



Contents lists available at ScienceDirect

Australasian Marketing Journal

journal homepage: www.elsevier.com/locate/ausmj

Envisioning the future of behavioral decision-making: A systematic literature review of behavioral reasoning theory

Aditya Kumar Sahu^a, R.K. Padhy^a, Amandeep Dhir^{b,c,d,*}

^aIndian Institute of Management, Kashipur, Uttarakhand-244713, India

^bSchool of Business and Management, LUT University, Lappeenranta, Finland

^cTurku School of Economics, University of Turku, Finland

^dOptentia Research Focus Area, North-West University, Vanderbijlpark, South Africa

ARTICLE INFO

Article history:

Received 10 September 2019

Revised 13 March 2020

Accepted 1 May 2020

Available online xxx

Keywords:

Behavioral reasoning theory (BRT)

Behavioral theories

Consumer behavior

Marketing and systematic literature review

ABSTRACT

Behavioral theories have been extensively referred to in consumer behavior literature to understand the factors influencing user intentions and behavior. Behavioral reasoning theory (BRT) is a relatively new theory that determines the linkage between beliefs, reasons, motives, intentions, and behavior. This study conducts a systematic literature review (SLR) to synthesize the existing body of knowledge around BRT. The present SLR critically examines the origin of this theory and its linkages with other behavioral theories, thus providing insightful knowledge on its foundations. Further, it presents the state-of-the-art research knowledge, research themes, implications, and future directions related to BRT literature. Our analysis shows that the *reasons for* and *reasons against* construct plays an important role in predicting consumer behavior. This study also finds that research related to BRT is growing rapidly and needs methodological advancements. These findings will enable scholars and practitioners to better understand how BRT works, what its strengths and potential are, the contexts in which it has been utilized, its existing limitations, and the sort of methodological advancements needed in future studies on marketing.

© 2020 The Author(s). Published by Elsevier Ltd on behalf of Australian and New Zealand Marketing Academy.

This is an open access article under the CC BY license. (<http://creativecommons.org/licenses/by/4.0/>)

1. Introduction

Theory helps scholars understand and predict the relationships between different variables of a given phenomenon (Silverman, 2016). Seminal research suggests that theory represents a set of different interlinked definitions, measures, and opinions that jointly convey a systematic viewpoint for explaining a given phenomenon (Kerlinger, 1979). Further, it supports the testing and validation of the relationships of the phenomenon (Lunenburg, 2011). In recent years, scholars and practitioners have begun to show more interest toward better understanding the behavioral aspects of management disciplines. This includes the emergence of sub-disciplines such as behavioral finance, behavioral marketing, and behavioral operations management.

Behavioral theories are widely accepted and applied within the social sciences domain (Greve, 2001). Many social science theories capture different determinants of human behavior, such as the theory of reasoned action (TRA) (Fishbein and Ajzen, 1975),

theory of planned behavior (TPB) (Ajzen, 1991), and the theory of explanation based decision making (TEDM) (Pennington and Hastie, 1993). All these theories have enabled marketing scholars and practitioners to understand the decision-making process of consumers in different contexts. However, theories like TRA and TPB are prone to various limitations, and their ability to predict and generalize consumer behavior has been questioned by many scholars (Hagger et al., 2002; Gilal et al., 2019).

Behavioral reasoning theory (Westaby, 2005 henceforth BRT) is a new theory in the field of marketing, and it can be considered as an advancement of seminal technology acceptance theories such as TPB. BRT determines the linkage between beliefs or values, reasons (for and against), global motives (attitude, subjective norm and perceived behavioral control), intentions, and user behavior measures. BRT is related to several other behavioral theories, but it offers various advantages or merits compared to them (Ryan and Casidy, 2018; Westaby, 2005). First, BRT includes two measures – *reasons for* and *reasons against*, that provide a better explanation of the human decision-making phenomenon. *Reasons for* and *reasons against* are not just the opposite, but these are two critical yet different perspectives that influence user intentions and actual behavior. Second, the measures of *reasons for* and *reasons against*

* Corresponding author.

E-mail addresses: aditya.fpm2016@iimkashipur.ac.in (A.K. Sahu), rk.padhy@iimkashipur.ac.in (R.K. Padhy), amandeep.dhir@lut.fi (A. Dhir).

<https://doi.org/10.1016/j.ausmj.2020.05.001>

1441-3582/© 2020 The Author(s). Published by Elsevier Ltd on behalf of Australian and New Zealand Marketing Academy. This is an open access article under the CC BY license. (<http://creativecommons.org/licenses/by/4.0/>)

are context-specific; hence they provide rich contextual information. Third, BRT provides additional cognitive routes through reasons (for and against) to better understand human behavior and decision-making process. Fourth, BRT has highlighted the important role of values or beliefs in predicting reasons, intentions, and user behavior. These advantages are further strengthened by a review of prior BRT studies, which suggests that BRT-based models better explain the variance of the dependent variable than other behavioral theories (Claudy et al., 2015).

Even though BRT offers several advantages over other theoretical frameworks, it has only now begun to gain some prominence. At present, only 23 studies have utilized BRT which signifies that the theory remains largely understudied. Thus, a systematic literature review (SLR) on BRT is a natural choice in this direction. The main motivations for conducting an SLR of prior BRT studies are as follows: First, SLR helps in synthesizing the research in a scientific, replicable, and transparent manner (Behera et al., 2019; Kushwah et al., 2019). Second, it offers a critical analysis of the previous studies, which in turn enables scholars to identify the future scope of work in a given field (Bhatt et al., 2020; Khanra et al., 2020; Seth et al., 2020). Third, BRT-related studies have been published in a wide variety of journals with different aims, scope, and target audience. This is because the progression of knowledge in management-related field has led to an increase in interdisciplinary, fragmented, and interdependent research in social sciences (Parris and Peachey, 2013). Therefore, it becomes necessary to conduct an SLR instead of other types of narrative reviews that compel scholars to focus on specific journals, authors, or other narrow criteria. This SLR study is not limited by the scope of any academic domain, such as marketing, even though the majority of the related studies are published under the marketing domain. To the best knowledge of the authors, an SLR on BRT has not been conducted previously. The current study aims to bridge this gap with a comprehensive and rigorous SLR on prior BRT-based literature. This SLR addressed the following three research questions (RQs): **RQ1**. What constitutes the very latest research developments in BRT? **RQ2**. What are the existing research themes on BRT? **RQ3**. What are the gaps and limitations in prior literature and the avenues of future research on BRT?

RQ1 is addressed through descriptive statistics on published research such as year-wise publications, top contributing authors, most influential articles, most influential journals, keyword statistics, and primary contributions in BRT research. For answering **RQ2**, the methodology, study measures (variables), and affordances discussed in the past studies are examined. Lastly, **RQ3** is addressed by examining the existing gaps and limitations in the BRT literature and accordingly proposing directions for future research.

The rest of the article is organized as follows: Section 2 describes the origin of BRT and discusses it as a theory. Methodology for conducting the literature review and research profile is discussed in Section 3. Section 4 presents various findings of the systematic review. Section 5 identifies the existing research gaps and directions for future research. Finally, in Section 6, the study conclusions, implications, and limitations are presented.

2. Behavioral reasoning theory (BRT)

The different constructs in BRT model are defined as follows: Belief or value is defined as a person's cognitive patterns or subjective probability judgments that would result in appropriate expected behavior in the future (Fishbein & Ajzen, 1975). The reasons correspond to the different reasons for and reasons against performing any behavior (Westaby, 2005). The global motives pertain to three sub-constructs: attitude (ATT), subjective norm (SN), and perceived behavioral control (PBC) (Ajzen, 1991). ATT signifies the global choice of performing a behavior and is formed by ana-

lytic and deliberative evaluation (Fishbein & Ajzen, 1975). SN refers to the global peer-based social pressure for performing the behavior, and PBC refers to a person's ability to control behavior (Ajzen, 1991). Intentions to use (IU) is people's intent or willingness to try and make efforts toward performing the behavior (Ajzen, 2001). Lastly, the user behavior refers to the actual execution of behavior.

2.1. Origin of BRT

The origins of BRT can be traced to the seminal literature on behavioral theories. Westaby (2005) argues that most of the recent behavioral intention theories have emerged from two foundational theories: TRA and TPB. TRA justifies the linkages between two types of beliefs (behavioral beliefs and normative beliefs), ATT, SN, IU, and behavior. As an extension of TRA, TPB considers three types of beliefs: behavioral, normative, and control beliefs which influence ATT, SN, and PBC respectively. ATT, SN, and PBC together influence IU, which then predicts behavior (Ajzen, 1991). In line with these two foundational theories, BRT also examines the association between different types of beliefs, global motives, IU, and behavior with the inclusion of the reasons construct. Further, in BRT, the beliefs or values and reasons are context-specific, unlike TRA and TPB.

The *reasons for* and *reasons against* constructs represent important aspects of BRT. Reasons constitute specific cognitions that individuals use to make decisions with confidence and even explain their intentions or behavior (Westaby, 2002). The origin of the reasons component can be traced back to the seminal theories of reasoning, namely, the theory of explanation based decision making (Pennington and Hastie, 1993) and the reasons theory (Westaby and Fishbein, 1996). In many decision-making contexts, reasons provide unique insights by justifying and defending individual actions, which further support the acceptability of the judgment. Scholars argue that reasons can be studied using the concepts of *reasons for* and *reasons against* (Claudy et al., 2015, 2013). This dichotomous classification of reasons (i.e., *reasons for* and *reasons against*) is supported by different psychological theories, namely functional theorizing (Snyder 1992), psychological coherence (Nowak et al., 2000), the health-belief model (Janz and Becker, 1984), sense-making (Thomas et al., 1993), cost-benefit models (Thaler, 1999), field theory (Lewin, 1951), and decisional balance theory (Janis and Mann, 1977). These theories represent dichotomous, opposing motivational forces in the form of costs and benefits, facilitators and barriers/obstacles, pros and cons, and so forth.

