



The consumer decision journey: A literature review of the foundational models and theories and a future perspective

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ABSTRACT

The consumer decision journey model has become increasingly important to understand consumer decision-making processes. Although the term originally emerged with Court et al. in 2009, the various current perspectives of the consumer journey suggest the existence of distinct literature and theoretical roots that have yet to be fully explored in detail. The objective of the paper is to semi-systematically review the main theories and models that constitute the foundation on which the consumer journey has evolved. Furthermore, given the lack of academic studies reflecting on the influence of more recent technologies based on artificial intelligence on the consumer journey, this study aims to fill this gap in an attempt to mold further theory development around the consumer journey concept. 74 relevant papers were retrieved mainly from a detailed search on SCOPUS, as well as a backward and forward citation analysis. A thematic analysis resulted in the identification of three literature streams that contribute to the consumer journey literature. This represents a furthering of the theoretical knowledge regarding the consumer journey and its foundations. By also discussing a future perspective, a holistic and comprehensive basis is provided to structure and assist how marketing managers can perceive the consumer decision journey.

1. Introduction

The concept of the consumer decision journey has been widely adopted by marketing academics and practitioners in recent years. This interest has mainly been derived from the emerging importance of adopting a philosophy in the service and marketing fields that is focused on the consumer experience (e.g., Hsia et al., 2020; Siebert et al., 2020). Consumer experience is a multidimensional construct that focuses on the consumer's cognitive, behavioral, social, emotional, and sensorial response to the offerings of a firm during the entire consumer decision journey (Lemon and Verhoef, 2016; Verhoef et al., 2009). To fully understand consumer experiences and decisions, recent research has increasingly gone beyond firm-oriented methodologies, such as blueprinting, and instead has adopted a consumer-centric perspective (Tuananrat et al., 2021). In particular, consumer decision journey mapping has received increasing calls for research and theory development in a variety of contexts (e.g., Rudkowski et al., 2020). By focusing on how to structurally and visually present the consumer's experience and path-to-purchase and beyond, consumer decision mapping is an important tool to help firms understand in more depth consumer

decisions and touchpoint choices that include those not controlled by the firm (Hamilton and Price, 2019).

Consumer decision journey maps are commonly conceptualized as dynamic processes and structured based on previously developed process models (e.g., Farah et al., 2019; Kim et al., 2020). However, the current body of knowledge regarding the consumer decision journey is disperse and portrays a combination of various perspectives, characterized by a lack of a common terminology and structured understanding. For example, some studies describe the consumer decision journey as being composed of pre-purchase, purchase, and post-purchase stages (Lemon and Verhoef, 2016); or awareness, purchase intent, and satisfaction stages (Colicev et al., 2018); or even learn, feel, and do stages (Kim et al., 2020). Even though the underlying rationale and principles are identical in some cases, the multiple perspectives of the consumer decision journey suggest distinct literature and theoretical roots that have still to be reviewed and explored in detail. Recent systematic literature review papers have mainly focused on customer journey terminology and approaches (i.e., customer journey mapping and customer journey proposition) (Følstad and Kvale, 2018), underlying themes related to the customer journey (e.g., co-creation, customer response, or

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service satisfaction, failure, and recovery) (Tueanrat et al., 2021), and omnichannel retailing trends (Mishra et al., 2020), however there is still lacking a structured review and discussion of the consumer decision journey's main foundational models and theories. Similar to the argument of Lemon and Verhoef (2016), who historically and critically analyzed the roots of customer experience within marketing, this study argues that reviewing the foundational models of the consumer decision journey enables it to be placed into context and provides the ability to assess whether the ideas guiding the definition of this recent concept are in fact new.

Nonetheless, although some underlying decision journey postulates may have already been validated in previous models, recent technological innovations such as virtual reality, virtual agents, and autonomous shopping systems “offer an unprecedented interactive, immersive, and personalized experience in the customer journey” (Nam and Kannan, 2020, p. 30). Recent studies indicate that the increase in these innovative technologies has the potential to profoundly disrupt traditional consumer decision-making models and affect their application in understanding the current decision journey (Tueanrat et al., 2021). However, Hoyer et al. (2020) draws attention to the fact that, even though these technologies are being developed at an accelerating pace, academic research that reflects on how these technologies can influence and transform consumer experience and the consumer decision journey construct is rather sparse.

As such, the objectives of this study are twofold. First, the study aims to review the main theories and consumer behavior models that constitute the foundation on which the consumer decision journey has evolved by recurring to a semi-systematic literature review. Second, bearing in mind the foundational models, the paper discusses how recent technological developments can affect the consumer decision journey and thus mold further theory development around this concept. Through this approach, the study provides several relevant contributions to furthering knowledge. The aggregation and synthesis of the foundational models adds to the current literature by greatly improving our understanding of a currently dominant construct. To the best of the authors' knowledge, this is the first study to review and summarize in detail the main theoretical streams that have contributed to the development of the consumer decision journey, which thus enables it to be historically placed into context. In addition, the discussion of the practical and academic implications concerning the influence of recent technological innovations provides interdisciplinary research avenues that serve as a theoretical base upon which further development of the topic could be carried out.

The structure of this paper is as follows: following the introduction, the consumer decision journey concept is provided and discussed. The methodology section is next, followed by the results and discussion of the semi-systematic literature review. The conclusions, contributions, limitations, and suggestions for further research are then presented at the end.

2. The consumer decision journey: processes and models

The term “consumer decision journey” was first introduced by Court et al. (2009) with the aim of describing a dynamic consumer decision-making process. Since then, various definitions have been advanced, especially in the marketing and service design fields. For example, according to Lemon and Verhoef (2016), the customer journey is the process that customers go through across all touchpoints and decision stages that add up to the customer experience. For Følstad and Kvale (2018), the customer journey is the sequence, process, or path through which customers access or effectively use a service. Vázquez et al. (2014) define the consumer decision journey as being the purchase process from awareness to purchase, consumption, and sharing. Finally, Shavitt and Barnes (2020) view the consumer journey as the steps consumers take in their path towards building relationships with brands or experiences that are satisfying. The consumer journey generally subsumes customer journeys (Hamilton and Price, 2019), thus both

terms are frequently applied with similar meanings. Nonetheless, the common theme across the provided definitions is the procedural natural underlying consumer decision journeys.

Understanding consumer decision-making and processes is the first step to fully comprehend how consumer decision journeys develop (Lemon and Verhoef, 2016; Puccinelli et al., 2009). Consumer decision-making is the consumer's behavioral pattern that precedes, determines, and follows a decision process comprising multiple stages in order to satisfy a product need or reach a choice (Erasmus et al., 2001; Howard and Sheth, 1969). As such, although not the exclusive focus of consumer decision-making studies, analyzing consumer decision processes is a major issue regarding purchase decisions. Aldin and de Cesare (2011) refer to the work of Davenport that defines a process as being a structure of action ordering activities through time and space, with a beginning and an end, and inputs and outputs that are clearly identified and related. These process activities transform the inputs into outputs, adding value to them (Lindsay et al., 2003). Decision processes have associated different characteristics which affect their analysis. For example, processes may vary in their degree of predefinition, direct observability, dynamism, and flexibility (Aldin and de Cesare, 2011; Dustdar et al., 2005).

Due to their potential for simplifying reality (Lindsay et al., 2003), the representation and explanation of decision-making processes and their related variables have been widely made by recurring to models. Models visually describe and present in a logical manner the variables and circumstances that make up a specific behavioral process, as well as their interrelationships (Du Plessis et al., 1991; Erasmus et al., 2001). Models also facilitate the understanding of consumer differences in their decision process and play a significant role in building theoretical knowledge (Engel et al., 1986; Siebert et al., 2020). According to Batra and Keller (2016) and Lemon and Verhoef (2016), various models have been introduced and developed since the 1960s and '70s with the aim of studying and understanding consumer decision-making and processes in more depth. These models are considered to be the foundational models on which the consumer decision journey has emerged. However, the various forms by which the consumer decision journey model is presented and analyzed in current studies (e.g., through the perspective of a process divided into pre-consumption, consumption, and post-consumption (Demmers et al., 2020); or awareness, purchase intent, and satisfaction (Colicev et al., 2018); or learn, feel, and do (Kim et al., 2020)), denote that distinct literature and theoretical roots may underpin the understanding of the decision journey, which have not yet been reviewed and explored in detail.

