process, after an initial search for documents in the main databases (WOS and SCOPUS) in which the term “consumer knowledge” appears in a marketing or consumption context (1.056 in WOS and 1.423 in Scopus), and in the most interesting bibliographic references of the documents and after eliminating duplication, key works which met one of the following criteria were selected:

- they constituted an important theoretical-conceptual contribution:
- they represented, due to the frequency with which they were cited, their depth and/or content, one of the main blocks of content selected (these blocks are subsets of generic knowledge and consist of articles with common content, related to questions such as what knowledge is, how many types of knowledge exist and how they are associated); and
- they support, through their arguments and criticisms, the proposals we make in the present study (Table 1). The contributions selected form the basis for the work and analysis carried out in the present study.

In summary, the approach adopted is basically integrative (Snyder, 2019) critising and synthesising the findings of previous works, offering new frameworks and perspectives (Torraco, 2005). Note that the purpose of this type of review is not to cover all articles ever published on the topic but rather to combine perspectives and insights from different research, and the process to collect the data is more creative than other approach like systematic literature review (Snyder, 2019).

Specifically, the aim of this work is to identify and analyse the main blocks or dimensions related to consumer knowledge, its content, potential, limitations, problems and new directions and opportunities for research. For each, the content is presented and a critical analysis is carried out. This analysis is the basis for the final part of the present study, in which we propose a research agenda.

3. An overall view

Everyone has an intuitive idea of what consumer knowledge is. In a broad sense, it could be considered as “information in the mind of the consumer”. All information regarding aspects of the product, beliefs, uses, how to preserve it, positive and negative effects of its use, impact of its use on the environment and on the person, social acceptance or rejection of the product, the profile of people who use it, etc., can be considered to be consumer knowledge.

Table 1.
Method for the review

	<i>1°. Search terms and search strings</i>
Search term Database	<ul style="list-style-type: none"> • Consumer knowledge • WOS search string: TS = consumer knowledge • Scopus search string: TITLE-ABS-KEY = {consumer knowledge}
Filter 1	<i>2°. Remove duplicate studies</i>
Filter 2	<i>3°. Selection criteria</i>
Filter 3	To constitute an important theoretical-conceptual contribution To be included in one or more of the main blocks of content selected To support the proposals made in this paper
	<i>4°. Analysis and synthesis of literature into blocks</i>
	<i>5°. Problems detected and research agenda</i>

Moreover, it is easy to acknowledge that knowledge is part of or underlies many of the constructs used in marketing to explain consumer behaviours. Thus, consumer knowledge can be clearly identified with the cognitive component of attitude, with beliefs, perceptions or image and with the behavioural outcomes of theories such as the theory of reasoned action and theory of planned behaviour. In short, consumer knowledge is information, and many constructs used in marketing have an information base.

In this sense, the first point that strikes one about the study of consumer knowledge is that the literature has been little concerned with the core aspects of this knowledge, that is, what specifically does the consumer know and how does it affect his or her behaviours? Rather, the research focus has been put on collateral aspects of lesser importance, both for theoretical development and marketing decision-making. In this context, while, on the face of it, it seems fairly obvious what consumer knowledge actually is, many contributions have focused on the *concept* and *content* of consumer knowledge, raising the questions what is and what is not consumer knowledge and how useful are certain conceptions or approaches towards the subject? Another important (and closely related) dimension is *types of knowledge*, which raises the questions of whether there really are different types, whether they are useful for the study of consumer behaviour and whether they are interchangeable. In this regard, many contributions have examined the *relationships between types of knowledge*, and produced varying results based on the study context and the methodologies used. Another large body of work has focused on the *explanatory power* of consumer knowledge in relatively complex behavioural models, either as a mediating and/or a moderating variable. Although varied in their content, questions arise about the usefulness of the results of these studies and the extent to which they are trivial or self-evident.

The content analysis highlighted the strong influence of [Brucks' \(1985\)](#) seminal work on all subsequent conceptual theoretical development and, in the opinion of the authors of the present study, on the issue of consumer *knowledge measurement* as the subject has evolved. We elaborate on these dimensions in the following sections. Finally, it is noteworthy that the prior literature has not addressed the problem of knowledge management. In contrast to other variables that have a major impact on consumption (culture, lifestyle, etc.), and which are very difficult to influence or modify, what consumers know can be managed through communication campaigns. However, selecting what consumers need to know to adopt behaviours has aroused scant interest in the literature, despite its undoubted usefulness for decision-making.

4. Consumer knowledge definition

While many studies have analysed consumer knowledge, few have offered definitions of the variable, probably because of the simplicity of the concept ([Flynn and Goldsmith, 1999](#)) or because its nature seems to be so intuitively self-evident as to need no further explanation. In these studies, consumer knowledge has been identified with the level or degree of information that the consumer possesses about a product and/or service, which suggests that there is some agreement or consensus in the literature on what is meant by consumer knowledge. However, this conception of “degree” or “level” (quantity) reflects a constant theme in the literature: consumer knowledge has always been used as an instrumental or mediating variable in more complex models. To this end, attempts have been made in causal relationship models to quantify degree of knowledge with a numerical variable.

Some “classic” definitions are in line with this conception, for example, [Brucks \(1985\)](#) and [Rao and Monroe \(1988\)](#). In these widely used definitions, consumer knowledge is understood as the degree of experience and familiarity of the individual with a product prior to an

external search for information. In addition, [Engel et al.'s \(1990, p. 281\)](#) definition is widely used: knowledge is "information stored in memory".

This quantitative and majority-held conception of consumer knowledge highlights two important problems/gaps in the literature. Firstly, there is an excessive trivialisation of consumer knowledge, as not all pieces of information have the same importance and value for the consumer in the purchasing process (e.g. irrelevant information may be stored in the memory). Similarly, consumer knowledge may have other dimensions of interest (e.g. the distinction between recognition and memorisation). Secondly, the focus is on quantity rather than quality. However, analysing specifically what the consumer knows may be more important than how much (s)he knows, since much of the information stored in memory may be irrelevant for the decision-making process. Knowing a specific aspect about a product may have more explanatory power for consumer behaviour than a synthesised number which quantifies the degree of general product knowledge.