In addition to reasons, values also represent an important component of the BRT model. Values are linked to the cognitive patterns that are associated with subjective judgment and decision-making (Fishbein and Ajzen, 1975). Seminal theories on reasoning and values, such as expectancy value theory (Fishbein and Ajzen, 1975), TEDM (Pennington and Hastie, 1993), and reasons theory (Westaby and Fishbein, 1996), suggest that beliefs or values are a strong predictor of reasons (Ryan and Casidy, 2018). BRT also suggests that beliefs or values are different from reasons; that is, reasons represent a more narrow chain of thoughts than beliefs or values that describe people's behavior (Westaby, 2005).

Westaby's (2005) research model of BRT, consisting of different research hypotheses (H), is discussed and presented here (See Fig. 1a). **H1** suggests IU is the predictor of behavior, similar to TRA, TPB and technology acceptance model (TAM) frameworks. This suggests that if the IU for performing the behavior is high, then there is a greater possibility that the individual will perform or engage in the given behavior. **H2a-c** examines the association of global motives (namely ATT, SN and PBC) and IU in diverse domains of behavior, which is similar to TPB. This suggests that higher the global motives are, the greater is the intention to per-

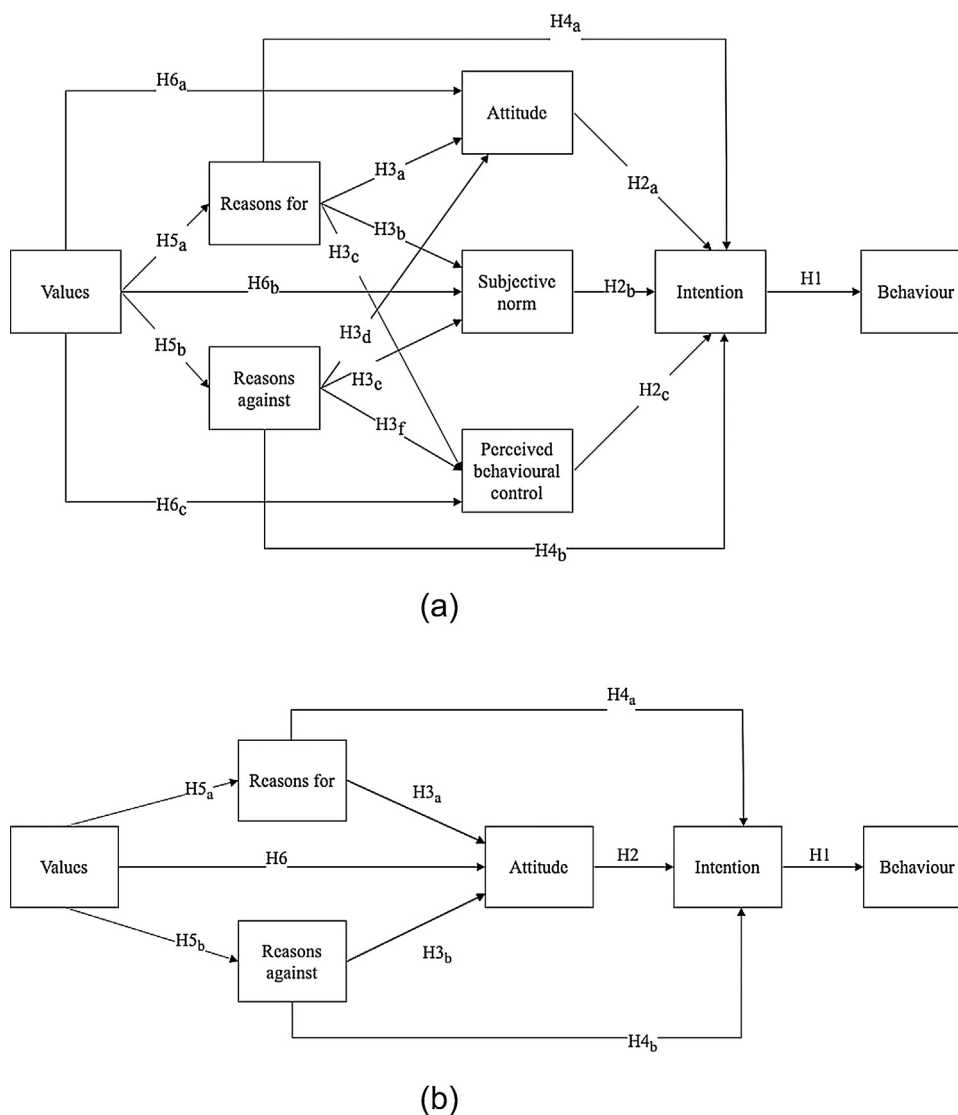


Fig. 1. (a). Behavioral reasoning theory model (adapted from Westaby, 2005), (b). Behavioral reasoning theory model (adapted from Claudy et al., 2015).

form the behavior. **H3_{a-f}** examines the association between reasons and global motives. The reasons component is sub-divided into two sub-dimensions: *reasons for*, which represent a set of positive factors and *reasons against*, which refers to a set of negative factors. According to BRT, the stronger the reasons for performing a behavior, the higher is the association between global motives and performing the behavior. **H4_{a-b}** examines the association between reasons (for and against) and IU. **H5_{a-b}** investigates the association between values and reasons. Earlier literature on technology acceptance suggests that reasons alone have shown strong predictability of IU (Venkatesh et al., 2003; Westaby, 2005). BRT also suggests that reasons alone are a strong predictor of IU, even if global motives, such as ATT, SN or PBC, are not inclined. Thus, BRT is an advancement over past behavioral theories such as TRA and TPB as it explains the variance in IU beyond what is explained by global motives. In a nutshell, if the supporting reasons are strong, then the individual possesses higher IU to perform the behavior. **H6_{a-c}** investigates the association between beliefs or values and global motives. The foundational theories, TRA and TPB, also suggest that beliefs and values directly predict global motives. The BRT model proposed above was modified by Claudy et al. (2013), who replaced global motives with just ATT. The modified BRT model (see Fig. 1b) is popular among scholars pursuing empirical research (see Sivathanu, 2018a, 2018b; Pillai and Sivathanu, 2018;

Gupta and Arora, 2017a, 2017b; Claudy et al., 2015, 2013; Ryan and Casidy, 2018). The main components of the modified BRT model are values, reasons (for and against), ATT, and IU. The different hypotheses of the original and modified BRT theory have been tested in several contexts in prior literature. These studies are summarized in Table 1.

2.2. Theoretical foundations of BRT

Our review suggests that BRT's foundation is heavily linked to earlier theories on behavioral reasoning and technology acceptance. Fig. 2 illustrates the timeline of 11 theories discussed in prior literature to explain the foundation of BRT. These 11 theories, which consist of field theory, cognitive dissonance theory, TRA, TPB, spreading activation theory, expectancy-value theory, decisional balance theory, TEDM, reasons theory, TAM, and unified theory of acceptance and use of technology (UTAUT), are associated with different components of BRT. Fig. 3 illustrates the contribution of each of these theories in postulating different hypotheses under BRT. For example, the association between IU and behavior is supported by TRA, TPB, TAM, and UTAUT. On the other hand, the association between ATT and IU is supported by TRA, TPB and TAM. Similarly, support for associations between other components of BRT can easily be inferred from Fig. 3. The rest of this sec-

Table 1
Comprehensive summary of BRT literature..

Authors (year)	Context	Sample	B/V	RF	RA	ATT	SN	PBC	IU	UB	MD/ ME	OV	AT DV (R ²)	IU DV (R ²)
Peterson & Simkins (2019)	Sustainable transportation	100 Irish participants (50% female) with age group 18 to 66 years and above	✓	✓	✓	✓	✓			✓			R ² not reported	R ² not reported
Diddi et al. (2019)	Sustainable clothing	41 US students (70% female) with age group from 18 to 24 years		✓	✓				✓				NA	NA
Sivathanu (2018a)	Beauty kit online subscription	654 Indian respondents (100% female) with age group from 21 to 51 years and above	✓	✓	✓	✓			✓				76.4%	64.6%
Ryan & Casidy (2018)	Organic food	617 (n = 306 for low BR and n = 311 for high BR) US respondents (49% female) with age range from 18 to 46 years	✓	✓	✓	✓			✓		✓		27% for high BR and 34% for low BR	24% for high BR and 21% for low BR
Pillai & Sivathanu (2018)	M-learning apps	680 Indian employees (43% female) with age group between 20 and 50 years	✓	✓	✓	✓			✓				74.7%	68.6%
Sivathanu (2018b)	Internet of things (IOT) based wearables	815 Indian respondents (41% female) from age 60 years and above	✓	✓	✓	✓			✓				77.4%	68.8%
Park et al. (2017)	Apparel donation	316 US participants (51.3% female) with a mean age of 26.1 years	✓	✓	✓	✓							R ² not reported	R ² not reported
Gupta & Arora (2017a)	Mobile shopping adoption	237 Indian respondents (47.68% female) with age range between 20 and 50 years	✓	✓	✓	✓			✓				R ² not reported	R ² not reported
Gupta & Arora (2017b)	Mobile banking adoption	379 Indian respondents (48.4% female) with age range from 20 to 60 years	✓	✓	✓	✓			✓				R ² not reported	R ² not reported
Lazuras et al. (2017)	Performance and appearance enhancing substances (PAES)	800 respondents from Cyprus, Germany, Greece, Italy, and UK (35.62% female) with age range from 16 to 25 years		✓	✓								Non SEM article	Non SEM article
Miralles et al. (2017)	Entrepreneurial behavior	430 Spanish respondents (43.9% female) with two age groups below 35 and above 35 years				✓	✓	✓	✓		✓	✓	11%	43%
Chatzidakis et al. (2016)	Charitable giving	243 UK participants (60% female) with the age group from 30 to 60 plus years		✓	✓	✓			✓				R ² not reported	R ² not reported
Vakola (2016)	Mobile banking	Longitudinal study with 182 Greece respondents (45% female) with age from 24 to 65 years at the beginning and 146 employees 12–14 months after		✓	✓								NA	NA
Claudy et al. (2015)	Product innovation and service innovation	Cross sectional study. Study 1: 254 Ireland respondents (50% female) Study 2: 379 Irish respondents (60.2% female) both with the age groups between below 19 to 66 years and above	✓	✓	✓	✓			✓				R ² not reported	R ² not reported
Russo et al. (2015)	Reporting errors in workplace	188 Italian participants 58% female) with average age of 38.8 years		✓	✓	✓	✓	✓	✓		✓		36%	27%
Arli & Lasmono (2015)	Charitable giving	258 Indonesia respondents (72.5% female)*	✓	✓		✓							R ² not reported	R ² not reported
Claudy & Peterson (2014)	Sustainable transportation	936 Ireland respondents (49.8% female) with age between 25 and 44 years	✓	✓	✓	✓				✓			R ² not reported	R ² not reported
Claudy et al. (2013)	Renewable energy systems (Solar panels)	254 Ireland participants (53.3% female) from age range between 15 and 60 and above years	✓	✓	✓	✓			✓		✓		R ² not reported	R ² not reported
Norman et al. (2012)	Binge drinking	Longitudinal study with 265 UK respondents at the beginning and 172 respondents (82.55% female) after one week with mean age of 20.38 years		✓	✓	✓	✓	✓	✓	✓	✓		80%	80%