Furthermore, decision processes and models are heavily influenced by a number of factors, which can be, for example, economic, social, or technological (Aldin and de Cesare, 2011). Recently, the accelerated development of technological innovations, such as artificial intelligence, virtual reality, blockchain, chatbots, and automated shopping systems, and their potential influence on consumer decision journeys, has started to receive academic attention (e.g., Lee and Lee, 2020; Wolbers and Walter, 2021). These technologies are converging across digital, physical, and social domains, enabling a better provision of services and products, which ultimately result in new value propositions (Zaki, 2019). According to Lember et al. (2019), there are four main instrumental characteristics that differentiate modern digital technologies and that may serve as a basis to understand their influence on decision-making, namely: sensing characteristics (e.g., smart devices to automate and track); processing characteristics (e.g., big data analytics to monitor, predict, and improve services); communication characteristics (e.g., wireless networks for ubiquitous interaction for people and machines); and actuation characteristics (e.g., robotics capable of mechatronic actions for independent action from humans).

The characteristics associated with recent digital innovations facilitate the fulfillment of consumer needs along the decision journey in an unprecedented manner (Reinartz et al., 2019). For example, Wolbers and Walter (2021) argue that a major potential for the role of intelligent

voice assistants is to simplify and shorten decision journeys, particularly in the repurchase of products and services that have been previously bought. On the other hand, Reinartz et al. (2019) suggest that the automation, interaction, and transparency associated with modern technologies create value for consumers, given the search, purchase, and use convenience provided, as well the potential for empowerment and savings. However, although certain issues related to the security and privacy of personal data have emerged regarding recent innovations (e.g., smart devices listening to daily conversations (Wolbers and Walter, 2021)), it is widely agreed that these technologies greatly increase the ability for customization, leading to adaptive and personalized services that create unique experiences and enhance satisfaction (Lee and Lee, 2020; Saura, 2021). This is particularly important in the case of current decision journeys, since individualization creates *relevance* for consumers, where pertinent information and offers can be more easily tracked and processed (Reinartz et al., 2019). Additionally, firms can benefit from this. For example, Humphreys et al. (2020) found that consumers are more likely to click on ad content and search engine results that match their mindsets, therefore perceiving increased goal progress. Firms that use innovative technologies as well as analytics data as a strategic tool are more able to create meaningful consumer relationships (Vollrath and Villegas, 2021).

Nonetheless, Hoyer et al. (2020) argue that these recent technologies will lead to an entirely new conceptualization of consumer experiences and journeys. Consumers will transform how they experience the world, relate to others, and perceive objects, which, in turn, will lead to new forms of decision-making. Despite this belief, academic research that structurally reflects on the influences that these technologies have on consumer decision-making is currently warranted in order to provide a theoretical base upon which the consumer decision journey concept can evolve (Hoyer et al., 2020). Accordingly, this study both reviews the foundational models of the consumer decision journey and also discusses how the concept can be affected by recent technology. The purpose is to assist further development of theory around the consumer decision journey model.

3. Methodology

A semi-systematic literature review was selected as the research method for the current study. This research approach is designed to provide an overview of a topic such as the consumer decision journey that has been studied and conceptualized differently by diverse groups of researchers within various disciplines and which, as a consequence, can hinder a full systematic review process (Afshar-Nadjafi, 2020). This type of review intends to identify and understand all the relevant research traditions that have implications for the researched topic, with the aim of synthesizing them through the use of meta-narratives, rather than measuring effect sizes (Wong et al., 2013). Although it covers a broad range of topics and various study types, the semi-systematic literature review process should be transparent and must have a well-defined research strategy that is documented in detail, in order to enable the assessment of the reasonability of the arguments underlying the judgements for the chosen topic and from a methodological perspective (Snyder, 2019). Thus, according to Snyder (2019), there are certain decisions required to ensure the reliability, validity, and replicability of the study, regardless of the adopted review approach, such as those regarding the design, conduct, analysis, and structuring and writing of the review. This study follows the research steps adopted by Marikyan et al. (2019), which is based on the three-stage approach proposed by Tranfield et al. (2003) for systematic literature reviews, namely: i) planning the review; ii) conducting the review through the analysis of papers; and iii) disseminating the results. This process ensures that findings are reached in a valid and reliable manner.

3.1. Planning the review

This is the first stage of the review, where a preliminary scoping of the literature is conducted to define, clarify, and refine the relevance and objectives of the study, and to develop a review protocol (Tranfield et al., 2003). With regards to the objectives of the study, obtaining them through clear research questions is strategically important, as they drive the definition of the inclusion criteria, the choice of relevant papers, and also the decisions regarding which data to retrieve and how to analyze them (Paciarotti and Torregiani, 2021). As with Marikyan et al. (2019), an initial search of the literature and meetings with several academics and experts in the field signaled a number of literature gaps that evidenced the need to structurally review the foundational models of the consumer decision journey and to discuss how current journeys can be influenced and evolve with recent technological developments. Given the potential conflict anticipated in the search process due to the focus on the past (i.e., foundational models) versus focus in the future (i.e., evolution of the decision journey), the authors agreed that the topics surrounding the foundational models would guide the literature review process. Nonetheless, more recent papers resulting from the publication search are used to analyze current consumer journeys. Having identified the topic of the study, the conducting stage of the review and the method guiding the analysis now follow.

3.2. Conducting the review

The second stage involves a comprehensive and unbiased search of the relevant literature (Tranfield et al., 2003). Here the search strategy is outlined, which includes the decision on appropriate databases, the selection of keywords and search terms, and the delimitation of other inclusion and exclusion criteria (Snyder, 2019). SCOPUS was chosen as the reference database, as it is the largest global electronic database of peer-reviewed journals (Principato et al., 2020). The keyword selection started with “consumer decision journey”. This term was then searched in combination with “model” and “process” in order to comply with the research purpose of the study. The term “consumer decision journey” is frequently reduced to “consumer journey” with a similar meaning (e.g., Shavitt and Barnes, 2020), and thus these keywords were also included. Finally, since many decision journey studies focus on the customer with broader implications for the consumer (e.g., Lemon and Verhoef, 2016), the keyword search was repeated for the four terms, but this time substituting “consumer” with “customer”. A total of eight keyword terms were searched (see Fig. 1 for the complete search terms). In the course of the extraction of articles, the advanced search option permitted the inclusion of only articles, reviews, and articles in press as possible publications for selection at this phase. Furthermore, the search was limited to publications in the English language and to the subject areas of Business, Management and Accounting, Social Science, Computer Science, Psychology, and Decision Science (publications in the Marketing field, which is one of the research areas where the consumer journey concept has mostly evolved (Følstad and Kvale, 2018), are typically included in these subject areas). The search timeframe was specified as being from 2009 to 2020. The year of 2009 was set as the starting year, since this was when Court et al. (2009) first coined the term “consumer decision journey”, which has since then been widely adopted in managerial and academic settings (Batra and Keller, 2016). The search resulted in 1325 documents.

Hits that contained the search terms in the title, abstract, or keywords were then grouped in an Excel spreadsheet as a record of the search (Følstad and Kvale, 2018). Several excluding criteria were further applied when analyzing the abstract and when briefly searching the remainder of the documents, namely:

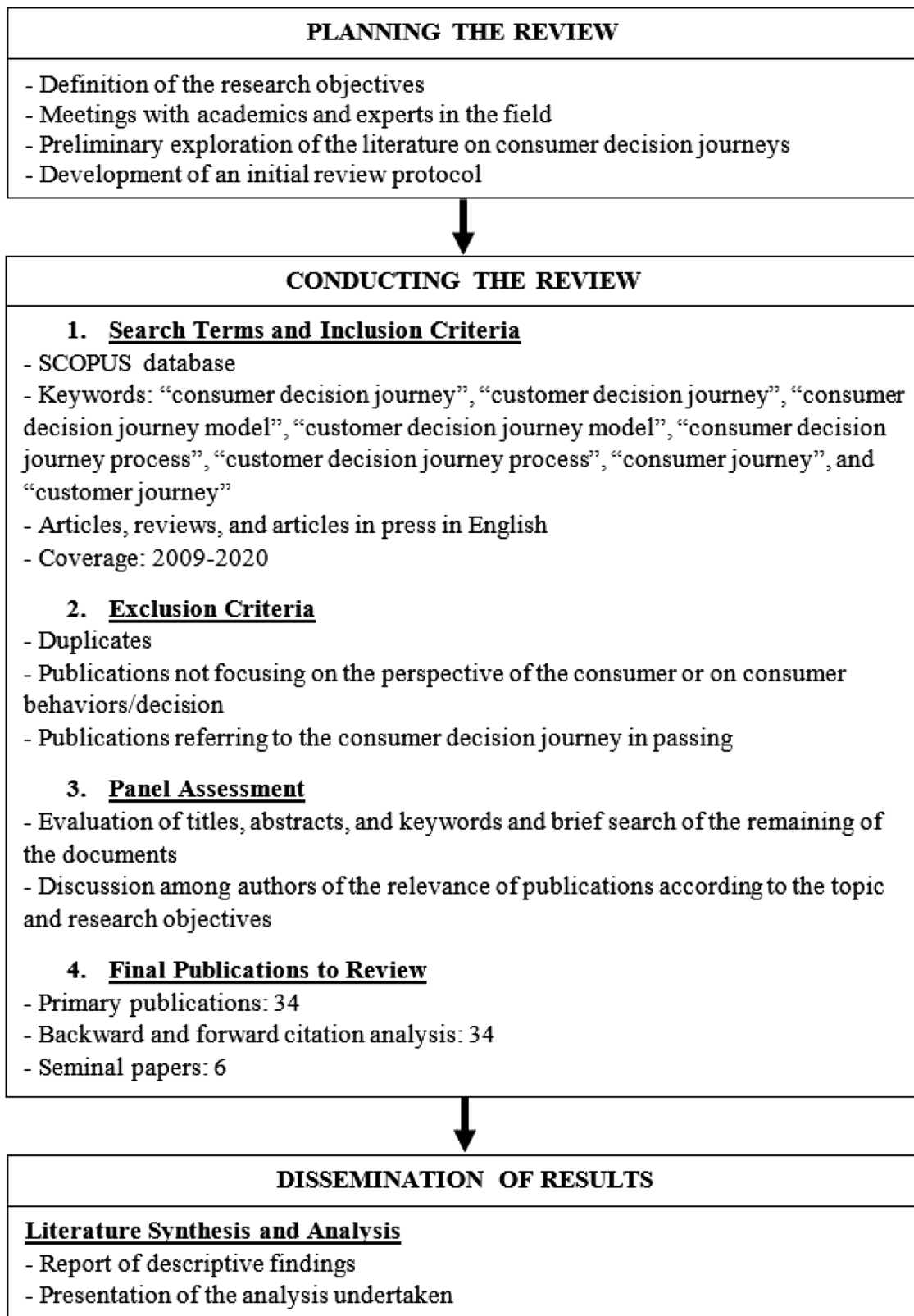


Fig. 1. Summary of the semi-systematic literature review process. Adapted from Marikyan et al., (2019).

- Duplicate publications;
- Publications that do not focus on the consumer's perspective and do not consider consumer-related behaviors and decisions (e.g., those that are solely firm-oriented or that use the term “journey” solely to refer to a transportation route or trip); and

- Publications that mention the consumer decision journey (or a synonymous) only in passing (Følstad and Kvale, 2018). Only publications that mention and treat the background sources of the consumer decision journey in more detail were included.

The authors discussed the publications regarding their potential relevance to the topic and objectives of the study, and only those where both were unanimous were included (Paciarotti and Torregiani, 2021). As a result of the systematically based literature search and selection process, a total of 34 documents were included in the analysis.

Given that the theories and foundational models and literature contributions are embedded in the publications, a citation analysis was also conducted (Sengers et al., 2019). This additional strategy, which is based on scanning the selected publications for others that are potentially relevant, is appropriate for semi-systematic literature reviews which, by nature, do not require such strict protocols as the systematic review method does (Snyder, 2019). Particularly to search for the foundational models, this study follows the forward and backward citation analysis (i.e., snowballing) technique used by Paciarotti and Torregiani (2021). According to these authors, while backwards snowballing refers to using the reference list of a set of publications to identify new publications to be included, forward snowballing notes the identification of new publications citing the selected publication. As with Paciarotti and Torregiani (2021), the publications that were identified in the first round of the snowballing process then entered a new snowballing procedure, and the process continued iteratively until no new relevant publications were found. The screening process resulted in 34 documents being added to the already-selected documents, including important books and book chapters. The consideration of various sources of literature and types of publications helps to minimize issues related to publication bias (Følstad and Kvale, 2018). Discussion with other academics led an additional six seminal papers being added, resulting in a total of 74 documents.

3.3. Dissemination of results

The third and final stage of the review process is to synthesize the extensive primary research publications (Tranfield et al., 2003). Here, the descriptive statistics of the literature used are reported, as well as the findings of the analysis undertaken (Marikyan et al., 2019). The respective results are formally presented and discussed in the next section. To better analyze the publications, these were broken down into parts based on a group of characteristics (e.g., process models/theories) feeding back to the research objectives (Toorajipour et al., 2021). Data-driven categories were established during the analysis, following the six phases for a thematic analysis that guided the works of Hossain et al. (2020) and Marikyan et al. (2019). The purpose is to identify, analyze, and report patterns in the form of themes (Afshar-Nadjafi, 2020; Snyder, 2019). In phase 1, the 74 documents were read to increase the familiarity with the topic of interest, as well as the knowledge regarding some patterns of analysis. In phase 2, initial ideas and codes were established concerning the data in the publications. In phase 3, the themes of the different codes were searched across the data set. In phase 4, the thematic scheme was reviewed. In phase 5, the themes were finalized and adjusted. Finally, in the last phase, data regarding those themes were aggregated and interpreted, and the narrative based on the established themes that were derived from the literature was reported. The specific themes that were derived in line with the objectives of this study and their concise view and interpretation are presented in the next section. The flow of the previously-described semi-systematic literature review is presented in Fig. 1.

4. Results and discussion

4.1. Distribution of the publications

The frequency analysis of the distribution of the publications includes data regarding the publication year of the studies, the type of publications, the scientific journal of publications, the research areas, the contributions, and the research methods employed (Lyngdoh et al., 2021). The year of 2020 was the year with the highest number of publications

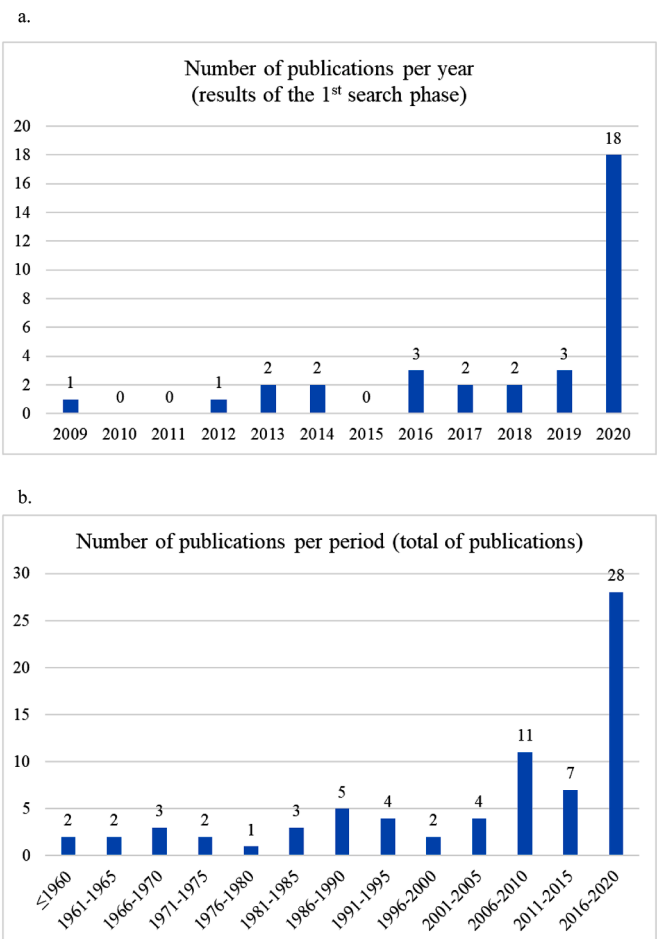


Fig. 2. Number of publications per year/period. (a). Number of publications per year (results of the 1st search phase). (b). Number of publications per period (total of publications).

considering the consumer decision journey and making reference to its foundational models (Fig. 2). In addition, models and theories that contributed to the consumer decision journey concept can be traced back to years before 1960. The majority of publications considered for analysis are article papers (66), followed by books (seven) (Fig. 3). Regarding only the articles, these were published in 47 journals, in which the first nine cover 28% of the total (Table 1). The research area dominating the publications is Marketing (61), followed by Management and Psychology in a much lower proportion (Fig. 3). Furthermore, the contributions provided by the publications are approximately equal between theoretical and empirical (Fig. 3). Finally, when considering only the articles, most of them are literature reviews (30) (Fig. 3). Other methods include the use of regression analysis (10), structural equation modeling (six), and qualitative designs (five).

4.2. Foundational models of the consumer decision journey

The analysis of the publications evidenced that the consumer decision journey has its theoretical roots in three major literature currents, namely classical consumer buying behavior models, decision analysis models, and hierarchy of effects modes. Table 2 summarizes the analyzed publications by literature stream. In the following subsections each research stream will be discussed in detail. Besides the publications selected and analyzed through the semi-systematic literature review process, some additional studies were used to help define some emerging concepts.