Some later definitions have qualified this classic, general perspective of consumer knowledge. [Bonti-Ankomah and Yiridoe \(2006\)](#) identified consumer knowledge with certain and justified beliefs. For [Bamber et al. \(2011\)](#), consumer knowledge is the cognitive representation of product-related experience in the consumer's memory; it includes representations of brands, product attributes, uses, product category information and choice rules ([Marks and Olson, 1981](#)). [Rezvani et al. \(2012\)](#) described consumer knowledge as information about the functional characteristics of products and brands. [Kim et al. \(2016\)](#) argued that it reflects the consumer's purchase decision about a product, which is influenced by the properties of the product and his/her experience. In the same vein, [Donoghue et al. \(2016\)](#) defined consumer knowledge as his/her store of product information, that could be useful in his/her purchasing process, in his/her memory/thoughts. Finally, [Aksoy and Ozsonmez \(2019\)](#) identified it with the information derived from a person's thoughts and experiences.

The analysis of these more recent definitions highlights that, relatively, there is agreement on the general idea that consumer knowledge represents the degree of information that consumers possess about a product and/or service. However, a number of nuances can be identified in approaches to the study of knowledge, which suggests that further research gaps exist (see [Table 2](#)). Although these nuances may seem superficial, they can have a major influence on how consumer knowledge and its implications are studied.

5. Types of knowledge

The existing literature on consumer knowledge seems to agree on the multidimensional character of the variable, in the sense that different, although partially related, aspects can be grouped under the term. However, some works, dating back decades ([Bettman and Sujun, 1987](#); [Johnson and Russo, 1984](#); [Kiel and Layton, 1981](#); [Mitchell and Dacin, 1996](#); [Moore and Lehmann, 1980](#); [Newman and Staelin, 1973](#); [Rao and Monroe, 1988](#); [Wright and Lynch, 1995](#)) regarded consumer knowledge as a unidimensional variable and identified it simply as amount of experience or prior knowledge ([Alba and Hutchinson, 1987](#)).

In this context, [Brucks' \(1985\)](#) classic classification distinguished three dimensions within the concept: objective knowledge, subjective knowledge and prior experience. This classification is widely known and used in the literature, is still fully valid and has been applied in recent works, such as those of [Aqueveque \(2018\)](#), [Piha et al. \(2018\)](#) and [Vigar-Ellis et al. \(2015a\)](#).

Objective knowledge. is understood to be the precise product-related information that consumers have stored in their long-term memories. The focus is more on actual product-

Author/s	Definition	Questions and reflections
Bonti-Ankomah and Yiridoe (2006)	True and justified beliefs	Is the information true/correct? And what is true? There is not always scientific consensus on this. Similarly, mistaken beliefs are also stored information and affect the buying process. With limited information and, through inferences, beliefs and conclusions with an impact on behaviour can be developed. Would this not also be knowledge?
Bamber <i>et al.</i> (2011)	Cognitive representation of product-related experience in the consumer's memory	One can have information (knowledge) about a product without having experience of it as a consumer
Rezvani <i>et al.</i> (2012)	Information about functional characteristics of the product/ brands	Talking only about functional characteristics may be too restrictive (information of a symbolic and experiential nature also exists)
Kim <i>et al.</i> (2016)	Variable that reflects the consumer's purchase decision about a product, influenced by the properties of the product and his/her experience	Confusion of knowledge with experience. Confusion of knowledge with purchase outcome
Donoghue <i>et al.</i> (2016)	Storage of product information that might affect the consumer's consumption decision, in his/her memory/thoughts	Although consistent with the marketing approach, does consumer knowledge only consist of information related to the purchase?
Aksoy and Ozsonmez (2019)	Explanation of information derived from a person's thoughts and experiences	There can be a significant gap between stored information and people's abilities to explain it. Knowledge is confused with how to access knowledge

Table 2.
Definitions and reflections on the concept of consumer knowledge

category-related issues than on perceptions (Brucks, 1985; Park *et al.*, 1994). Moreau *et al.* (2001) described objective knowledge as a measure of how much actual knowledge a consumer has about a particular subject matter, and involves knowledge about products, their performance, their attributes and the relationships between different product characteristics. In the same vein, Lee and Lee (2009) identified it with information about product characteristics. For Vigar-Ellis *et al.* (2015a), it was real knowledge, or knowledge of the truth, which can be demonstrated by correctly answering questions about a given product or issue (Robson *et al.*, 2014; Vigar-Ellis *et al.*, 2015a). In short, it is the actual knowledge that a consumer possesses about a product or brand.

In this respect, it is important to acknowledge the problem (mentioned above) regarding the exclusive association of consumer knowledge with quantity and "certain" beliefs. In many instances, it is not clear what is true and what is not. Even scientific information is sometimes contradictory, as is the case, for example, with the health properties of many foods.

On the other hand, *subjective knowledge* has been considered to be the consumers' perceptions of their levels of knowledge about a product, or their level of confidence about what they know about a product. Specifically, Park and Lessig (1981) described subjective knowledge as one's belief about the status of one's stored knowledge. Similarly, Brucks (1985, p. 2) described it as "what individuals perceive they know". Engel *et al.* (1990, p. 296) defined it as "consumers' impressions of their general knowledge and familiarity". Park *et al.* (1994, p. 71) spoke of "people's perceptions of what or how much they know about a type of product", and Raju *et al.* (1995, p. 154) identified it as "the feeling of knowing". Following this

line, Flynn and Goldsmith (1999, p. 59) spoke of “consumers’ perception of the amount of information they have stored in their memory” and Scribner and Weun (2000) pointed towards individuals’ perceptions of how much they know about a product category, including brands, attributes, evaluations, heuristics and usages. For Sääksjärvi *et al.* (2009), subjective knowledge varies depending on the consumer’s personal experiences. More recently, Vigar-Ellis *et al.* (2015a) defined it as self-assumed knowledge, identifying it with how much the individual thinks (s)he knows about a certain issue. Thus, in contrast to objective knowledge, that is, knowledge objectively measured, subjective knowledge captures the consumer’s perceptions of how much (s)he knows about a product (Bettman and Park, 1980; Park *et al.*, 1988), perceptions that may be correct or incorrect (Robson *et al.*, 2014).