(continued on next page)

Table 1 (continued)

Westaby et al. (2010)	Leadership decision-making	283 participants (28.2% females) from US with average age of 51.66 years	✓	✓	✓	✓	✓	✓	✓	✓	R ² not reported	R ² not reported
Briggs et al. (2010)	Non profit organizations volunteering	697 Australian participants (61% females) with age group between 18 and 64 years	✓	✓		✓				✓	R ² not reported	R ² not reported
Oh & Teo (2010)	Whistleblowing policy	290 Singaporean respondents (49% female) form with age between 18 and 26 years		✓	✓	✓	✓	✓	✓	✓	18%	48%
Westaby (2005)	Employee turnover and relocation decisions	Study 1: 211 US participants (59% female) from with age group between 21 and 51 above. Study 2: 256 US employees (58% female) with average age of 33.1 years. Study 3: 204 US respondents (74.1% female) with average age of 27.2 years. Study 4: 160 US participants (72.8% female) with average age of 27.6 years	✓	✓	✓	✓	✓	✓	✓	✓	32%	62%

Note. BR- Brand reputation, B/V- Beliefs and values, RF- Reason for, RA- Reason against, ATT- Attitude, SN- Subjective norm, PBC- Perceived behavioral control, IU- Intention, UB- User behavior, ME- Mediator, MD- Moderator, OV- Other variables, DV- Dependent variable, SEM-Structured equation model, * - No clear information about the age, NA - Not applicable.

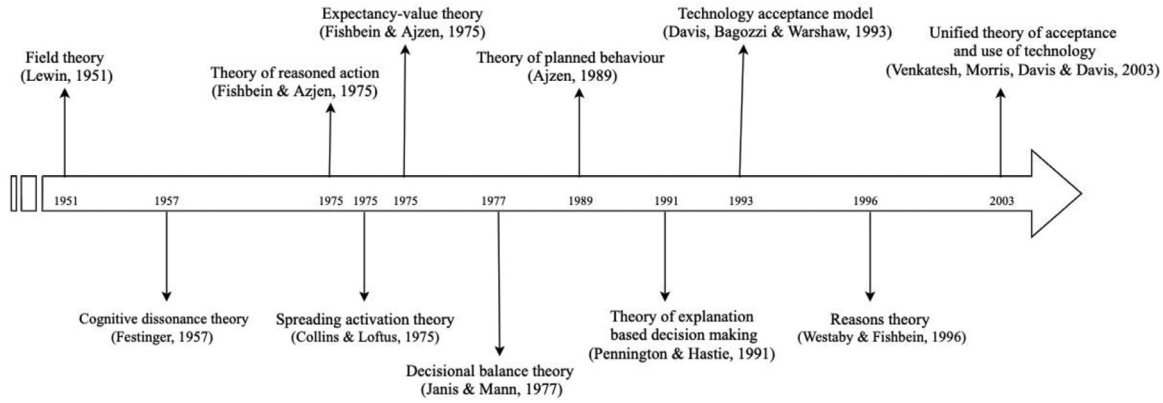


Fig. 2. Timeline of previous theories discussed in the BRT literature.

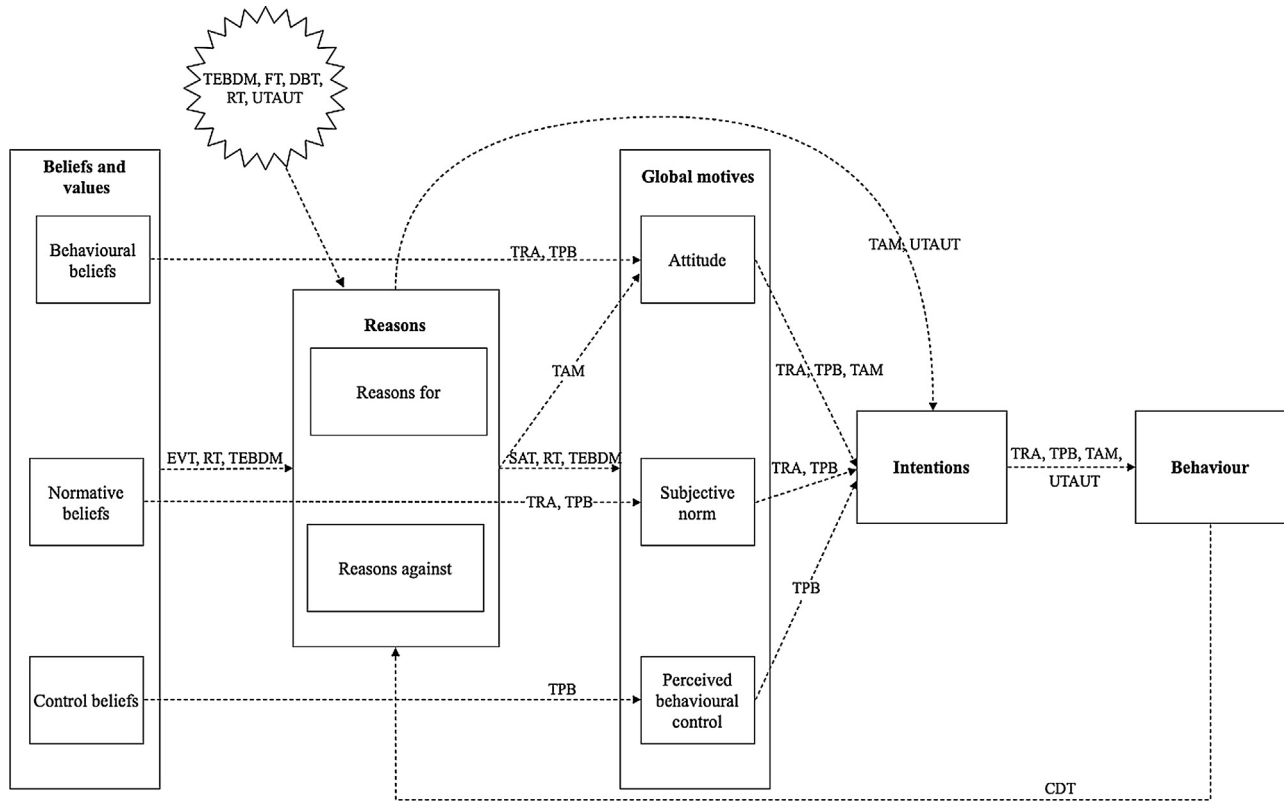


Fig. 3. Theories supporting BRT model.

Note: Field theory (FT), Cognitive dissonance theory (CDT), Theory of reasoned action (TRA), Spreading activation theory (SAT), Expectancy-value theory (EVT), Decisional balance theory (DBT), Theory of planned behavior (TPB), Theory of explanation based decision making (TEBDM), Technology acceptance model (TAM), Reasons theory (RT), Unified theory of acceptance and use of technology (UTAUT).

tion describes how these different theories are related to BRT in detail.

2.2.1. Field theory (FT)

FT suggests that there are two opposite dimensions or motivation factors responsible for performing any behavior (Lewin, 1951). The dichotomy of the dimensions is expressed in terms of positive and negative or favorable and unfavorable motivational factors. BRT utilizes these opposing dimensions as the basis for explaining the reasons for and reasons against components in its model.

2.2.2. Cognitive dissonance theory (CDT)

CDT states that inconsistency between behavior and one’s attitude or beliefs gives rise to mental discomfort or dissonance in the

individual (Festinger, 1957). The individual then tries to align their beliefs and attitudes to the behavior by changing one of them to avoid discomfort. Similarly, BRT hypothesizes that reasons can rationalize, support, or distort behavior.

2.2.3. Spreading activation theory (SAT)

SAT indicates that information exists in cognitive units and in the form of interconnected networks (Collins and Loftus, 1975). Retrieval of information involves activating a series of cognitive units in the interconnected network. Cognitive units that are close to each other are able to retrieve information better than those located far in the interconnected network. Similarly, BRT hypothesizes that the reasons constructs are able to explain the global motives construct far better than beliefs and values as they are more

close to each other in a behavior intention model for decision-making.