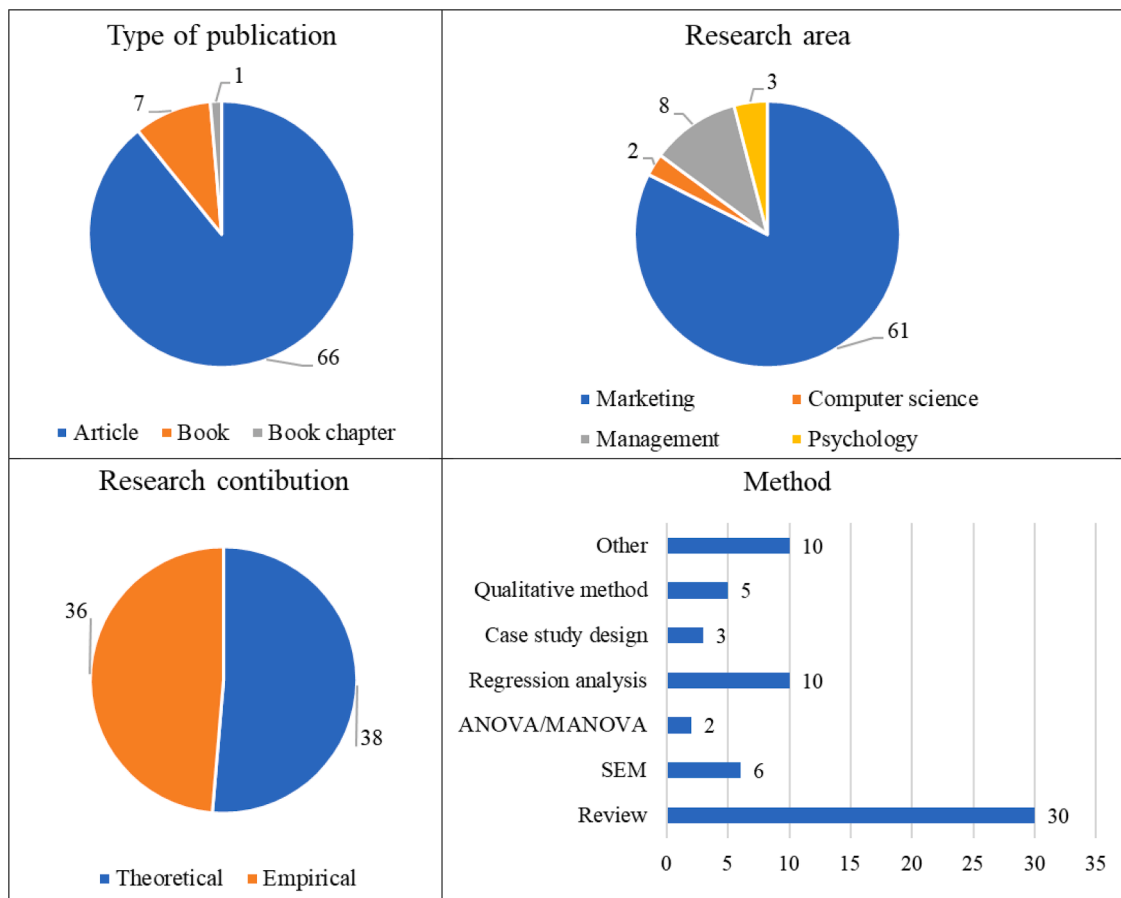


Fig. 3. Type of publication, research area, research contribution, and methods used.

4.2.1. Classical consumer buying behavior models

The classical consumer buying behavior models are the cornerstones of consumer behavior research, which has contributed greatly to consumer decision journey analysis (Lemon and Verhoef, 2016). Engel et al. (1986) refer to consumer behavior as being the actions directly involved in obtaining, consuming, and further disposing products and services, as well as the decision processes preceding and following these actions. Covering a wide research scope in marketing theory, consumer behavior has developed its concepts from diverse scientific disciplines such as economics, psychology, sociology, social psychology, and anthropology (Smith and Rupp, 2003). More recently, due to the increasing digital penetration, research areas investigating the use of technology, such as information systems, have contributed to the expansion of consumer behavior literature (Darley et al., 2010).

Consumer decision-making theories from behavior research have evolved over the years. The first theories, embracing the classical and neoclassical economic tradition, were based on rational choice assumptions (Kotler, 1965; Martin and Woodside, 2012). According to Smelser (1992), rational choice theories are based on the view of individuals as rational decision-makers who are motivated and able to maximize their utility in each purchase situation. They have complete knowledge of products and market conditions and have stable preferences.

Over the years, limitations in these theories have been discussed. Consumer decision-making typically occurs under uncertainty, with individuals lacking complete information of their environment, as well as the skills, desire, or motivation necessary to reach an optimal decision (Simon, 1955). Additionally, “consumers are just as likely to purchase impulsively and to be influenced not only by family and friends, by advertisers and role models, but also by mood, situations, and emotion” (Smith and Rupp, 2003, p. 421). Although rational choice assumptions have been subject to

criticism, they have contributed a great deal to predicting consumer decisions (Bettman et al., 1998). For example, consumers do in fact engage in cost-benefit analysis and assess the utility of different options (Wright, 1975). Recognizing the limitations of rational choice theory, studies have considered an alternative information-processing approach (Bettman, 1979; Bettman et al., 1998), which has been adopted in some of the most widely studied decision-making models. The information-processing approach is a cognitive perspective on consumer behavior, derived from cognitive psychology, which focuses on consumers’ intrapersonal information processing mechanisms (Marsden and Littler, 1998). According to Bettman et al. (1998), this approach endorses the bounded rationality notion of Simon (1955).

According to the bounded rationality theory, decision-makers are limited by incomplete information, time constraints, complexity of circumstances, and cognitive capacity to process information, leading them to make satisfying rather than optimal decisions (Simon, 1957; Smallman and Moore, 2010). Limited cognitive capacity includes limited computational capabilities and limited working memory (Bettman et al., 1998). Assuming bounded rationality of consumers suggests that behaviors are shaped through interactions between individual information-processing and the context of the task. As such, the decision-making process is constructive, as it varies across individuals, complexity of decisions, and contexts (Bettman et al., 1998).

The exploration of the consumer’s search, process, and purchase behavior has long received the attention of practitioners and academics in traditional purchasing settings (i.e., physical stores) and includes consumer contacts with traditional media, such as radio and television (see Batra and Keller (2016) for a review). These studies tend to focus on the activities, phases, and outcomes of consumer purchase decisions (e.g., Gabbott and Hogg, 1994; Sirakaya and Woodside, 2005), the internal

Table 1
Articles included in the semi-systematic literature review by journal.

Journals	Frequency	Research areas	Contributions	Methods
Journal of Marketing	7	Marketing	Theo., Emp.	1, 6, 7
Journal of Retailing	6	Marketing	Theo., Emp.	1, 2, 4, 7
Journal of Retailing and Consumer Services	3	Marketing	Empirical	4, 5, 7
Information and Management	2	Marketing	Empirical	2, 4
Inter. Journal of Research in Marketing	2	Marketing	Theo., Emp.	1, 7
Journal of Business Research	2	Marketing	Theo., Emp.	1, 2
Journal of Interactive Marketing	2	Marketing	Empirical	4, 7
Management Science	2	C. sc., Manag.	Theo., Emp.	1, 4
Psychology & Marketing	2	Marketing	Theo., Emp.	1, 2
Administrative Science Quarterly	1	Management	Empirical	7
Advances in Consumer Research	1	Marketing	Theoretical	1
Annals of Tourism Research	1	Marketing	Theoretical	1
Decision Support Systems	1	Marketing	Empirical	3
European Journal of Marketing	1	Marketing	Empirical	6
European Journal of Operational Research	1	Management	Theoretical	1
Harvard Business Review	1	Management	Empirical	7
Inter. Journal of Advertising	1	Marketing	Theoretical	1
Inter. Journal of Consumer Studies	1	Marketing	Theoretical	1
Inter. Journal of Contemporary Hospitality Management	1	Marketing	Empirical	6
Inter. Journal of Electronic Commerce	1	Marketing	Empirical	4
Inter. Journal of Event and Festival Management	1	Management	Empirical	5
Inter. Journal of Information Management	1	Marketing	Empirical	2
Inter. Journal of Retail and Distribution Management	1	Marketing	Empirical	7
Inter. Research Journal of Business Studies	1	Marketing	Theoretical	1
Journal of Applied Social Psychology	1	Marketing	Empirical	2
Journal of Consumer Research	1	Marketing	Theoretical	1
Journal of Direct, Data and Digital Marketing Practice	1	Marketing	Empirical	6
Journal of Family Ecology and Consumer Sciences	1	Marketing	Theoretical	1
Journal of Fashion Marketing and Management	1	Marketing	Empirical	6
Journal of International Marketing	1	Marketing	Theoretical	1
	1	Marketing	Theoretical	1

Table 1 (continued)