In short, subjective knowledge is the degree of knowledge that consumers think they possess; it has been widely used in many empirical studies. However, an important criticism can be made about this subjective dimension, that is, the confusion between knowledge and perceptions of knowledge. Without denying its influence on consumer behaviours, it is important to recognise that self-perception is not knowledge and should not be confused with, or considered to be a substitute for, knowledge. It is simply another variable.

Finally, *prior experience* can be understood as knowledge about a product obtained through use. Bettman and Park (1980) defined it as the actual purchase and use behaviour with a product category, which includes three dimensions: information search regarding the product category, use or consumption of the product and ownership of the product. This use of the product provides the experience that builds the consumer’s knowledge about the product or category. Alba and Hutchinson (1987) described prior experience as the sum of past consumption activities related to a product. Rao and Monroe (1988) and Perrouy *et al.* (2006) described it as the number of experiences consumers accumulate with a product. Thus, many works have taken experience as the foundation of objective and subjective knowledge, relating it mainly to the latter (Dodd *et al.*, 2005; Park *et al.*, 1994), given that, through consumption experience, consumers build cognitive structures related to the product category (Alba and Hutchinson, 1987) and, consequently, their self-confidence about what they know about the product increases (Park and Lessig, 1981).

However, it should be noted that some authors have argued that experience is not knowledge *per se*, and its effects on consumers’ decision-making processes may be different from those caused by objective or subjective knowledge (Alba and Hutchinson, 1987). In this sense, Brucks (1985) argued that if different individuals learn different things from similar experiences, then their subsequent behaviours are also likely to be different.

Generally speaking, the use of experience as a substitute for consumer knowledge can be problematic. Thus, while the use or consumption of a product may provide information to the consumer, it does not necessarily equate to knowledge. It is possible to have a lot of experience with a product and yet know little about it. Despite the existence of clear indications that neither subjective knowledge nor experience should be considered consumer knowledge in the strictest sense, their extensive use in the literature is striking. The explanation for this probably lies in the comparative ease of measuring them.

In addition to Brucks’ classifications, many other works have proposed *other types of knowledge*. Alba and Hutchinson (1987) proposed that consumer knowledge is a multidimensional, two-part construct, composed of familiarity and expertise. These authors defined familiarity as the number of product-related experiences accumulated by the consumer. Although, as previously noted, experiencing a product does not necessarily mean that we know more about it. The second dimension, expertise, relates to the consumer’s ability to successfully perform the functions or tasks required of the product (Alba and Hutchinson, 1987), gained

through exploration, learning and repetition (another way, in the opinion of the authors of the present study, of describing product experience). In short, these contributions seem to mix, or confuse, the essence of consumer knowledge with how it is acquired or what use is made of it.

Parallel to these dimensions, categories of consumer knowledge have emerged based on type and degree of knowledge about products, phases of consumer behaviour, etc., which complicate the consumer knowledge concept. Rosch (1978) argued that consumers have different levels of knowledge. In this sense, Hastie (1982) distinguished between generic and individual product knowledge, generic being knowledge about a product category (attributes and relevant dimensions), and individual being specific knowledge about products in the category (price, characteristics, durability. . .). In this context, Russo and Johnson (1980) classified individual product knowledge on the basis of the individual's level of inference (degree to which information is processed and retained) and the associations (s) he makes between attributes and brands. Brucks (1986) proposed an eight-category typology for objective knowledge (terminology, product attributes, general attribute evaluation, specific attribute evaluation, general product use, personal product use and purchase-decision process), a more complete classification than that proposed by Hastie (1982).

In this context, we argue that these categories can be considered as dimensions of consumer knowledge, or referents of the information associated with a product in the memory. Given their abstract and relative nature, and the fact that these dimensions necessarily have to refer to concrete products, they can always be recast or some more can be proposed.

Similarly, Sujan (1985) and Alba and Hutchinson (1987) spoke of basic knowledge and specific knowledge, thus distinguishing common knowledge from specialised knowledge, giving rise to novice and expert consumers. Sääksjärvi *et al.* (2009) argued that basic consumer knowledge is the knowledge of the characteristics shared by products in the same class, including information about the product category and the benefits and disbenefits of its constituent products. Specific knowledge is a subset of basic knowledge, and consists of particular information about different products and brands within the same class, their differentiating characteristics, prices and packaging. Thus, a consumer with highly specific knowledge would probably also have high basic knowledge, although this relationship would not necessarily pertain in the reverse.

In short, it seems attempts to dichotomise consumers on the basis of their levels of consumer knowledge raise the problem of establishing the boundary between the segments: based on what level (necessarily subjective) are they put into one category or another? What is the usefulness of this approach?

Another classification (Anderson, 1976) distinguishes between declarative knowledge and procedural knowledge. This classification has been used in several works, such as in Brucks (1986), Pillai and Hofacker (2007) and Worsley (2002). Declarative knowledge has been identified with static and real information (Best, 1989), that is, information about attributes, terminology, evaluations and use, more usually referred to as general/basic knowledge about the product category (Brucks, 1986). As synthesised by Worsley (2002), it refers to "what is", while procedural knowledge is dynamic information stored and organised as a result of actions carried out and the decision-making process, that is, more specific information (Best, 1989; Brucks, 1986), that is, knowledge about how to do things (Worsley, 2002). This is another way of trying to separate stored information, although the usefulness of this approach is not very clear. Thus, over time, different dimensions/categories of consumer knowledge have been established, varying according to the content

and organisation of the knowledge and based on the context in which it was acquired and subsequently used (Sääksjärvi *et al.*, 2009).