2.2.4. Reasons theory (RT)

RT, derived largely from TEBDM (Westaby and Fishbein, 1996), describes the importance of reasons in decision-making. The core constructs of the theory are *reasons for* and *reasons against*. These two constructs of RT have been incorporated into BRT to support decision making. RT postulates that individuals assess the credibility of a belief, generated from collecting relevant information, by finding the reasons for it. Accordingly, BRT hypothesizes that beliefs and values are strong predictors of reasons. RT also postulates that the subjective explanations of people impact their global motives (ATT, PBC, and SN). These explanations, in the form of the reasons construct, are linked with global motives in BRT.

2.2.5. Expectancy-value theory (EVT)

EVT is a popular theory that has been well utilized in different fields, including marketing, economics, and psychology (Fishbein and Ajzen, 1975). Expectancy and value are the core constructs of EVT (Fishbein and Ajzen, 1975). Expectancy is linked to the outcomes that occur as a result of performing any activity or event, whereas value relates to the evaluation of these outcomes. The combination of expectancy and value leads to the motivation for performing the behavior. In a BRT context, expectancy is based on beliefs and values, whereas evaluation is done in the form of reasoning. Similarly, BRT also suggests that beliefs and values are determined by reasons.

2.2.6. Decisional balance theory (DBT)

DBT emphasizes the importance of dichotomously opposite factors of behavior (Janis and Mann, 1977). DBT proposes a tabular method to determine the pros and cons or the benefits and costs associated with different choices in the decision-making process. It supports the bifurcation of the reasons component of BRT into two dimensions: *reasons for* and *reasons against*.

2.2.7. Theory of reasoned action (TRA)

TRA is a widely accepted theory in social psychology (Fishbein and Ajzen, 1975). The core constructs of the theory are beliefs (behavioral and normative), ATT, SN, IU, and behavior. Behavioral and normative beliefs are predicted by ATT and SN respectively. TRA also states that ATT and SN predict the IU, and later, IU translates into actual behavior. Similarly, BRT includes all the constructs and their linkage, as mentioned in the TRA.

2.2.8. Theory of planned behavior (TPB)

TPB is an extension of TRA. It consists of an additional core construct, PBC, which represents control belief (Ajzen, 1991). The associations between the other constructs are similar to TRA. In addition, TPB states that PBC influences both intentions and behavior.

2.2.9. Technology acceptance model (TAM)

TAM has four core constructs: context-specific variables (i.e., perceived usefulness and perceived ease of use), ATT, IU, and usage behavior (Davis et al., 1989). TAM postulates that context-specific constructs influence IU directly and also through the path mediated by ATT between context-specific measures and IU. Furthermore, TAM postulates that IU further predicts usage behavior. BRT also utilizes context-specific measures. In BRT, beliefs/values and reasons are context-specific constructs. Like TAM, BRT hypothesizes that context-specific reasons predict IU directly and also through a path mediated by global motives (ATT, SN and PBC) between reasons and IU. Finally, IU also predicts the actual use of behavior in the BRT model.

2.2.10. Unified theory of acceptance and use of technology (UTAUT)

UTAUT is an extension of TAM (Venkatesh et al., 2003). The theory consists of three core constructs: contextual variables (social influence, effort expectancy, performance expectancy, and facilitating conditions), IU, and usage behavior. The contextual constructs are divided into facilitation and constraint conditions, to reflect the contradictory nature. UTAUT suggests that these four contextual variables predict IU, and IU further predicts the actual behavior. Similar to UTAUT, BRT also proposes two opposing contextual constructs: *reasons for* and *reasons against*. BRT hypothesizes that the context-specific reasons predict IU, and IU in turn translates into actual user behavior.

2.2.11. Theory of explanation-based decision making (TEDM)

TEDM describes how explanations play an essential role in decision making (Pennington and Hastie, 1993). The theory suggests that, while making decisions, individuals first construct a summary of relevant affirmations in their minds based on the memory. These affirmations serve as an input for the reasons or explanations. In BRT, affirmations are termed as beliefs. TEBDM supports the hypothesis that beliefs are a strong predictor of reasons. TEBDM also postulates that in decision making, explanations (or reasons) form a strong basis for determining the global motives, namely, ATT, SN, and PBC. Thus, TEBDM supports another hypothesis of BRT that reasons are a strong predictor of global motives.

3. Methodology

The present study employed a five-step process, suggested by Rowley and Slack (2004), to perform the SLR (Fig. 4). The five steps are (a) scanning the documents, (b) making notes, (c) structuring the literature review, (d) writing the literature review, and (e) building the bibliography. Scanning of the documents involves identifying keywords and the articles that must be included in the SLR. Making notes entails noting the sources from which various articles have been downloaded so that they can be cited later. Structuring of the review deals with identifying key emerging themes and accordingly sorting the selected articles. Writing of the literature involves initiating the literature review according to the identified themes in the previous step. Finally, the bibliography is built by incorporating all the sources that have been referred to in the SLR.

3.1. Article search and selection

All the relevant conceptual, empirical, and review articles on BRT were collected from different databases. The following nine digital databases were considered for conducting this study: i) Scopus, ii) Google Scholar, iii) Emerald Insight, iv) ScienceDirect, v) Taylor & Francis, vi) Sage, vii) Springer, viii) Wiley, and ix) IEEE. Scopus was selected as the first database to extract articles as it contains 95% of the peer-reviewed multidisciplinary research articles (de Oliveira et al., 2017). Later, other databases were searched in a successive manner to find new unduplicated articles (i.e., other than those found via Scopus) to avoid any article redundancy. The terms "behavioral reasoning theory" and "behavioural reasoning theory" were used to find relevant research articles. The initial keywords search yielded a total of 24 articles in the Scopus database. No new articles were found by repeating the search process on other databases.

In the next step, articles were sorted for review on basis of inclusion and exclusion criteria. The articles were screened individually and those not related to behavioral reasoning theory were excluded. A total of 21 articles were obtained after omitting irrelevant articles. However, this study also included some important articles obtained through the forward and backward referencing pro-

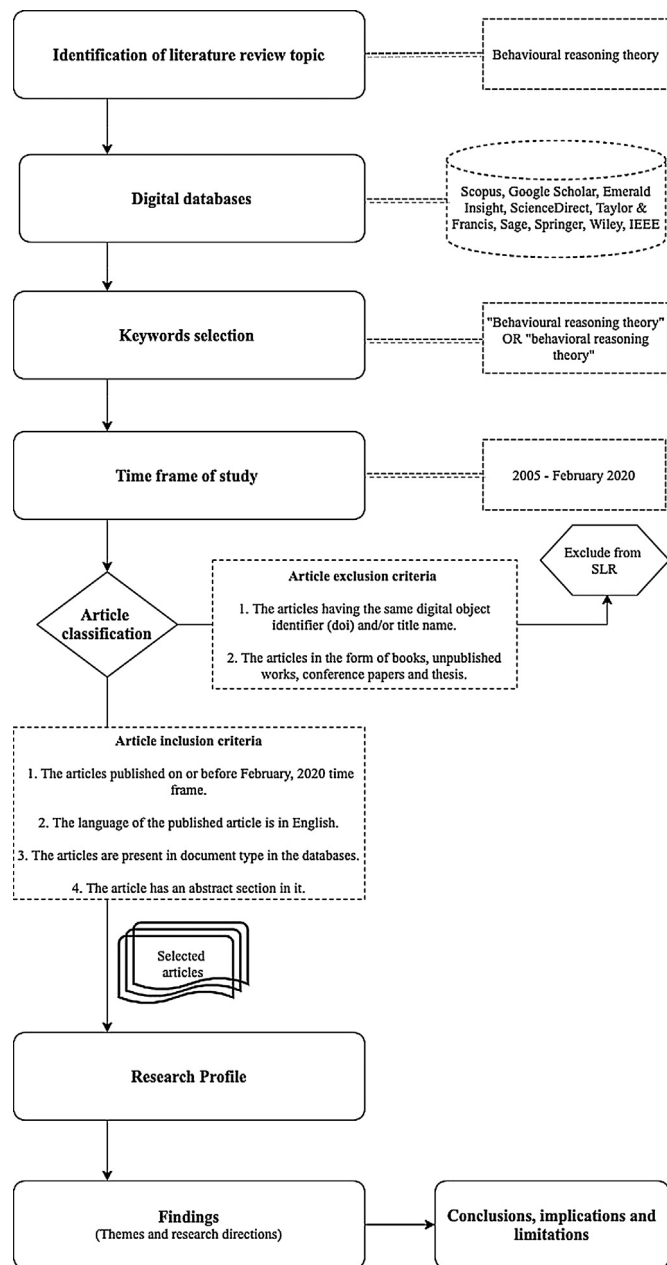


Fig. 4. SLR process.

cess. Two additional articles, authored by (Chatzidakis et al., 2016; Arli and Lasmono, 2015) were obtained through forward and backward referencing. Thus, 23 articles in total were selected for further analysis.

3.2. Research profile

Meta-information, such as title, author name(s), abstract, journal title, publication date, volume number, and cited references, for all the 23 articles were extracted and stored in .csv format. These articles accounted for 53 different authors published across 20 journals. The variety of journals clearly point to the interdisciplinary nature and application of BRT. Fig. 5 shows the trends in the publication of articles related to BRT over the years. The first article appeared in the year 2005. The distribution of articles suggests that BRT literature is still in the early growth period. Discussions of BRT-based models in the existing literature are still

Table 2

Most influential articles: citations measure (as on November 2019).