Journals	Frequency	Research areas	Contributions	Methods
Journal of Marketing Management				
Journal of Marketing Research	1	Marketing	Empirical	3
Journal of Nonprofit and Public Sector Marketing	1	Marketing	Empirical	5
Journal of Service Management	1	Marketing	Empirical	4
Journal of Service Theory and Practice	1	Marketing	Theoretical	1
Journal of the Academy of Marketing Science	1	Marketing	Empirical	4
Journal of the Operational Research Society	1	Marketing	Empirical	4
Journal of Travel and Tourism Marketing	1	Marketing	Theoretical	1
McKinsey Quarterly	1	Marketing	Empirical	7
Neural Networks	1	C. science	Empirical	7
Online Information Review	1	Marketing	Theoretical	1
Operations Research	1	Management	Theoretical	1
Organizational Behavior and Human Decision Processes	1	Psychology	Theoretical	1
Service Industries Journal	1	Management	Theoretical	1
Sustainability	1	Marketing	Empirical	4
The Book-Keeper	1	Marketing	Theoretical	1
Tourism Management	1	Marketing	Theoretical	1
Total	66			

Note. 1 – Review, 2 – SEM, 3 – ANOVA/MANOVA, 4 – Regression analysis, 5 – Case study design, 6 – Qualitative method, 7 – Other.

and external factors influencing decision processes (e.g., [Sirakaya and Woodside, 2005](#)), the stimulus elements of in-store environments (e.g., [Baker et al., 1992](#)), and the role of consumer's memory, attitudes, and perceptions on choice decisions (e.g., [Puccinelli et al., 2009](#)). Due to the proliferation and impact of the Internet in purchase decisions, online purchase process models have also been developed, adding the influence of the online environment (e.g., [Darley et al., 2010](#); [Karimi et al., 2015](#)).

Regarding specific model types, two major types of models can be discerned in consumer buying behavior research, namely the grand models and the models based on beliefs, attitudes, and intentions.

Grand models. The first group of models focuses on identifying the key elements that comprise consumer behavior. They illustrate the stages of the decision-making process, influencing factors, and broad variable relationships. Due to the wide range of elements, these models are labeled the “grand models” of consumer behavior ([Erasmus et al., 2001](#); [Kassarjian, 1982](#)) and can be traced back to the ‘60s ([Herhausen et al., 2019](#); [Olson et al., 2020](#)). The pioneer models of [Nicosia \(1966\)](#), [Engel et al. \(1968\)](#), and [Howard and Sheth \(1969\)](#) are the three main consumer-decision models in this category. In general, they are composed of multiple interconnected steps that represent how consumer actions develop based on various internal and external factors. Furthermore, consumer actions lead to decisions that will mold subsequent processes. Although they have differences, these grand models illustrate similar phases of the decision process, which have been simplified to a five-stage model known as the “traditional decision-making process model” that constitutes the basis of most consumer behavior research and models ([Martin and Woodside, 2012](#); [Puccinelli et al., 2009](#); [Wolny and Charoensuksai, 2014](#)), including that of the consumer journey ([Hall and Towers, 2017](#); [Lemon and Verhoef, 2016](#); [Nam and Kannan, 2020](#); [Santana et al., 2020](#)). The main stages of this model are problem recognition, information search,

Table 2

– Publications included in the semi-systematic literature review distributed by foundational models/theories.

Foundational models/ theories	Publications
Classical consumer buying behavior	Demmers et al., (2020), Hsia et al., (2020), Hu and Tracogna (2020), Lynch and Barnes (2020), Nam and Kannan (2020), Olson et al., (2020), Rudkowski et al., (2020), Santana et al., (2020), Shavitt and Barnes (2020), Shen et al., (2020), Siebert et al., (2020), Wedel et al., (2020), Wilson-Nash et al., (2020), Herhausen et al., (2019), Varnali (2019), Følstad and Kvale (2018), Hall and Towers (2017), Wang and Yu (2017), Lemon and Verhoef (2016), Karimi et al., (2015), Wolny and Charoensuksai (2014), Martin and Woodside (2012), Darley et al., (2010), Yousafzai et al., (2010), Ha and Stoel (2009), Ko et al., (2009), Puccinelli et al., (2009), Ajzen (2008), Sirakaya and Woodside (2005), Vijayasarathy (2004), Smith and Rupp (2003), Erasmus et al., (2001), Gabbott and Hogg (1994), Baker et al., (1992), Ajzen (1991), Davis et al., (1989), Engel et al., (1986), Kassarian (1982), Fishbein and Ajzen (1975), Howard and Sheth (1969), Engel et al., (1968), Nicosia (1966), Kotler (1965)
Decision analysis	Santana et al., (2020), Shavitt and Barnes (2020), Anderl et al., (2016), Karimi et al., (2015), Martin and Woodside (2012), Smallman and Moore (2010), Sirakaya and Woodside (2005), Erasmus et al., (2001), Bettman et al., (1998), Regan and Holtzman (1995), Howard (1988), Keeney (1982), Ulvila and Brown (1982), Mintzberg et al., (1976), Wright (1975), Simon (1960)
Hierarchy of effects	Choi (2020), Kim et al., (2020), Mishra et al., (2020), Pauwels and van Ewijk (2020), Siebert et al., (2020), Wedel et al., (2020), Wilson-Nash et al., (2020), Farah et al., (2019), Colicev et al., (2018), Følstad and Kvale (2018), Hall and Towers (2017), Batra and Keller (2016), Lemon and Verhoef (2016), Vázquez et al., (2014), Wolny and Charoensuksai (2014), Hudson and Hudson (2013), Hudson and Thal (2013), Wijaya (2012), Court et al., (2009), Naik and Peters (2009), De Bruyn and Lilien (2008), Egan (2007), Scholten (1996), Barry and Howard (1990), MacInnis and Jaworski (1989), Lavidge and Steiner (1961), Lewis (1903)

evaluation of alternatives, purchase, and post-purchase (Lemon and Verhoef, 2016; Puccinelli et al., 2009). Appendix A summarizes these main stages of the traditional decision-making process model in this literature stream.

Recently, studies analyzing the consumer decision journey have narrowed these stages to facilitate decision-making conceptualizations and analysis. Some exceptions exist when the purpose of the study is qualitative and exploratory (e.g., Lynch and Barnes, 2020). Examples identified within the reviewed studies include smaller subdivisions, such as pre-consumption, consumption, and post-consumption (Demmers et al., 2020); or pre-trip, active experience, and post-trip (Shen et al., 2020); or pre-core, core, and post-core service encounters (Siebert et al., 2020); with the most evidenced of all being mainly based on Lemon and Verhoef (2016): pre-purchase, purchase, and post-purchase (Følstad and Kvale, 2018; Hsia et al., 2020; Hu and Tracogna, 2020; Rudkowski et al., 2020; Shavitt and Barnes, 2020; Varnali, 2019; Wedel et al., 2020; Wilson-Nash et al., 2020).

Models based on beliefs, attitudes, and intentions. The second group of models focuses on predicting and explaining general consumer behaviors based on beliefs, attitudes, and subjective norms as general determinants of intended and actual behavior. These models are related to the previous group in the sense that their underlying constructs (i.e., beliefs, attitudes, and intentions) are factors underlying the evaluation of alternatives, which is a specific stage in the grand models (Darley et al., 2010; Engel et al., 1968). The main models in this group are the Theory of

Reasoned Action (TRA) (Fishbein and Ajzen, 1975) and the Theory of Planned Behavior (TPB) (Ajzen, 1991), which are based on expectancy-value models (Ajzen, 2008). TRA and TPB generally specify that behavioral intention, and consequently actual behavior, is a function of both an individual's attitude towards the behavior (shaped by behavioral beliefs) and the individual's perception of social pressures, named subjective norm (shaped by normative beliefs). TPB extends TRA by adding perceived behavioral control as an antecedent to behavioral intentions (shaped by control beliefs), which accounts for the conditions in which an individual lacks full volitional control over the situation (Yousafzai et al., 2010). Maintaining the fundamental process of attitude-intention-behavior, the Technology Acceptance Model (TAM) (Davis et al., 1989) was adapted from TRA to predict technology acceptance and usage. According to TAM, intention, and ultimately actual technology acceptance, is determined by an individual's attitude towards the technology use. This attitude is, in turn, formed from two types of beliefs, namely perceived usefulness and perceived ease of use. With the proliferation of the Internet, the original TAM and its extended versions have been widely used to study Internet (Ha and Stoel, 2009; Vijayasarathy, 2004) and mobile (Ko et al., 2009) usage and purchase behaviors, as well as the influence of social interactions and word-of-mouth (Wang and Yu, 2017).

4.2.2. Decision analysis models

The second stream of foundational models of the consumer decision journey are those related to decision analysis (e.g., Santana et al., 2020; Shavitt and Barnes, 2020). According to Keeney (1982), decision analysis is a discipline based on utility theory that analyzes the systematic processes and complexities associated to decision problems. In a simpler manner, it is a “systematic procedure for transforming opaque decision problems into transparent decision problems by a sequence of transparent steps” (Howard, 1988, p. 680). Decision analysis has emerged from various disciplines, including statistical decision theory, economics, psychology, and social science (Ulvila and Brown, 1982).