In summary, it can be concluded that the classification of Brucks (1985) is normally taken as the main frame of reference, given that it provides alternative ways of analysing and measuring consumer knowledge that have been widely used in the literature. It is probable that the advantages the classification confers in terms of ease of measurement has made many authors willing to accept “types of knowledge” in the search for ease and simplicity.

6. Relationship between objective knowledge, subjective knowledge and experience

Since Brucks' (1985) classification of consumer knowledge, a relatively large body of research has attempted to explain the relationship between its dimensions and types (objective knowledge, subjective knowledge and experience) and other variables.

While there seems to be a consensus in the literature that objective and subjective knowledge are distinct dimensions, with experience being a determinant of both (Dodd *et al.*, 2005; Park *et al.*, 1994; Raju *et al.*, 1993, 1995), the question of whether and how these dimensions are related to each other is less clear. While in an ideal world, what one thinks one knows would be a function of what one actually knows (Radecki and Jaccard, 1995), the reality is that the correlation between the two dimensions is not very high, hence they are not considered to be the same construct.

However, it is quite striking how many studies have examined the relationship between objective knowledge and subjective knowledge, perhaps because they hoped that the former could be replaced by the latter (which is easier to measure). In this sense, most authors have concluded that objective and subjective knowledge are moderately related, given that the linear correlation coefficient fluctuates between 0.30 and 0.60 (Table 3). However, some works have concluded that they are not moderately related, and that the relationship is weak or, indeed, very strong (which would allow both dimensions to be treated as a single construct). In addition, the moderate correlation of both types of knowledge with experience has been demonstrated in several studies (Brucks, 1985; Cole *et al.*, 1986; Feick *et al.*, 1992; Raju *et al.*, 1995).

These discrepancies could be due to the heterogeneity and abundance of existing works on consumer knowledge, some that, although similar, have obtained disparate results and reached disparate conclusions on certain issues, because they define/interpret the relevant concepts in different ways, because a variety of variables are taken into account and/or because of the different measures used to quantify the consumer knowledge, factors and products analysed (Carlson *et al.*, 2009; Fiske *et al.*, 1994; Scribner and Weun, 2000). The impression left after analysing these contributions is that there is a widespread tendency to

Table 3.

Correlation between objective knowledge and subjective knowledge. Correlation level papers

Correlation level	Papers
Moderate	Alba and Hutchinson (2000), Brucks (1985), Carlson <i>et al.</i> (2009), Cole <i>et al.</i> (1986), Cowley and Mitchell (2003), Feick <i>et al.</i> (1992), Goldsmith and Goldsmith (1997), Klerck and Sweeney (2007), Radecki and Jaccard (1995), Raju <i>et al.</i> (1995) and Robson <i>et al.</i> (2014)
Weak	Braunsberger <i>et al.</i> (2004), Moorman <i>et al.</i> (2004), Duhan <i>et al.</i> (1997), Ellen (1994) and Mägi and Julander (2005)
High	Cowley (1994), Maheswaran (1994), Mitchell and Dacin (1996), Lange and Coremans (2020), Rao and Monroe (1988) and Rao and Sieben (1992)

consider them as distinct constructs (which seems obvious), and a parallel tendency to regard them as interchangeable. This is easily understandable, because using subjective knowledge provides some operational advantages in research: simpler scales, shorter questionnaires and removing the need to use experts or qualitative research to generate items that can measure objective knowledge.

Given the interest aroused, attempts have been made in the literature to delve deeper into the subjective knowledge-objective knowledge relationship by introducing other variables/concepts, such as “knowledge calibration” which, according to [Alba and Hutchinson \(2000\)](#), is a process of adjusting what one thinks one knows to what one really knows, that is, the correspondence between accuracy and confidence in one’s own consumer knowledge ([Pillai and Hofacker, 2007](#)). [Gershoff and Johar \(2006\)](#) and [Pillai and Kumar \(2012\)](#), among others, examined the concept. Thus, high accuracy and high confidence in what one knows represents high calibration, but low accuracy and low confidence represent good calibration. Low correspondence between what I know and what I think I know represents poor calibration, resulting either from the individual’s overconfidence or underconfidence ([Pillai and Hofacker, 2007](#)). Consumers typically think they know more than they actually do, with subjective knowledge exceeding objective knowledge ([Alba and Hutchinson, 2000](#); [Morrin et al., 2002](#)). Thus, differences between objective and subjective knowledge exist when people do not perceive accurately how much they really know ([Brucks, 1985](#); [Selnes and Gronhaug, 1986](#)). In short, knowledge calibration has been proposed to explain that the relationship between the two types of knowledge is strong only at high calibrations, which is why the overall correlations are not strong. In essence, the authors of the present study argue against using two personality-based variables to explain the relationship between two clearly different constructs that, despite the insistence of some authors, should not be used interchangeably.

A concept similar to knowledge calibration, that has also attracted some interest, is “knowledge discrimination” ([Pillai et al., 2015](#)). This relates to the individual’s ability to be aware of the scope and limits of his/her knowledge. Whether the individual is fully aware of what (s)he knows and does not know has important consequences for the purchase process. In essence, these two concepts, calibration and discrimination, highlight the importance of confidence in what one thinks one knows and what one does not know, as this confidence will prompt the individual to act in ways that would be different if (s)he lacked this conviction. That is, if the consumer believes that (s)he discriminates well, it will be more difficult to modify his/her beliefs.

Looking at this body of research from a certain distance, the authors of the present study have concluded that too much attention has been paid in the literature to subjective knowledge and the relationship between objective knowledge and subjective knowledge. In any case, for explanatory, operational and managerial purposes, it is much more useful (although difficult) to study objective knowledge. Nonetheless, companies may be much more interested in identifying what consumers know than what they think they know, because this can help them select specific content to include in communication campaigns; thus, it is argued that understanding consumers’ objective knowledge is much more useful than understanding their subjective knowledge.

Finally, introducing other variables is a progressive and unhelpful move away from the central core of the study of consumer knowledge, that is, the information stored in the mind and how it alters behaviours. Without denying that confidence in what is known, or calibration, may alter the relationship between consumer knowledge and behaviours, these are just a few variables among many others of a psycho-sociological nature, such as personality and culture.