Rank	Authors	Cited by (C)	C/Yr
1	Claudy et al. (2015)	152	30.4
2	Gupta & Arora (2017) ^a	57	19
3	Claudy et al. (2013)	125	17.86
4	Westaby (2005)	250	16.67
5	Briggs et al. (2010)	123	12.3
6	Westaby et al. (2010)	99	9.9

nascent. Fig. 6 shows the top contributing authors who have published at least two articles on BRT. Perterson dominates the list and has authored four articles. Claudy and Sivathanu have authored three articles each and are followed by Gupta, Arora, O'Driscoll, and Westaby, who have each contributed two articles.

Citation analysis was performed for determining the importance of an article and the degree of linkage between the articles. Table 2 shows the top six influential articles responsible for shaping research in the BRT domain. The total number of citations and citation per year i.e. average citation (calculated by the number of citations received by article divided by the number of years from publication) were both used as measures to determine the most influential articles. Citation per year was also measured as it is likely that an article may receive a greater number of citations because it has been published earlier. Westaby's (2005) article seems to be the most popular in terms of number of citations, whereas Claudy et al. (2015) article is the most popular according to average citations per year.

Since journals have different scopes and aims for publishing articles, this SLR also identified the top journals that influenced BRT-related literature. Fig. 7 summarizes the list of 20 journals that account for the publication of 23 BRT-related articles. According to Hirsch (2005), an H index greater than 20 after 20 years represents a successful journal. Of the 20 journals, 14 have an H index greater than 20. This suggests that although BRT research is scarce, it has wide acceptability in most of the successful journals with varied aims and scope. The most influential journal is Journal of the Academy of Marketing Science (JAMS), with an H-index of 139. Journals that have published more than one article related to BRT are Journal of Macromarketing (JM), Journal of Managerial Psychology (JMP), and Journal of Retailing and Consumer Services (JRCS). These journals have published two articles each on BRT.

Fig. 8 illustrates the contribution of each country to the BRT literature (articles by multiple authors from different countries have been assigned to each country), as determined by their scientific production. The figure shows that most of the research (75%) is from five countries: the United States of America (USA), India, Ireland, the United Kingdom, and Australia. The USA has the greatest number of contributing researchers. The country-wise collaboration index, depicted in Fig. 9, denotes the level of inter- and intra-country scientific collaborations. The nodes connecting one country to another actually represent the collaboration between the countries. The thickness of the bubble enclosing the country represents the number of publications by the country. The greater the thickness, the greater is the number of publications from that particular country. This is also confirmed by Fig. 9, which shows the country-wise contribution of researchers.

4. Findings

Content analysis was used to collect, examine, interpret, and present various insights related to BRT that have been discussed in the prior literature. Content analysis is mainly used to understand

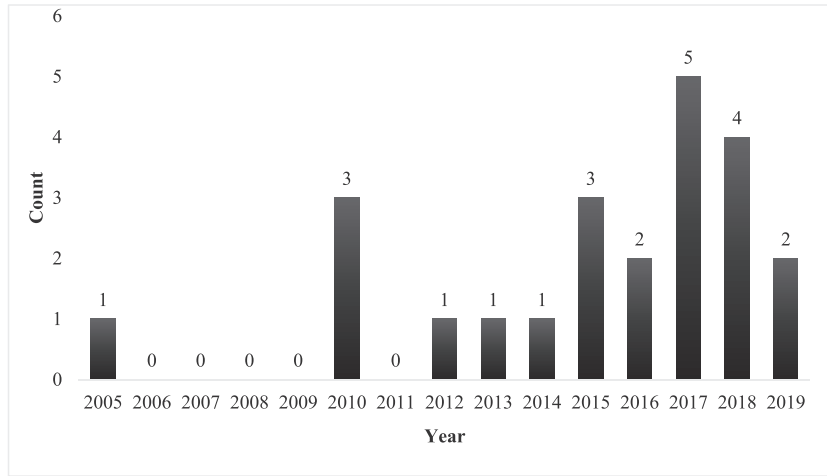


Fig. 5. Year-wise publication of articles.

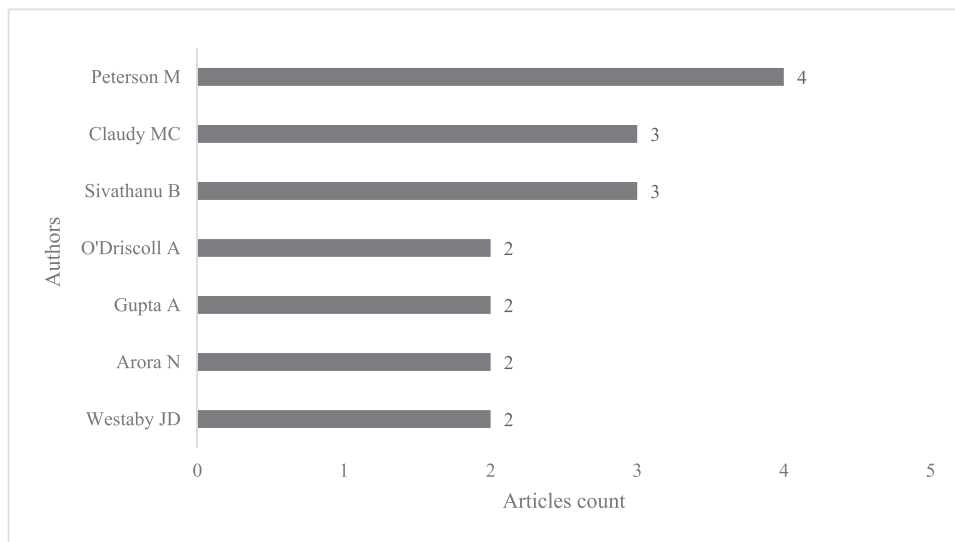


Fig. 6. Top contributing authors (≥ two articles).



Fig. 7. Journal-wise production of articles.

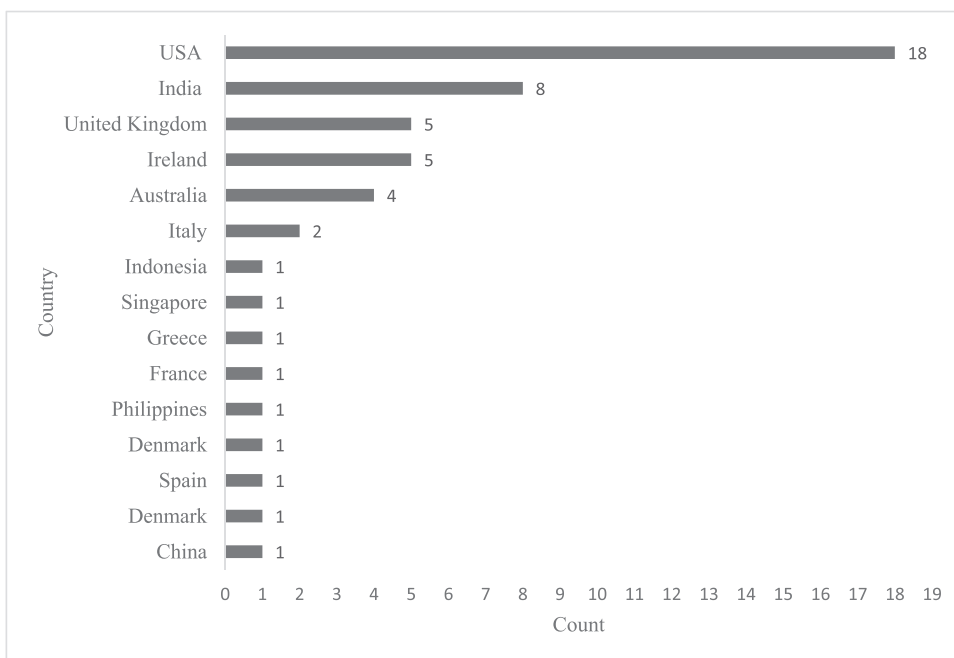


Fig. 8. Country-wise contribution of authors in publication.

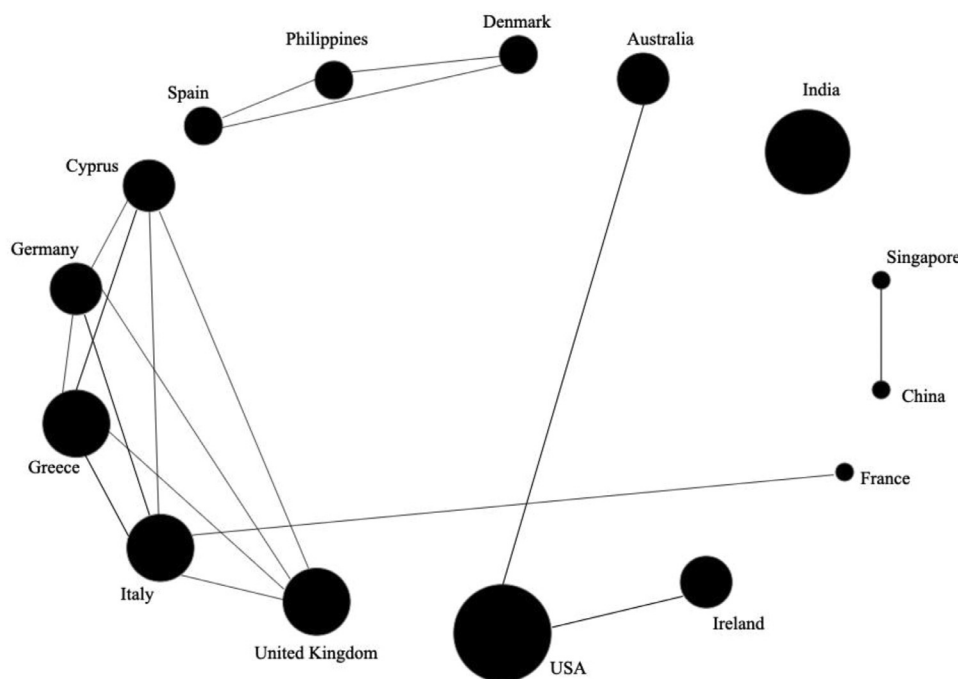


Fig. 9. Country-wise collaboration of authors.