In decision analysis, the evolution of decision-making research accompanied the transversal changes in the assumption of the rational, economic man across areas of study. Just as with the literature stream discussed in the previous subsection, rational choice theory was at the center of earlier decision analysis studies. The advantages and disadvantages of each possible outcome were evaluated and decisions were optimally made on the basis of maximizing utility (Smallman and Moore, 2010). However, as previously discussed, consumer decision choices have been more recently studied under an information-processing view, which also applies to decision science. The information-processing approach endorses Simon's theory of bounded rationality (Bettman et al., 1998; Simon, 1955). Decision-making processes are constructed using a wide variety of approaches, which are shaped by the consumer's goals, information-processing capacity and preferences, and the decision-making context and task complexity (Bettman et al., 1998).

However, while most of consumer behavior research is based on the traditional decision-making process model, decision science research and its models differentiate themselves because they analyze and detail the psychological processes that underlie specific phases of the decision-making process, with a major focus on search and evaluation behaviors. Consumers adapt and construct their actions and preferences during the decision process, frequently engaging in non-conscious behavior and recurring to heuristics, or cognitive rules of thumb, to simplify decisions that are complex, made under time pressure, or with have limited available information (Erasmus et al., 2001). On the other hand, the traditional consumer buying behavior models, that typically have rigid structures, cannot account for the diversity in consumer decision-making (Erasmus et al., 2001). Decision analysis models, which explicitly account for the consumer's role and subjective judgment in evaluating the consequences of alternatives (Keeney, 1982), complement traditional decision-making processes and, together, offer a more holistic view of purchase decisions.

In this literature stream, two main categories of decision analysis models were evidenced, which differ in their ability to portray the dynamism in decision-making, namely more sequential decision analysis models and more flexible decision analysis models.

Sequential decision analysis models. The first group includes more sequential decision models (e.g., Keeney, 1982; Regan and Holtzman, 1995; Simon, 1960). According to these models, decision-making is a cognitive procedure that can be divided into sequential phases. In general, consumers start by formulating the decision problem and specifying objectives and alternatives according to certain criteria. Next, the evaluation of alternatives takes place by accessing their consequences, and the consumer terminates with a judgment leading to a choice. If the decision is not satisfying, then the decision problem is refined and the cycle restarts.

Flexible decision analysis models. The second group of models describe more flexible decision-making (e.g., Karimi et al., 2015; Martin and Woodside, 2012; Mintzberg et al., 1976). Although decision-making is decomposed in stages, defining some structure to the process, these models suggest that processes are interactive and that individuals move in a non-linear manner between these stages. Similar to the first models, these models start with the formulation of the decision problem and clarification of the action plan, passing to the gathering, evaluation, and ranking of alternatives, and ending with the comparison and choice of an option. However, while gathering information, the direction of the process can invert, leading to a revision in the formulation of the decision problem and respective decision criteria, which indicates changes in the initial mental models of individuals. This second group of models has important implications, indicating that decision-making processes vary by individuals and can be highly dynamic. These models are more suited to study online decision-making, since they better reflect the unstructured nature of decision-making through this channel (Karimi et al., 2015). However, they do not consider the whole decision-making process from need recognition to post-purchase, a contribution fairly given by the grand models.

The major stages of decision analysis models are presented in Appendix A, where only the general stages are represented. More dynamic, unstructured models will include more sequential loops between stages, with particular emphasis on the reverse connection between the design stage and the formulation stage (when mental models are modified by more information).

Research in decision analysis has focused on traditional purchase settings centered around traditional media and channels, but more recent focus towards the consumer decision journey has included online contexts (e.g., Karimi et al., 2015; Shavitt and Barnes, 2020). In particular, emphasis has been given to the formulation, size, and revision of choice sets by the consumer during the decision journey (Anderl et al., 2016; Sirakaya and Woodside, 2005). Over the years, attention has been given to the extent and duration of information search and processing, number and type of information and information sources, type of evaluation strategy (i.e., alternative or attribute-based), and differences in decision heuristics (Bettman et al., 1998; Santana et al., 2020; Shavitt and Barnes, 2020; Wright, 1975).

4.2.3. Hierarchy of effects models

The models in this literature stream are among the most cited when conceptualizing the consumer decision journey (e.g., Batra and Keller, 2016; Lemon and Verhoef, 2016; Pauwels and van Ewijk, 2020; Wolny and Charoensuksai, 2014). Hierarchy of effects research strongly relates to the models in consumer behavior literature. However, because they were developed parallelly for advertising and communication purposes, they are included in a separate subsection. Together with the general consumer behavior models, and some elements of decision analysis, these models provide the theoretical foundation on which modern consumer decision journey research is based (Lemon and Verhoef, 2016).

According to Barry and Howard (1990), hierarchy of effects models are concerned with how target consumers process and use the information

in advertising to influence their choices of products and brands. Developed from cognitive and social psychology (Scholten, 1996), these models generally propose that consumers process and respond to messages in a sequential form, which is decomposed in hierarchical stages. Traditional versions of these models are typically known as ‘Purchase Funnel models’ (Hall and Towers, 2017; Vázquez et al., 2014).

As in both the previously-discussed literature streams, most hierarchy of effects models assume an information-processing perspective (MacInnis and Jaworski, 1989; Scholten, 1996), which is based on bounded rationality theory (Bettman et al., 1998). According to this perspective in the hierarchy of effects literature, the outcomes of a communication effort (e.g., create awareness or inspire action) are dependent on the consumer’s motivation, process capacity, and opportunity to process the communication, as well as time and place aspects of the exposure to the message (Batra and Keller, 2016; MacInnis and Jaworski, 1989). This indicates that consumer decisions are dependent on various contextual and inherent individual factors, which ultimately shape consumer decision-making processes. However, hierarchy of effects research is differentiated and adds to the previous literature streams by explicitly recognizing the role of both cognitive and affective processing and responses. Although diverse hierarchy of effect orders have been proposed contingent on product characteristics (e.g., level of involvement and differentiation), it is widely accepted that the hierarchy is composed of three stages, namely a cognitive stage (related to knowledge-building or thinking), affective stage (related to feelings, emotions, and preferences), and conative stage (related to conviction and purchase) (Barry and Howard, 1990; Wijaya, 2012). These stages and the underlying attribution theory regarding their effects all continue to be relevant in current decision journey studies (e.g., Mishra et al., 2020; Pauwels and van Ewijk, 2020), although some studies assume the Learn-Feel-Do terminology (e.g., Kim et al., 2020). Regardless, the cognitive-affective-conative sequence is relevant, since it encompasses more abstract, emotional evaluation parameters of consumers, which have been considered missing from most traditional models of consumer decision-making (Erasmus et al., 2001). These emotional responses highly influence the way that information and environmental stimuli are gathered, evaluated, and processed throughout the decision process (Puccinelli et al., 2009). Research in the hierarchy of effects literature has essentially focused on determining the stages of communication advertising strategies, identifying the main and cross-effects of different types of media to shape the perception of consumers, and defining optimal sequencing and coordination of communication contents (e.g., Barry and Howard, 1990; Batra and Keller, 2016; Lavidge and Steiner, 1961; Naik and Peters, 2009).

Different hierarchy of effects models have been developed over the years. We identify two major groups, namely the AIDA-related models until the ‘60s and the AIDA-related models after the ‘60s.

AIDA-related models until the 60s. Lewis (1903) was one of the first contributors to this line of research, suggesting the AIDA (attention-interest-desire-action) model with the necessary stages for salesmen to move consumers through the selling process. According to this model, the success of salesmen is dependent on their ability to hierarchically attract consumer attention (related to cognition), maintain the interest and create desire (related to affect), and get consumers to act (related to conation) through the purchase funnel. Up until the 1960s, the AIDA model served as the basis for many academic and practitioner models in the advertising and communication areas, which essentially varied regarding the intermediate stages considered. Examples of these models are Hall’s AICCA (attention-interest-confidence-conviction-action) model in 1915, Kitson’s AIDCA (attention-interest-desire-conviction-action) model in 1921, and Devoe’s AIDMA (attention-interest-desire-memory-action) model in 1956 (Barry and Howard, 1990).