7. Consumer knowledge as an explanatory, mediating or moderating variable of behaviour

Many studies have used consumer knowledge as an explanatory variable of behaviour, examining its relationship with other variables. In this sense, some papers that have examined the effects of objective and subjective knowledge on consumer behaviours at a generic level stand out (Brucks, 1985; Bui *et al.*, 2021; Carlson *et al.*, 2009; Chen *et al.*, 2018; Cole *et al.*, 1986; Forbes *et al.*, 2008; Goldsmith and Goldsmith, 1997; Okechuku, 1990; Raju *et al.*, 1995; Razmdoost *et al.*, 2015). Specifically, it has been shown that objective knowledge and subjective knowledge influence information seeking and processing in different ways (Park *et al.*, 1988; Park and Lessig, 1981; Park *et al.*, 1994).

Thus, a high level of objective knowledge is associated with higher levels of involvement in information seeking (Pechtl, 2008; Park *et al.*, 1994; Selnes and Troye, 1989; Wirtz and Mattila, 2003) and with efficient selection of that information, as consumers with high levels of objective knowledge better understand the meaning of the information (Alba and Hutchinson, 1987). The amount of information sought and used in the decision-making process is positively correlated with consumer knowledge, and the greater the knowledge possessed, the more attributes will be considered by the consumer to evaluate different products from a wide variety (Alba and Hutchinson, 1987; Kwon and Lee, 2009; Moore and Lehmann, 1980; Perrouy *et al.*, 2006; Peschel *et al.*, 2016; Puligadda *et al.*, 2010; Viot, 2012; Wirtz and Mattila, 2003). However, some studies have established a negative correlation (Newman and Staelin, 1972; Simonson *et al.*, 1988) on the basis that, as they lack knowledge, consumers invest a great deal of time and effort in seeking information because they do not feel secure and confident in what they know (Howard and Sheth, 1969). It has also been argued that high levels of knowledge among consumers can cause them to search less because they feel they already know enough (Bettman, 1979). Finally, some authors have concluded that the relationship between consumer knowledge and quantity of information follows an inverted U-shaped correlation, where consumers with moderate correlation levels will be the most involved and the most interested in seeking information and increasing their knowledge, as opposed to consumers with low levels who will want to seek less because it is difficult for them to understand new information and consumers with high levels who do not believe they need to know more (Bettman and Park, 1980; Johnson and Russo, 1984).

Similarly, consumers who believe they know a lot pay attention to information differently to those who believe they know less. In this sense, in terms of subjective knowledge and information seeking and processing, Park *et al.* (1988) and Park *et al.* (1992) found that, when faced with new information, consumers with low levels of subjective knowledge are more receptive to receiving information. Moorman *et al.* (2004) argued that subjective knowledge influences the location place where consumers seek information.

On the other hand, subjective knowledge, being identified with confidence in what one believes one knows, has been related to the consumer's purchase intention and decision (Chiou, 1998; Chryssochoidis, 2000; Feick *et al.*, 1992; Gracia and De Magistris, 2007; Hoque and Alam, 2020; House *et al.*, 2004; Pieniak *et al.*, 2006, 2010a, 2010b; Radecki and Jaccard, 1995; Raju *et al.*, 1995; Selnes and Gronhaug, 1986), and has been described as a better predictor, or stimulus, of behaviour (Flynn and Goldsmith, 1999; Guo and Meng, 2008; Selnes and Gronhaug, 1986).

Although experience increases the level of stored consumer knowledge, it has been shown to be more related to subjective knowledge than to objective knowledge (Dodd *et al.*, 2005; Park *et al.*, 1994; Vigar-Ellis *et al.*, 2015b). Specifically, these authors argued that subjective knowledge is more influenced by experience than by information that consumers

may have stored, because experience is more accessible and easier to remember. Also, consumers with more experience tend to seek less information before purchasing (Moore and Lehmann, 1980; Newman and Staelin, 1972). In this sense, Brucks (1985) argued that there is a negative relationship between experience and information search, as the experienced consumer thinks (s)he already knows enough and does not need more information to make the right decisions (Bloch *et al.*, 1986; Gilly *et al.*, 1998). However, Brucks (1985) and Alba and Hutchinson (1987) argued that the effects of experience on consumers' decision-making processes will differ based on their levels of subjective and objective knowledge, even if two consumers have similar experiences with a product.

In general terms, the relationship between consumer knowledge and information search and processing is quite obvious, as are the conclusions drawn in various studies. Moreover, the apparent contradictions between the findings of the different studies make sense, given the role of consumer involvement with the products under analysis. Lower levels of consumer involvement translate into lower levels of information search and processing.