and interpret the context underlying a large corpus of text data (Hsieh and Shannon, 2005). It involves the following steps: identification, grouping, coding, and finally classification of the coded themes into different categories (Palvia et al., 2007). Each article in the selected pool was carefully examined to extract important insights related to variables, methodological choices, findings, implications, limitations, and scope for future research. Different themes were identified, grouped, and coded by two researchers. The researchers were given adequate training and their intercoder reliability was assessed with a small sample of articles. This was done to reduce disagreement and achieve sufficient level of uniformity while coding. The coding was performed independently by the re-

searchers to ensure adequate intercoder reliability. The codes were then matched by both the researchers to classify them into different categories. The intercoder reliability was 94 percent which is above the acceptable level. Finally, three themes were identified by mutual consensus among both researchers: methodology and context, study variables, and affordances of BRT. A comprehensive summary of BRT literature is also presented in Table 1, which covers the following information: author(s), context, sample size, different BRT constructs (e.g., beliefs/values, reasons for and reasons against, global motives), examination of moderation and mediation, other contextual variables, and percentage variance explained in the dependent variables (e.g., ATT and IU).

4.1. Methodology and context

BRT has been applied in varied contexts since it was proposed by Westaby (2005). The majority of the selected studies ($n = 21$) are cross-sectional, while only two (Norman et al., 2012; Vakola, 2016) have employed a longitudinal research design. BRT was first used by Westaby (2005) to explain the basis of employee turnover and relocation in an organization. Thereafter, scholars have studied BRT in various contexts due to the BRT's support for context-specific variables. Scholars have used BRT in the context of *online services*, which includes mobile learning apps (Pillai and Sivathanu, 2018), mobile-banking (Gupta and Arora, 2017a), mobile shopping (Gupta and Arora, 2017b), beauty box subscription (Sivathanu, 2018a), and internet of things-based wearables (Sivathanu, 2018b). Similarly, BRT has been used in contexts such as *charity*, which includes apparel donation (Park et al., 2017), monetary donations (Chatzidakis et al., 2016), non-profit volunteering (Arli and Lasmono, 2015; Briggs et al., 2010); *sustainability*, which includes sustainable transportation (Claudy and Peterson, 2014; Peterson, and Simkins, 2019), renewable energy systems (Claudy et al., 2013, sustainable clothing (Diddi et al., 2019); and *employee behavior*, which covers error reporting (Russo et al., 2015), technological change (Vakola, 2016), turnover and relocation (Westaby, 2005), and whistleblowing (Oh and Teo, 2010). Other BRT studies are related to binge drinking (Norman et al., 2012), entrepreneurship (Miralles et al., 2017), innovation (Claudy et al., 2015), leadership decision-making (Westaby et al., 2010), organic food (Ryan and Casidy, 2018), and performance enhancement drugs (Lazuras et al., 2017).

Most of the previous studies have not reported the percentage variance explained (R^2) of dependent variables (ATT and IU). In this research, we recommend that future studies should report the percentage variance explained (R^2) of dependent variables as BRT claims to explain variance on the dependent variables better than past seminal theories such as TPB.

This SLR also investigated the different geographical, cultural, and demographic contexts of prior BRT studies. A visibly higher quantum of studies has been performed in European regions ($n = 9$) compared those in other geographical settings such as Asia ($n = 7$), North America ($n = 6$), and Australia ($n = 1$). The influence of culture on the relationship among BRT constructs can also be seen in the literature. For example, the research studies carried out in Asia have varied associations among BRT constructs than those carried out in European regions. Out of 23 studies analyzed, five have focused on youth respondents aged between 16 and 26 years (Diddi et al., 2019; Lazuras et al., 2017; Norman et al., 2012; Oh and Teo, 2010; Park et al., 2017), two on elderly respondents (Westaby et al., 2010; Sivathanu, 2018b), whereas one study does not report the age group of its sample population (Arli and Lasmono, 2015). The remaining 15 studies have considered varied age groups. The majority of the articles have a gender-balanced population. Out of 23 articles, three articles have a female-dominated sample population, with female respondents accounting for 72.5% (Arli and Lasmono, 2015), 82.5% (Norman et al., 2012), and 100% (Sivathanu, 2018b) of the total. On the other hand, only two articles have underrepresented females, i.e., 28.2% (Westaby et al., 2010) and 35.2% (Lazuras et al., 2017).

4.2. Study variables

Table 3 presents the different set of variables that have been used to examine the relationships between different BRT constructs. Since BRT is a context-dependent theory, different researchers have used different measures for the values and reasons construct. Our review found that 56.52% ($n = 13$) of the articles have examined the values/beliefs component of BRT, with the con-

struct *openness to change* being the most frequently used predictor for values/beliefs component. Other predictors include benevolence, achievement, consumer values, extrinsic personal, extrinsic social, intrinsic, power, security, universalism, value alignment, values compatibility, and value scale.

About 95.65% of the selected studies ($n = 21$) have tested the *reasons for* component whereas *reasons against* component of BRT has been examined in 86.96% ($n = 20$) studies. Out of 23 articles, six articles have used second-order constructs to measure *reasons for* and *reasons against* (see Claudy et al., 2015; Gupta and Arora, 2017a; Gupta and Arora, 2017b; Pillai and Sivathanu, 2018; Sivathanu, 2018a, 2018b). The second order *reasons for* component is measured from the following variables: convenience, relative advantage, ubiquitous, career, price/cost saving, environmental benefits, financial/economic benefits, independence benefits, self-efficacy, compatibility, flexibility, hedonic motivation, learning autonomy, other-oriented reasons, self-oriented reasons, time-saving, value expression, variety/choice, and wellbeing. Similarly, scholars have employed different ways to measure the second-order *reasons against* component such as risk barrier, usage barrier, traditional barrier, self-efficacy, value barrier, consumer anxiety, danger, image barrier, inconvenience, other-oriented reasons, relative advantage, and self-oriented reasons.

Among global motives, ATT is the most cited global motive construct for predicting IU, which is cited in 86.96% ($n = 20$) of the studies. However, only a few empirical studies have examined SN ($n = 7$) and PBC ($n = 7$). To measure ATT, studies have used the ATT scale ($n = 13$), variables such as ATT toward helping others, ATT toward charitable organizations, ATT for, ATT against, ATT toward environment, consumer ATT, personal ATT, and self-enhancement. In addition to this, 65.22% ($n = 15$) of the studies have evaluated IU in the BRT model. It has been measured via adoption intention ($n = 7$), intention scale ($n = 6$), purchase intention, and entrepreneurial intention. Interestingly, only 21.74% ($n = 5$) of studies have considered using the behavior component of BRT. Scholars have studied different types of user behavior, including car sharing, commuting by bike, youth employment, and future behavior.

The mediating effect of constructs such as values, reasons for, reasons against, ATT, PBC, SN, and IU has been investigated in total 26.09% ($n = 6$) studies, whereas only 21.74% ($n = 5$) studies have examined the moderating effect of other variables in the BRT model.

4.3. BRT affordances

BRT is a promising theoretical framework that can potentially help in testing newer cognitive routes involved in the customer decision-making process. Our review suggests that BRT offers various affordances to scholars and practitioners interested in behavior-based decision making. Marketers, especially, can make use of it to better understand complex consumer behavior problems. One of these affordances is accurate decision-making. A total of 45% ($n = 9$) articles argue that BRT helps in providing accurate consumer insights, developing better marketing strategies, and in policy making. Furthermore, substantial evidence is available to show that BRT can explain the relatively higher variance in IU and behavior better than foundational behavioral theories such as TRA and TPB. The second affordance is related to values, reasons, and global motives. Prior literature argues that BRT components help scholars and practitioners better understand behavioral mechanisms. The final affordance is emphasis on context. Scholars have argued that BRT strongly supports context-specific behavioral decision making. This is why it has already been utilized in several different contexts.

Table 3
List of variables used in the BRT research.