AIDA-related models after the 60s. One of the most-cited adaptations and contributions of Lewis’s work is, however, the traditional hierarchical model of Lavidge and Steiner (1961), which marks the introduction of a second group of models. These authors viewed advertising as a

long-term investment process, with consumers moving along causally linked stages of the advertising hierarchy, beginning with consumer's unawareness and knowledge of the product (cognition), liking and building preference (affect), and ultimately conviction and purchase (conation). Several further publications advocated and expanded this traditional framework. Widely-studies examples include works such as Colley's ACCA (awareness-comprehension-conviction-action) model in 1961 to measure advertising effectiveness and Roger's AIETA (awareness-interest-evaluation-trial-adoption) model in 1962 for new product adoption (Wijaya, 2012). However, McGuire, in 1969, was the first to attach probabilities to the hierarchical sequencing, indicating that the probability of a consumer purchasing a product as a result of advertising is dependent on the retention of the message, which, in turn, is dependent on exposure to the message, which is dependent on its comprehension, which is finally dependent on the consumer's attention (Barry and Howard, 1990). Due to the amount of conditional probabilities in the Markov chain of effects between advertising and demand (Scholten, 1996), the probability of a brand being purchased as a result of advertising can be very low (Barry and Howard, 1990).

Although they provide a substantial contribution towards understanding how consumers evolve in their path-to-purchase, these classical hierarchy models have been recently criticized. According to Egan (2007) and Wijaya (2012), three major shortcomings exist. First, hierarchical models do not take into consideration potential interactions between stages. Second, existing hierarchy of effects models do not sufficiently accommodate the effects of information technology (i.e., online channels and social media) that have changed the way individuals communicate, socialize, and ultimately influence the behavior of others. This is not only related to the previous critique (i.e., consumers construct their decision processes sometimes in a non-linear manner), but also to a search stage that is explicitly lacking, in which consumers actively search for information from others, which is not contained in advertising information. Third, hierarchy of effects models do not frequently consider post-purchase experience. However, satisfaction, sharing, and liking/disliking of products are all a crucial part of consumers' experience with brands (Batra and Keller, 2016; Wedel et al., 2020). Wijaya (2012) developed a conceptual AISDALSLove (attention-interest-search-desire-action-like/dislike-share-love/hate) model to overcome the last two limitations, which requires further empirical investigation to provide validity of its assumptions. Recently, Colicev et al. (2018) explicitly studied a customer satisfaction stage beyond awareness and purchase intent, and Farah et al. (2019) a loyalty stage. Despite the critiques, the understanding of consumer decision-making and consumer decision journeys continues to heavily rely on these hierarchy of effects models (e.g., Choi, 2020; De Bruyn and Lilien, 2008; Wilson-Nash et al., 2020).

The general stages of the models in this literature stream are shown in Appendix A. However, since the introduction of the consumer decision journey model by Court et al. (2009), most studies have reconceptualized the traditional AIDA model, albeit maintaining its hierarchy of effects principle to overcome some of its major limitations. In particular, the consumer decision journey is now commonly analyzed with regards to four major dynamic and flexible stages: initial consideration set, active evaluation, purchase moment, and post-purchase experience (e.g., Følstad and Kvale, 2018; Hudson and Hudson, 2013; Hudson and Thal, 2013; Siebert et al., 2020).

4.3. The consumer decision journey and the influence of technology

As can be observed, many consumer decision-making models have been developed over the years, contributing significantly to our understanding of how consumers decide in their decision-making processes. Recent conceptualizations of consumer decision-making processes, specifically the consumer decision journey, have built on these models, especially on the broad, encompassing theories of consumer buying behavior and hierarchy of effects (Lemon and Verhoef, 2016). In

general, they decompose purchase decisions in sequential stages, which allow academics and practitioners to analyze consumer journey experiences in more detail.

In today's technological and digital environment, however, these more sequential models are considered to have limited adequacy in capturing consumers' actual decision-making processes and consequent stages. More than ever, consumers do not depend exclusively on the information provided by organizations which is stored in memory for further use (Wijaya, 2012). Instead, they are actively exposed to and search for information through a wide variety of media and channels (Hall and Towers, 2017; Lynch and Barnes, 2020; Pauwels and van Ewijk, 2020). Brand websites, blogs, search engines, and mobile browsers assume particular importance (Batra and Keller, 2016), and with the rise of social media and increasing reliance on comparison websites, consumers are more socially influenced in their purchase decisions by word-of-mouth (Colicev et al., 2018; Wang and Yu, 2017). As such, more complex, non-linear, and less hierarchical paths-to-purchase are believed to be followed by consumers when selecting among diverse product options (Batra and Keller, 2016; Varnali, 2019).

It is based on these recent digital and social influences that the consumer decision journey emerges, with Court et al. (2009) proposing a circular decision-making journey that represents the dynamic decision process of today's more well-informed and empowered consumer. According to Court et al. (2009), the traditional purchase funnel, in which consumers start with a wide range of brands in their consideration set and narrow them down as they go through the funnel until a brand or product is chosen, no longer applies. Instead, after receiving a trigger from the environment, a preliminary set of brands is selected as an initial consideration set, which is then expanded and reduced as more brand information is gathered and actively evaluated to arrive at a decision. After the purchase, the post-purchase experience is used to shape the next experience. Hudson and Thal (2013) specify this post-purchase process, indicating that consumers continue to evaluate the product and brand, and advocate it mostly through digital channels. In addition, if consumers bond with the brand, they enter a loyalty loop directly to the purchase moment. However, it has been recently suggested that the loyalty loop is not an infinite cycle, but rather one that can end after loyalty-weakening incidents with brands (Siebert et al., 2020). In sum, the two main focuses of difference in the consumer decision journey model in comparison to others are thus the maneuverability of consideration sets and the importance of the post-purchase stage to potentially shorten the decision cycle.

However, the approach advanced by Court et al. (2009), which is widely assumed in recent decision journey studies regarding consideration sets, has been criticized. According to Anderl et al. (2016) and Yadav and Pavlou (2014), existing theory of choice sets already accounts for the expansion or changes in initially small consideration sets. Introduced by Howard (1963) and Howard and Sheth (1969) in the consumer behavior literature, this theory states that consumers are aware of a number of potential product or brand alternatives (i.e., early consideration or awareness set) from which a smaller subset (i.e., evoked or consideration set) is considered for any particular purchase. Shocker et al. (1991) argue, however, that these consideration sets are dynamic and malleable, expanding and retracting as a function of the internal and external search of consumers, which provides a view of the formation of consideration sets similar to Court et al. (2009). Nonetheless, recent attribution models have evidenced that paths-to-purchase are indeed more complex, dynamic, and interactive, with price comparison agents, emails, direct type-ins, paid search, and visits to websites all having importance in moving consumers towards the purchase (e.g., Anderl et al., 2016). However, these quantitative studies tend to analyze consumers paths-to-purchase only until conversion and for a specified number of touchpoints. Further studies that address conative dimensions of consumer decision-making are needed, specifically related to continuous or repeated user intention (Mishra et al., 2020).

Although it is evidenced that technology such as mobile devices and social media have influenced the modeling of consumer decision journeys, little is still empirically known regarding how more recent technologies powered by artificial intelligence affect and transform consumer decision journeys, such as augmented/virtual reality and virtual assistants (Hoyer et al., 2020). Such technologies offer an unprecedented personalized and interactive experience during the consumer decision journey (Nam and Kannan, 2020). The issue, however, becomes more complex, since each type of technology has its own characteristics with different possible implications at each stage of the decision journey. Hoyer et al. (2020), for example, argue that virtual/augmented reality and virtual assistants can be both relevant during the pre-purchase stage but for distinct reasons. While the first facilitates product trial in real-time, the second is more appropriate for selecting important information, customizing choice sets, and advising consumers on their choices. Although IoT (Internet-of-Things) can also provide consumers with rich, detailed information to aid pre-purchase decisions, their importance can be more felt during the purchase stage as it enables automatic transactions. Facial and fingerprint recognition, for example, significantly reduce transaction costs and further enhance the transaction convenience (Nam and Kannan, 2020).

Another prominent issue regarding recent technologies is the sensory and emotional value that is derived from their usage. The sensory dimension, in particular, will assume great importance in the AI-related technological environment and is not fully considered in the foundational models. By immersing the consumer in a virtual world or overlapping a virtual object into the consumer's physical world, these technologies provide an interactive, multisensory experience to consumers during their journeys (Farah et al., 2019). Studies argue that integrating the human body with a device (i.e., technological embodiment) adds to the creation of stronger consumer emotional bonds given the sensory attachment and immersive capability provided (Tueanrat et al., 2021). Sensory and emotional information provided by recent technologies can thus have a particular influence when consumers are considering brands prior to the purchase, as they may allow consumers to make optimal choices with richer information and rely less on brand names as decision heuristics in their decision-making (Hoyer et al., 2020). The effects of the sensory input provided by artificial intelligence technologies are far from being fully understood though. It is important for further research to explore which types of sensory stimulation (visual, auditory, or other) are most valued or possibly most useful for consumers in creating richer experience journeys (Hoyer et al., 2020).