On the other hand, the effects of different types of consumer knowledge on other outcome variables, or determinants of behaviour, have also been widely examined in the literature, as knowledge has been considered to be the basis on which consumers' beliefs, attitudes, values and thoughts are formed (Fazio, 2007; Fishbein, 1963; Fischer and Reinders, 2022; Gil and Soler, 2006; Solomon *et al.*, 2010; Zhang and Liu, 2015). Thus, consumer knowledge has been associated with higher loyalty (Chiou *et al.*, 2002; Espejel *et al.*, 2009; Wirtz and Mattila, 2003), higher satisfaction (Chiou *et al.*, 2002; Espejel *et al.*, 2009; Fu *et al.*, 2020; Gupta *et al.*, 2021; Lafarga *et al.*, 2021; Lin *et al.*, 2018), positive attitudes and higher willingness to buy/pay more (Aksoy and Ozsonmez, 2019; Arvanitoyannis and Krystallis, 2005; Bui *et al.*, 2021; Chen *et al.*, 2013; Connor and Siegrist, 2010; Cordell, 1997; Klerck and Sweeney, 2007; Oh and Abraham, 2016; Piha *et al.*, 2018; Rao and Sieben, 1992; Zhang and Liu, 2015), higher perceived quality (Cordell, 1997; Rao and Monroe, 1988), greater trust (Aksoy and Ozsonmez, 2019; Daugbjerg *et al.*, 2014; Hall *et al.*, 2007) and purchase intentions (Bamber *et al.*, 2011; Bui *et al.*, 2021; Chiou, 1998; Ercis and Celik, 2018; Grymshi *et al.*, 2022; Hwang *et al.*, 2020a; Lee *et al.*, 2020, 2014; Lin and Chen, 2006; Lin *et al.*, 2012, 2018; Rose *et al.*, 2011; Shaari and Arifin, 2010; Shirin and Kambiz, 2011; Tuu and Olsen, 2012; Wang and Hazen, 2016; Wang *et al.*, 2019; Yusoff *et al.*, 2015). The relationship between consumer knowledge and extrinsic and intrinsic product characteristics has also been examined, with moderate levels of knowledge generally being associated with intrinsic attributes and low levels of knowledge with extrinsic attributes (Bamber *et al.*, 2011; Bruwer *et al.*, 2017; Cordell, 1997; Raju *et al.*, 1995; Park and Lessig, 1981; Rao and Monroe, 1988; Rao and Sieben, 1992). Similarly, many authors have examined the knowledge-implication relationship and found it significant and positive (Aksoy and Ozsonmez, 2019; Batra and Ray, 1986; Borgogno *et al.*, 2015; Bruwer *et al.*, 2017; Celsi and Olson, 1988; Lutz *et al.*, 1983; Gainer, 1993; Greenwald and Leavitt, 1984; Liang, 2012; Lichtenstein *et al.*, 1988; McClure and Seock, 2020; Park and Moon, 2003; Ram and Jung, 1989; Rodriguez-Santos *et al.*, 2013; Roe and Bruwer, 2017; Sujan, 1985). Finally, it should be noted that many works have addressed the association between consumer knowledge levels and sociodemographic characteristics (gender, age, income, etc., Donoghue *et al.*, 2016; Forbes *et al.*, 2008; Li *et al.*, 2011; Perrouy *et al.*, 2006; Robson *et al.*, 2014; Vigar-Ellis *et al.*, 2015b; Wang *et al.*, 2021), with varying results.

From a critical perspective, these studies demonstrated the existence of easily deducible and not very strong relationships. It is normal for people to know more about products or services with which they have greater affinity or psychological proximity, which suggests they like them more and have more interest in them. Thus, tastes, attitudes, satisfaction, loyalty, predisposition to purchase, use of intrinsic attributes, involvement and, of course,

knowledge, are variables or dimensions logically related in the same direction. It would be very interesting to explore the relationships between consumer knowledge and other variables that might be less obvious, but of greater operational utility for companies (e.g. what do consumers need to know to do/not do/buy/not buy/use/not use X?). Similarly, there is a lack of in-depth theoretical approaches in the literature. For example, how might consumers react to attempts to change their knowledge when they do not want to change? [Brehm's \(1966\)](#) psychological reactance theory would suggest they would resist absorbing more informational content. But if it were necessary to do so, how do we do it, how do we select content; would it, for example, affect the amount of information transmitted?

However, perhaps the main criticism of this entire body of literature relates to the approach taken to the measurement of consumer knowledge; the preferred approach has been to use a numerical indicator of how much the consumer knows rather than to determine exactly what the consumer needs to know to alter his/her behaviour. However, it is important to recognise that not everything can be communicated, as there are many limiting factors in information processing, such as, in many cases, lack of consumer involvement and interest ([Beharrell and Denison, 1995](#); [Hingley et al., 2007](#); [Tanner and Raymond, 2016](#)), lack of capacity to assimilate technical content, lack of time and information saturation in society, individuals' limitations as information processors ([Dunbar, 2010](#); [Hall and Osses, 2013](#); [Jacoby et al., 1977](#); [Loebnitz et al., 2015](#); [Reutskaja et al., 2011](#); [Scheibehenne et al., 2007](#); [Sørensen et al., 2012](#); [Wobker et al., 2015](#)) and lack of resources in organisations. In this sense, no models have been developed to select information that companies would like consumers to absorb, which would be of great interest and practical use for marketing managers.

8. Measurement of consumer knowledge

The strong influence in the literature of the classification of the three different dimensions of consumer knowledge has led to the development of distinct measurement models.

Obviously, as [Brucks \(1985\)](#) points out, objective knowledge is more difficult to measure, as this requires the development of specific tests for each type of product under investigation, whereas subjective knowledge can be measured using standardised scales. Thus, following [Scribner and Weun \(2000\)](#), the measurement of objective knowledge can have wide variations (from consumers with a very low level of knowledge to consumers with very high levels). In contrast, measuring subjective knowledge requires respondents to specify how much they know about a product category, and comparing the response to that of a standard subject, experts or the majority of the population. Thus, objective knowledge can be measured impartially by a third party, whereas subjective knowledge is the participant's self-assessment of his/her knowledge; in consequence, subjective knowledge better captures consumer strategies and the heuristics they use based on what they think they know ([Cordell, 1997](#)).

Consumers' objective knowledge has traditionally been assessed by authors using objective, individual questionnaires, about each product category ([Kolyesnikova et al., 2010](#)), in which they express their consumer knowledge about attributes, characteristics, prices, brands, terminology, etc. ([Brucks, 1985, 2010](#)) of products ([Brucks, 1985, 1986](#); [Chiou, 1998](#); [Dickson-Spillmann et al., 2011](#); [Fiske et al., 1994](#); [Forbes et al., 2008](#); [Gambaro et al., 2013](#); [Garrido-Castro and Torres-Ruiz, 2019](#); [Park and Moon, 2003](#); [Park et al., 1994](#); [Torres-Ruiz et al., 2022](#); [Velikova et al., 2015](#); [Wang et al., 2021](#)). Thus, most studies develop their own scales (the use of scales previously developed in the literature is not common). In general, the number of correct answers given is used as the level or degree of the subject's objective knowledge of the topic ([Aqueveque, 2018](#); [Donoghue et al., 2016](#); [Forbes et al., 2008](#);

Gambaro *et al.*, 2013; Garrido-Castro and Torres-Ruiz, 2019; Johnson and Russo, 1984; Kavanaugh and Quinlan, 2020; Lange and Coremans, 2020; Park *et al.*, 1994; Piha *et al.*, 2018; Pillai *et al.*, 2015; Raju *et al.*, 1995; Wang *et al.*, 2021). Thus, correct answers demonstrate knowledge about a product, while incorrect answers demonstrate a lack of knowledge. In addition to the number of correct answers given, some authors (such as Aertsens *et al.*, 2011; Pillai *et al.*, 2015) have taken into account the level of certainty consumers have in their answers, in line with the concepts of calibration and discrimination.