Constructs	Measures
Beliefs and values (B/V)	Achievement (Briggs et al., 2010), benevolence (Park et al., 2017; Briggs et al., 2010), consumer values (Ryan and Casidy, 2018), conformity (Peterson and Simkins, 2019), extrinsic personal (Arli and Lasmono, 2015), extrinsic social (Arli and Lasmono, 2015), intrinsic (Arli and Lasmono, 2015), power (Park et al., 2017), security (Claudy and Peterson, 2014), universalism (Claudy and Peterson, 2014), value alignment (Claudy et al., 2013), values compatibility (Claudy et al., 2015), value of openness to change (Sivathanu, 2018a; Pillai and Sivathanu, 2018, 2018b; Gupta and Arora, 2017a, 2017b; Claudy et al., 2015), V (Westaby, 2005), simulation (Peterson and Simkins, 2019)
Reasons for (RF)	Acquisition from known sources (Diddi et al., 2019), career (Arli and Lasmono, 2015; Briggs et al., 2010), compatibility (Sivathanu, 2018b), convenience (Sivathanu, 2018a, 2018b; Gupta and Arora, 2017a, 2017b; Claudy et al., 2015), cost/price saving (Sivathanu, 2018a; Gupta and Arora, 2017a; Claudy and Peterson, 2014), environmental benefits (Claudy et al., 2015, 2013), financial/economic benefits (Claudy et al., 2015, 2013), flexibility (Claudy et al., 2015, 2013), hedonic motivation (Sivathanu, 2018a; Pillai and Sivathanu, 2018), independence benefits (Claudy et al., 2015, 2013), learning autonomy (Pillai and Sivathanu, 2018), lifestyle changes (Diddi et al., 2019), other oriented reasons (Park et al., 2017), relative advantage (Sivathanu, 2018b; Pillai and Sivathanu, 2018; Gupta and Arora, 2017a, 2017b), RF (Peterson and Simkins, 2019; Ryan and Casidy, 2018; Lazuras et al., 2017; Chatzidakis et al., 2016; Russo et al., 2015; Vakola, 2016; Norman et al., 2012; Westaby et al., 2010; Oh and Teo, 2010; Westaby, 2005), self-efficacy (Pillai and Sivathanu, 2018; Gupta and Arora, 2017a), self-oriented reasons (Park et al., 2017), social influence (Sivathanu, 2018a), sustainability commitment (Diddi et al., 2019), time saving (Claudy and Peterson, 2014), ubiquitous (Sivathanu, 2018a, 2018b; Pillai and Sivathanu, 2018; Gupta and Arora, 2017b), uniqueness (Diddi et al., 2019), value expression (Briggs et al., 2010), variety/choice (Gupta and Arora, 2017a), value (Diddi et al., 2019; Arli and Lasmono, 2015), wellbeing (Claudy and Peterson, 2014)
Reasons against (RA)	Budget constraints (Diddi et al., 2019), consumer anxiety (Gupta and Arora, 2017a), danger (Claudy and Peterson, 2014), emotions (Diddi et al., 2019), image barrier (Pillai and Sivathanu, 2018), inconvenience (Claudy and Peterson, 2014), lack of knowledge/skills (Diddi et al., 2019), other oriented reasons (Park et al., 2017), perceived lack of availability (Diddi et al., 2019), relative advantage (Sivathanu, 2018a; Gupta and Arora, 2017b), RA (Peterson and Simkins, 2019; Ryan and Casidy, 2018; Lazuras et al., 2017; Chatzidakis et al., 2016; Russo et al., 2015; Vakola, 2016; Norman et al., 2012; Westaby et al., 2010; Oh and Teo, 2010; Westaby, 2005), risk barrier (Sivathanu, 2018a, 2018b; Gupta and Arora, 2017b; Claudy et al., 2015, 2013), self-efficacy (Pillai and Sivathanu, 2018; Gupta and Arora, 2017a), self-indulgent behavior (Diddi et al., 2019), self-oriented reasons (Park et al., 2017), skepticism (Diddi et al., 2019), traditional barrier (Sivathanu, 2018a, 2018b; Pillai and Sivathanu, 2018; Gupta and Arora, 2017b), usage barrier (Sivathanu, 2018b; Pillai and Sivathanu, 2018; Gupta and Arora, 2017b; Claudy et al., 2015, 2013), value barrier (Claudy et al., 2015, 2013), variety/choice (Diddi et al., 2019; Sivathanu, 2018a), whether (Claudy and Peterson, 2014)
Attitude (ATT)	AT (Peterson and Simkins, 2019; Sivathanu, 2018a, 2018b; Pillai and Sivathanu, 2018; Gupta and Arora, 2017a, 2017b; Claudy et al., 2015; Russo et al., 2015; Claudy and Peterson, 2014; Norman et al., 2012; Westaby et al., 2010; Oh and Teo, 2010; Westaby, 2005), attitude for (Chatzidakis et al., 2016), attitude against (Chatzidakis et al., 2016), attitude toward charitable organizations (Park et al., 2017; Arli and Lasmono, 2015; Briggs et al., 2010), attitude toward helping others (Park et al., 2017; Arli and Lasmono, 2015; Briggs et al., 2010), attitude towards environment (Park et al., 2017), consumer attitude (Ryan and Casidy, 2018), personal attitude (Miralles et al., 2017), self enhancement (Park et al., 2017)
Subjective norm (SN)	SN (Peterson and Simkins, 2019; Miralles et al., 2017; Russo et al., 2015; Norman et al., 2012; Westaby et al., 2010; Oh and Teo, 2010; Westaby, 2005)
Perceived behavioral control (PBC)	PBC (Miralles et al., 2017; Russo et al., 2015; Norman et al., 2012; Westaby et al., 2010; Oh and Teo, 2010; Westaby, 2005)
Intention (IU)	adoption intention (Sivathanu, 2018a, 2018b; Pillai and Sivathanu, 2018; Gupta and Arora, 2017b, 2017c; Claudy et al., 2015, 2013), entrepreneurial intention (Miralles et al., 2017), purchase intention (Ryan and Casidy, 2018), IU (Russo et al., 2015; Norman et al., 2012; Westaby et al., 2010; Oh and Teo, 2010; Westaby, 2005)
User behavior (UB)	Car sharing behavior (Peterson and Simkins, 2019). Commuting by bike (Claudy and Peterson, 2014), future behavior (Norman et al., 2012), UB (Westaby, 2005), youth employment (Westaby et al., 2010)
Mediator (ME)	Reasons for (Ryan and Casidy, 2018; Claudy et al., 2013; Norman et al., 2012), Reasons against (Ryan and Casidy, 2018; Claudy et al., 2013; Norman et al., 2012), ATT (Miralles et al., 2017; Russo et al., 2015; Claudy et al., 2013; Norman et al., 2012; Westaby et al., 2010), PBC (Miralles et al., 2017; Russo et al., 2015; Norman et al., 2012; Westaby et al., 2010), SN (Miralles et al., 2017; Russo et al., 2015; Norman et al., 2012; Westaby et al., 2010), IU (Norman et al., 2012)
Moderator (MD)	Age (Miralles et al., 2017; Briggs et al., 2010), brand reputation- BR (Ryan and Casidy, 2018), company observer relationship (Oh and Teo, 2010), engaged in entrepreneurship (Miralles et al., 2017), education (Claudy et al., 2013), experience (Briggs et al., 2010), gender (Claudy et al., 2013; Briggs et al., 2010), income (Oh and Teo, 2010), level of legal protection (Oh and Teo, 2010), locus of control (Oh and Teo, 2010), monetary incentive (Oh and Teo, 2010)
Other variables (OV)	entrepreneurial knowledge (Miralles et al., 2017)

5. Gaps and avenues for future research

In this section, gaps in the extant literature on BRT are identified, and the corresponding avenues of future research are proposed. The two main gaps are those related to theory building and those related to theory testing.

5.1. Gaps related to theory building

An overwhelming 82.61% of studies ($n = 19$) have listed expansion of BRT as the future scope of their work. However, not many studies on theory building are presently available. The advance-

ment of BRT research in terms of theory building is important as it may help in improving the predictability of consumer behavior.

5.1.1. Theoretical advancements

In this direction, scholars can examine the possibilities of including new constructs or measures in the main BRT framework. The advancement of BRT can be pursued along the five main components: value, reasons, ATT, IU, and use behavior. The value component of BRT is a contextual construct, and it can be measured through different variables that are based on the context such as altruism, creativity, curiosity, health and wellbeing, resistance to change, social justice, spirituality, and tradition. To further explore

the reasoning component of BRT, scholars can, for example, utilize and integrate BRT with other theoretical frameworks such as uses and gratification theory and innovation resistance theory to measure *reasons for* and *reasons against*.

SN and PBC as global motives sub-constructs have not received as much attention as ATT. Therefore, future research can incorporate all the global motives sub-constructs to better predict the IU. As with the reasons construct, ATT can be measured by the inclusion of specific types of attitudes such as implicit ATT, explicit ATT, ATT for, and ATT against in the modified framework. Implicit ATT is constructed purely based on emotions, as it depends on the feelings of the person at the time of decision making, whereas explicit ATT is declarative; that is, it is based on consciousness, facts, and knowledge. Scholars have argued that both implicit and explicit ATT operate in conjunction during the decision-making process (Argyriou, and Melewar, 2011; Greenwald, and Banaji, 1995).

Intentions can be divided into two broad dimensions in the BRT framework: positive and negative. These dichotomous dimensions can serve as more effective determinants of action and inaction (Chatzidakis et al., 2016). The actual use behavior is an important component in BRT. While intention is a common determinant to explain the adoption or usage behavior, it is still considered to be imperfect predictor of actual behavior (Claudy and Peterson, 2014; Groening et al., 2018). Scholars can focus on different types of use behavior in future studies, such as actual buying behavior, real-time use of product or service and so forth.

Scholars should work toward establishing BRT as a macro-theory through theoretical advancements. A macro-theory is formed by joining broader philosophies that share rich connections with each other (Koole et al., 2019). BRT should be integrated with other existing theories to establish a macro-theory. Some of the earlier works have tried to integrate other theories such as innovation resistance theory (IRT) (Ram and Sheth, 1989) with the *reasons against* construct of BRT (see Gupta and Arora, 2017a, Gupta and Arora, 2017b; Pillai and Sivathanu, 2018; Sivathanu, 2018a, 2018b). In the BRT-IRT macro-theory, *reasons against* is explained using two main components of IRT: psychological barriers (further categorized into tradition barrier and image barrier) and functional barriers (further categorized into risk barrier, usage barrier, and value barrier). Similarly, other theories, such as the theory of basic human values (Schwartz, 2012) can be integrated with the values construct of BRT to establish another macro-theory. Schwartz (2012) identified ten basic human values: hedonism, achievement, power, self-direction, stimulation, conformity, security, benevolence, tradition, and universalism. In the same direction, Westaby et al. (2010) have also suggested integrating leadership and evidence-based reasoning theories with BRT. We also recommend utilizing different context-based decision-making theories such as Kahneman's two system decision theory (Kahneman and Frederick, 2002) as well as Itamar Simonson theory on context choices (Simonson and Tversky, 1992).