Another type of technology with the potential to have major influences in consumer decision journeys is autonomous shopping systems. It is well known that current decision processes are more fluid and less hierarchical (Tueanrat et al., 2021), mostly due to the information conveyed through technology systems that support consumer decision-making. But the consumer is part of the process. With autonomous shopping systems, such as smart refrigerators that autonomously order groceries, the need for human decision-making is profoundly decreased or even eliminated (de Bellis and Johar, 2020). Instead, consumers delegate substantial parts of the decision and purchase process to a system that automatically reaches a number of conclusions for the consumers (i.e., which items to buy, how many, when to do so, etc.) based on input data (de Bellis and Johar, 2020). This is a clear departure from the consumer decision journey model as we know it and is a very fruitful area for future investigation. Here, similarly to the wider omnichannel retailing context (Mishra et al., 2020), opportunities exist to study the adoption of these technologies and systems by modifying, testing, and advancing later technology acceptance models into this new context.

5. Concluding remarks

In this study we have conducted a semi-systematic literature review regarding the foundational models on which the consumer decision journey has derived, and we have discussed how recent technologies can

affect and transform the current decision journey. This double focus differentiates this literature review from others in the consumer decision journey domain. Given the historical emphasis, the study includes publications dating from 1903. The thematic analysis helped to identify three main groups of decision-making models in the vast literature that together make up the founding models guiding today's consumer decision journey conceptualization. These literature streams are the classical consumer buying behavior models, the decision analysis models, and the hierarchy of effects models. Furthermore, the discussion regarding the influence of recent innovative technologies on current consumer decision journeys drew attention towards the appropriateness of certain technologies for different decision-making stage, the need for future decision journey models to incorporate sensory inputs provided by new technologies, and the possible shifting role of consumers in their own decision journeys resulting from the use of autonomous shopping systems.

The study makes several relevant contributions. Academically, the detailed semi-systematic literature review contributes to improve the theoretical knowledge regarding the consumer decision journey and its foundations, which has been lacking in the existing literature. This is particularly important, since it allows this construct to be placed into context within the various disciplines it has emerged from. Besides providing a detailed description of the models in each literature stream and critically analyzing points of similarity and difference among them, the study also identified that some claims concerning the novelty of the consumer decision journey's characteristics appear to have older theoretical roots. Moreover, the study extends ongoing discussions regarding how recent technological developments can affect the current consumer decision journey model and provides research avenues that help mold further theory development around the underlying premises of this concept.

From the practitioner's standpoint, the review of the foundations of the consumer decision journey and the future perspective regarding the implications of innovative technologies provide a holistic and comprehensive basis to structure and assist how marketing managers can perceive the consumer decision journey and make their own decisions. Firms do not have unlimited financial, human, and time resources, which means that consumer decision journey planning needs to be optimized. Fortunately, firms are increasingly able to access data solutions that allow them to have more information regarding consumers and their behaviors. However, muddling through, organizing, and identifying sequences and patterns that make sense in these data bases is somewhat challenging. By understanding the roots of the consumer decision journey in more depth (e.g., different base models and their respective principles), as well as how current technologies might mold present and future journeys (e.g., importance placed on sensory input and the changing role of consumers with autonomous shopping systems), managers can benefit from this knowledge and use it to derive better insights of the information contained in these data bases. This decreases the probability of deriving inaccurate analyses, helps the planning and development of more effective and meaningful decision journey strategies to capture and retain customers, and ultimately minimizes unnecessary spending. However, managers should bear in mind the need to ponder and structure decision journeys according to the particular sector and context of the firm. Furthermore, concerning specifically the impact of new technologies, it is important for managers to select the most appropriate technologies along the consumer decision journey. Each type of technology will play a different role at each stage of the journey (e.g., virtual assistants are likely to be crucial in the pre-purchase stage, while IoT relevant for the purchase stage), therefore designing, prioritizing, and managing technology contacts at the consumer's end is essential. Companies should, however, carefully review how recent technologies based on artificial intelligence could be integrated with the technologies already adopted (Hoyer et al., 2020).

5.1. Limitations and future research

The paper has some limitations that provide additional guidance for future research. First, we only use the SCOPUS database to select publications. Although it is the largest electronic database of peer-reviewed journals, we might have missed other papers regarding the topic of the consumer decision journey. Further research should include more databases. Second, only articles, books, and book chapters were included in the paper. Many conference papers exist on the topic that might have provided additional information, and thus future studies should include these publication types. Third, the review that was conducted was not exhaustive with regards to all the theoretical bases upon which the decision journey lies on. Instead, the focus was on the more general, main models. Other more specific theories exist, such as complexity theory, uses and gratifications theory, or consumer culture theory, that influence consumer decision journeys and that deserve future attention. Finally, although the semi-systematic literature review provides a crucial overview of the foundational models of the consumer decision journey, other methods could provide complementary and useful insights of the literature regarding this construct. Accordingly, further research should focus on methods such as bibliometric analysis or network analysis.

CRediT authorship contribution statement

Susana Santos: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Data curation, Writing – original draft, Writing – review & editing, Visualization. **Helena Martins Gonçalves:** Methodology, Validation.

Declaration of Competing Interest

None.

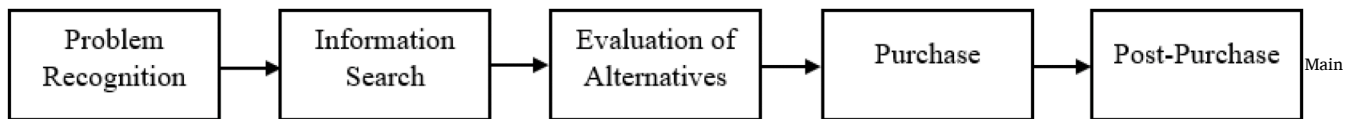
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Appendix A

Summary of the main stages of the foundational models of the consumer decision journey and some associated theories.

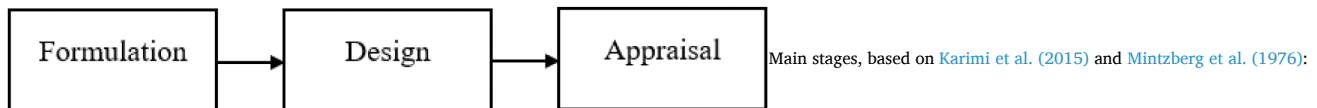
STREAM 1: Classical consumer buying behavior models



stages, based on [Lemon and Verhoef \(2016\)](#) and [Puccinelli et al. \(2009\)](#):

- **Problem recognition:** recognition of a need or want. Can be triggered by internal or external factors;
 - **Information search:** search of product-related information to identify options. Information can be gathered from external sources (e.g., salespersons, brochures, other people) or internal sources (e.g., memory);
 - **Evaluation of alternatives:** analysis and evaluation of alternatives based on developed evaluation criteria;
 - **Purchase:** product selection and action of purchase. Can be separated in product choice and purchase task due to differences in the timing and location of their occurrence; and
 - **Post-purchase:** consumer behavior after the purchase, including product use, post-purchase services, service quality, satisfaction, word-of-mouth, and repurchase.
- Examples of foundational theories include: Rational choice theory (also for STREAM 2), Information-processing theory, Bounded rationality theory (both also for STREAM 2 and STREAM 3), Attitude theory.

STREAM 2: Decision analysis models

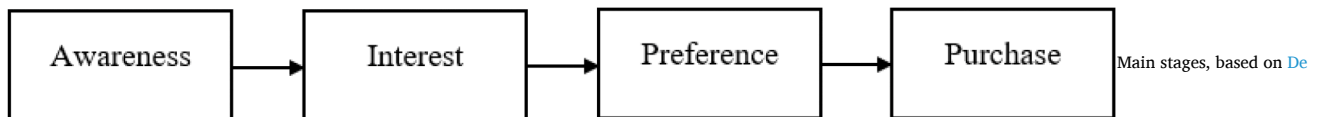


Main stages, based on [Karimi et al. \(2015\)](#) and [Mintzberg et al. \(1976\)](#):

- **Formulation:** perception or mental representation of the decision problem, including situational understanding, criteria, and alternatives in the decision-maker's mind;
- **Design:** information search based on the formulation of the decision problem and evaluation of generated alternatives according to previous criteria; and
- **Appraisal:** choice of an alternative is made and appraised.

Examples of foundational theories include: Utility theory, Statistical decision theory.

STREAM 3: Hierarchy of effects models



[Bruyn and Lilien \(2008\)](#); [Lavidge and Steiner \(1961\)](#), and [Wijaya \(2012\)](#):

- **Awareness:** first contact of the consumer with the brand or product. The consumer may not have an interest to purchase the item or sufficient information to understand its benefits;
- **Interest:** creation of a desire to deepen product or brand knowledge, which will serve as a basis to create attitudes towards the item;
- **Preference:** inclination towards a specific alternative based on favorable attitudes regarding specific brand or product features; and
- **Purchase decision:** observable action of purchase of a product or service, which is the culmination of previous steps.

Examples of foundational theories include: Attribution theory, Appeals-response theory.

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