It is important to underline the difficulty of accurately measuring objective knowledge. Developing and selecting items need in-depth knowledge of the products under investigation, which generally demands the participation of experts and prior testing, to create scales sensitive enough to detect differences in knowledge between individuals. Similarly, in the context of the present study, it is important that the items relate to the criteria, aspects and attributes that consumers take into account during the purchase process, which also requires some knowledge of the process and, generally, prior qualitative research.

In any case, as proposed in the earlier sections of the present study, it is important to underline the existence of an important research gap: all studies seek a basic indicator of “degree of knowledge”, ignoring the fact that it is probably much more relevant and operationally useful to identify exactly what the consumer knows, than simply how much (s) he knows. In this respect, knowing a single important aspect of a product may have a greater impact on the purchase decision than knowing a lot or little, in general, about the product.

Subjective knowledge, on the other hand, has been measured by means of general tests in which subjects answered how much they thought they knew (Brucks, 1985; Lange and Coremans, 2020; Park *et al.*, 1994; Raju and Reilly, 1980; Rao and Monroe, 1988). Questions such as “compared to other subjects, I know a lot/know a little about. . .”, “I am convinced of my knowledge about. . .”, “I am not knowledgeable about. . .”, “among my friends, I am the expert on. . .”, on Likert or Osgood-type scales are common (Brucks, 1985; Chiou, 1998; De Pelsmacker and Janssens, 2007; Flynn and Goldsmith, 1999; Forbes *et al.*, 2008; Gambaro *et al.*, 2013; Hwang *et al.*, 2020b; Park *et al.*, 1994; Pieniak *et al.*, 2006,2010b; Raju *et al.*, 1995). Some authors have measured subjective knowledge through a single indicator (Denisi and Shaw, 1977; Park *et al.*, 1992; Peracchio and Tybout, 1996; Rao and Monroe, 1988), and many others through multi-item scales (Beatty and Smith, 1987; Biswas and Sherrell, 1993; Brucks, 1985; Flynn and Goldsmith, 1994; Forbes *et al.*, 2008; Newman and Staelin, 1972; Raju *et al.*, 1993; Park *et al.*, 1994; Selnes and Gronhaug, 1986). Many of these subjective knowledge measurement scales have been repeatedly applied, or adapted, by other works to measure the concept. Among the most widely used scales are of Park *et al.* (1994) and of Flynn and Goldsmith (1999).

Finally, experience is usually measured, in general, by how frequently the consumer uses the product (Bruwer *et al.*, 2017; Pillai and Hofacker, 2007; Raju *et al.*, 1995), the amount of information they seek and ownership (Park *et al.*, 1994), with scales of more or less categories expressing greater or lesser use.

9. Future research agenda

A global and synthesised reflection of the existing research on consumer knowledge in marketing probably creates the general idea that a lax conceptualisation of the topic, and measurement problems, have given rise to literature of little usefulness and depth. At the same time, there are important gaps that could be addressed to develop interesting lines of research. These problems, or criticisms, are outlined below and are followed by suggestions for future research (summarised in Table 4).

Problem 1: Operational misconception and measurement problems. Although everyone has a clear idea of what consumer knowledge is, much research has taken Brucks' (1985)

Problems	Future research lines
Problem 1. Misconception that knowledge is not operational. Measurement problems	Suggestion 1. Establish a model or protocol to develop scales that measure real (objective) knowledge in an operational and useful way, with key items and dimensions related to decision-making and purchasing processes
Problem 2. Quantitative conception of knowledge, focuses on the how much and not the what	Suggestion 2. Develop models or procedures to study and determine what consumers need to know to influence their behaviours in desired directions
Problem 3. Narrow conception of knowledge is limited to certain information stored in the mind	Suggestion 3. Analyse what specific information, both accurate and not, affects behaviours Suggestion 4. Analyse what specific information generates inferences and associations on the part of the consumer, and how they affect behaviours
Problem 4. One-dimensional conception of what knowledge really is	Suggestion 5. Analyse the content of items and develop indicators to examine other dimensions of knowledge and its relationship to variables of consumer behaviour

Table 4.
Problems and
research agenda in
consumer knowledge

classification as a reference and assumed that there are different types (objective knowledge, subjective knowledge and experience). However, although the latter two dimensions do not pass a critical analysis of whether they really are knowledge, in many works they have been considered as good representations of the construct. The reason for this broad consideration of what consumer knowledge is stems from measurement problems. While subjective knowledge and experience are easy to measure, using standardised scales with a few items, objective knowledge can only be measured using specially developed product-specific scales and the intensive knowledge of product researchers, and usually the involvement of experts. They are not the same. No teacher would think of asking students in an exam whether they consider themselves experts in the subject, or whether they know more than their peers and use the values on this scale to give marks.

Suggestion 1. Although it is impossible to develop a generic scale to study objective knowledge, it is possible and it would be important, to establish a model or protocol, to develop a scale. Given that consumer knowledge is information stored in memory, determining which specific dimensions should be used to develop items for these scales may be particularly important in marketing, as much product-related information that consumers store is irrelevant for decision-making. Thus, the first approach should be to address the dimensions and/or items related to aspects of the product that consumers take into account and which influence their decision-making. As a general suggestion, in a first phase (depending on the type of product and consumer), the stages which make up the purchasing process could be defined and, in a second phase, what information is considered in each stage. This approach could be supported by a qualitative methodology.

Problem 2. In addition to the lax conception of what knowledge really is, it should be noted that operationally focused examinations into the concept are scarce. All previous studies have focused on degree of knowledge (quantity), which has resulted in little depth of research and a focus on almost obvious, psychologically proximate relationships (attitude, involvement, etc.). However, it may be more important to study what consumers know than how much they know. Thus, knowing some particular aspect of a product or a combination of several aspects may have more explanatory power for consumer behaviours than understanding how much they know, as not all information has the same value, importance or impact. Understanding the what, rather than the how much, would help identify the

knowledge that the consumer draws on in his/her purchase/consumption decisions, which would be particularly important for companies in selecting content to include in communication campaigns to increase product consumption.

Suggestion 2. Develop models or procedures to determine which specific aspects, or combinations of aspects, of products consumers need to know to produce a change in their behaviours. In this sense, [Garrido-Castro and Torres-Ruiz \(2019\)](#) proposed a method, adapted from qualitative comparative analysis models, that might be used for this purpose, that can serve as a basis for further developments and that might awaken academic interest in developing scientific methods for selecting the specific content of effective communication campaigns.

Problem 3. Narrow conception:

- In general, only the accurate information that consumers have in their minds about products has been considered to be consumer knowledge. However, decision-making is determined by the information in the mind, whether it is correct or not. Beliefs, even if untrue, have effects on and can be key in explaining, behaviours. This suggests that the qualitative dimension is more useful than the quantitative: knowing what consumers know and what they do not know may be more important than how much they know. It is important to emphasise that this does not affect the way consumer knowledge is measured, but rather the way data is analysed and the indicators that are developed with these measurements.
- Furthermore, some of the information stored in the mind is not obtained from external sources, but is generated in the mind itself through mental inference processes. Knowing which specific information generates favourable (or unfavourable) beliefs, and which has a greater impact on purchase and consumption, can be key for developing communication strategies and for explaining important differences in consumer behaviour.

Suggestion 3. Replicate studies, or re-use data from existing studies, to identify which specific information (true or not) affects consumer behaviours.

Suggestion 4. Analyse the heuristic role of specific information as a generator of consumers' inferences, and its effects on consumer behaviour. Some studies have shown that knowing a specific aspect can prompt the consumer to make inferences ([Vega-Zamora et al., 2014](#), for the inferential effects of using the word "organic" in a product) and others have shown how the mental association of certain words with products has important effects on behaviours and implications for how they are marketed ([Marano-Marcolini and Torres-Ruiz, 2017](#)). In this sense, it would be very useful to examine whether a specific term, word or belief (true or false) can trigger behaviours, without the need to process or search for more information, which we call the core heuristic. Thus, some research questions might be: what individual word or combinations of pieces of information act as a heuristic and/or produce inferences or conclusions of great interest and influence purchases (e.g. it is high quality, it is traditionally made, it cares for the environment)? Which heuristics are most frequent in low-knowledge contexts?

Problem 4. Unidimensional conception. Although for some authors consumer knowledge is multidimensional, in reality, they have referred to different constructs (objective knowledge, subjective knowledge, etc.). In practice, in research with other variables, it has been used basically as a unidimensional variable (number of correct scores on multiple-item scales). However, the complexity of consumer knowledge allows inferences to be made about the existence of other dimensions with the potential to explain consumer behaviour. [Torres-Ruiz et al. \(2022\)](#) constructed a confusion index which distinguished between wrong answers and responses where the subjects said they did not know the correct answer (calculated by

dividing the wrong answers by the wrong answers plus does not know the answer; this fluctuates between 0 and 1, and is related to degree of knowledge), and demonstrates the index's relationship with various variables of consumer behaviour, which complements the information attributed to mere amount of knowledge. The identification of this new, non-knowledge dimension, suggests there may be others (e.g. distinguishing between reality and inferences) and that approaches to consumer knowledge have been undertaken in only basic and simple ways.

Suggestion 5. Analyse the content of the answers obtained to the questionnaire items and cross-reference them to develop new indicators that can identify the heuristics, inferences, the intrinsic attributes consumers take into account and the uses they make of the products, etc. It will be of interest to study their relationships with consumer behaviour variables.

10. Conclusions

The study of consumer knowledge has received a great deal of attention in marketing literature due to its influence and effect on purchase or consumption behaviour. However, despite the large number of works that have examined it, this has been analysed in association with other variables and there are not studies focus on it in isolation.

The analysis and systematisation of the existing literature carried out has identified five main content blocks (concept, types, relationship between types of knowledge, explanatory power as a mediating or moderating variable and measurement), and the existence of certain gaps and important aspects that have not been addressed. Following these problems or gaps detected, mainly related to the lax conceptualisation of the topic, measurement problems and the scarcity of more useful works connected with business management, this paper proposes a research agenda with several suggestions to complete the study of this variable, highlighting some dimensions or lines that could contribute to increase the study and usefulness of knowledge in the field of marketing.

Progress in these proposed future lines of research would help companies in the management of knowledge to influence consumer behaviour, through the development of new models and scales that would measure real knowledge in a more operational and useful way and that would study what specific information (and how) affects behaviour. Particularly helpful, for example, for the selection of information content in the development of communication campaigns, i.e. what to say (pieces of information/knowledge) to achieve the purchase or consumption of the product.

Additionally, the present work complete the existing literature, both from a theoretical-conceptual point of view and from an empirical and/or managerial and social utility point of view, offering new insights into the study of consumer knowledge and demonstrating that a further research on this variable is needed and relevant in the context of marketing and consumer behaviour due to its strong influence. Thus, for example, the study of what the consumer does not know (non-knowledge) as another dimension of knowledge can be particularly useful for understanding consumer behaviour.

Finally, this work has some limitations. The selection of the content blocks (like any process of analysis and synthesis) was subjective. Thus, more or fewer blocks could have been used. Similarly, the approach used analysed and critically interpreted existing works. To illustrate and support our arguments, the authors of the present study selected the most important contributions (in our opinions) to the study of consumer knowledge, but it is possible that some interesting works may not have been addressed.

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