5.2. Gaps related to theory testing

The present study has identified four main gaps related to theory testing. These gaps are contextual, lack of emphasis on study design, lack of emphasis on mediation and moderation, and finally, lack of emphasis on external variables.

a) **Contextual gaps:** At present, the application of BRT is limited mainly to the domains of marketing and consumer behavior. This is clear from the number of articles published in marketing and consumer behavior journals. Similarly, a significant number of studies have involved respondents from European ($n = 9$), Asian ($n = 7$), and North American ($n = 6$) regions. However, other regions like Africa, Australia, and South America have not

attracted much academic interest in the context of BRT. Thus, BRT studies on diverse geographical, cultural, and demographic contexts are needed in order to determine the effectiveness of the theory in diverse contexts and environments.

- b) **Gaps related to study design:** A high number of BRT studies have used a cross-sectional study design, which has its own limitations, namely, lack of causality and methodological biases. Other research designs are needed to enhance the generalizability of the current findings.
- c) **Gaps related to mediation and moderation effects in SEM:** Only a few studies in the past have investigated the mediating relationships among BRT constructs (see Claudy et al., 2013; Norman et al., 2012; Ryan and Casidy, 2018; Russo et al., 2015; Westaby et al., 2010). Similarly, our review suggests that only a few studies (see Ryan and Casidy, 2018; Miralles et al., 2017; Claudy et al., 2013; Briggs et al., 2010; Oh and Teo, 2010) have investigated the effect of moderating variables. This clearly highlights a research gap in the literature and should be addressed in the future.
- d) **Gaps related to external variables:** Most of the earlier studies have investigated the associations among BRT components. However, the inclusion of other external measures, apart from the original components of BRT, is important in order to provide a more holistic perspective of the customer decision-making process.

5.2.1. Advancements in terms of theory testing

- a) **Contextual advancements.** Future studies should examine BRT's applicability in multidisciplinary domains such as behavioral operations to understand the employee decision-making process. Scholars should examine BRT in the context to fast-moving consumer goods, leisure activities, games, service innovation, product innovations, luxury goods and services, alternative consumption of energy, critical leadership decisions such as leader-member exchange, mission definition, resource allocation, and so forth. Studies focusing on a specific target population group are also needed. Furthermore, a diverse socio-demographic group of consumers should be considered such as elderly, teenagers, children, young adults, and adults.
- b) **Advancement in study design (method):** Future studies should explore longitudinal and experimental designs. Moreover, research designs should be tested cross-culturally in different countries and industries. The existing studies are heavily dominated by quantitative research methods (e.g., analysis of covariance (ANOVA), confirmatory factor analysis (CFA), experiments, multiple regressions, structural equation modeling (SEM), and T-tests). We encourage scholars to employ qualitative (e.g., ethnography, focused group interviews, and narrative analysis) and mixed methods along with BRT to understand consumer behavior better. Scholars can also compare theories similar to BRT, such as TRA, TPB, and UTAUT, for determining the effectiveness of the different theories in explaining the relationship among variables.
- c) **Testing mediation and moderation effects in SEM:** The following mediating relationships can be tested with the help of the BRT framework: (1) the mediating role of reasons between values and global motives (ATT, PBC, SN) constructs and (2) the mediating role of global motives between reasons and IU. The moderating role of the following variables can be also be examined in future studies: demographic variables (e.g., age, gender, education and expertise), technology use, perceived risk, innovativeness, variety seeking, and risk-taking behavior.
- d) **Inclusion of external variables.** This involves testing the relationship of BRT constructs with external variables such as decision importance, motivation, employee engagement, employee performance, and satisfaction. The inclusion of second-order

constructs can also be considered as another advancement in terms of theory testing.

6. Conclusion

The current review explored the breadth of BRT's contribution to behavioral decision making by using the SLR methodology. BRT represents an exciting theoretical framework that helps in understanding, predicting, and evaluating the consumer decision-making process. A total of 23 articles were collected from different databases and reviewed to investigate the applicability of BRT to various contexts and cultures. Even though BRT was first proposed by Westaby in 2005, it took another five years (i.e., until 2010) for the theory to be empirically explored. This establishes that BRT-related research is still in the early stages of development. However, in the recent past, its popularity has soared because scholars are increasingly relying on it to predict the consumer behavior. The reasons construct seems to be the most frequently tested component of BRT and is considered a significant predictor of global motives, user intentions, and behavior. BRT has also been augmented and tested by researchers by introducing external variables (see Claudy et al., 2013; Gupta and Arora, 2017b).

The current study addressed **RQ1** by presenting the very latest in the research domain. It makes an important contribution by identifying the top contributing authors, most influential articles, most influential journals, and country-wise contribution in the field of BRT literature. The analysis showed that the most prolific authors are Claudy and Peterson. The article authored by Claudy et al. (2015) is the most influential in the BRT literature, with highest citations per year. The Journal of Macromarketing (JM) is the most productive and influential journal, which has published articles related to BRT literature. The journals which have published the maximum articles in the field of BRT are Journal of Macromarketing (JM), Journal of Managerial Psychology (JMP), and Journal of Retailing and Consumer Services (JRCS). This review also found that the most productive institutions publishing BRT-related literature are based in the USA. Section 4 addressed **RQ2** by identifying three key research themes: methodology and context, study variables, and affordances. The section highlighted the way BRT and its different components have been used in the prior literature for explaining the decision-making process in different contexts through content analysis. Section 5 addressed **RQ3** by presenting the gaps and future advancements in terms of theory building and theory testing. This was essential to uncover the underdeveloped or emerging research areas, identify research gaps, and present an agenda for future research.

6.1. Study implications

6.1.1. Theoretical implications

The first theoretical implication is that this systematic review of studies related to BRT enables the scientific community to better understand the applicability and tenability of the theory. The study allows scholars to understand how BRT literature has been shaped and evolving since 2005. Second, this SLR further concretizes the different merits and affordances offered by this innovative theoretical framework over other behavioral theories. Furthermore, the scholars interested in BRT can utilize our SLR to position their research by working on the potential gaps discussed in this article and also developing some research questions for future work. It will also help scholars collaborate and publish their research in relevant journals. Third, the present SLR on BRT helps the research community in general and young scholars in particular understand the merits of this emerging theoretical framework in explaining behavioral dimensions related to consumer decision making.

6.1.2. Practical implications

This SLR helps marketing practitioners understand the theoretical underpinnings of decision making in various contexts. Practitioners can utilize BRT to understand the decision-making process as it is more robust and effective than studies that are not theoretically grounded. Specifically, a) BRT is a useful theoretical framework with solid behavioral reasoning foundations; b) it is an amalgamation of both acceptance and resistance paradigms, with the inclusion of *reasons for* and *reasons against* components; c) BRT-based models are known for high prediction powers in terms of the variance explained in the dependent variables; d) BRT supports contextual constructs because of which it is ideal for use in various contexts. Also, the applicability of different components of BRT in diverse empirical settings can enable practitioners derive the desired implications.

6.2. Study limitations

The present study is also prone to some limitations. First, we limited the article inclusion process only to the articles published in the English language. This SLR also did not include conference proceedings papers, theses, or book chapters. Second, for the keyword search (i.e., articles appearing in the title, abstract and keywords section), we used both the American and British spellings of "behavioral reasoning theory," which is a popular and commonly used phrase. However, it is also likely that researchers may use other terminologies based on the application or other focus areas of the research. This might have resulted in the omission of these relevant publications from the article search. Nevertheless, the current study used forward and backward referencing along with keyword search to find all the relevant articles in order to remove any search bias.

The current study suggests that BRT is a tenable theory. It is expected that publications related to BRT literature will increase in future. By assessing such trends, authors and practitioners will now be able to better understand the elements involved in the decision-making process through *reasons for* and *reasons against* constructs. The theory can be expanded to include several constructs in future that thoroughly explain the intentions and behavior in the decision-making process (Westaby, 2005). We believe that this research will provide useful information to the readers about the theory, present status, and the future scope of BRT-related research.

Acknowledgement

This work was supported by the Academy of Finland [292448, 326066, 334595].

References

- Ajzen, I., 1991. The theory of planned behavior. *Organ. Behav. Hum. Decis. Process* 50 (2), 179–211.
- Ajzen, I., 2001. Nature and operation of attitudes. *Annu. Rev. Psychol.* 52 (1), 27–58.
- Argyriou, E., Melewar, T.C., 2011. Consumer attitudes revisited: a review of attitude theory in marketing research. *Int. J. Manag. Rev.* 13 (4), 431–451.
- Arli, D., Lasmono, H., 2015. Are religious people more caring? Exploring the impact of religiosity on charitable organizations in a developing country. *Int. J. Non-profit Volunt. Sect. Mark.* 20 (1), 38–51.
- Behera, R. K., Bala, P. K., Dhir, A., 2019. The emerging role of cognitive computing in healthcare: A systematic literature review. *International journal of medical informatics* 129, 154–166.
- Bhatt, Y., Ghuman, K., Dhir, A., 2020. Sustainable Manufacturing. *Bibliometrics and Content Analysis. Journal of Cleaner Production* 120988.
- Briggs, E., Peterson, M., Gregory, G., 2010. Toward a better understanding of volunteering for nonprofit organizations: explaining volunteers' pro-social attitudes. *J. Macromark.* 30 (1), 61–76.
- Chatzidakis, A., Hibbert, S., Winklhofer, H., 2016. Are consumers' reasons for and against behaviour distinct? *Eur. J. Mark.* 50 (1/2), 124–144.
- Claudy, M.C., Peterson, M., 2014. Understanding the underutilization of urban bicycle commuting: a behavioral reasoning perspective. *J. Public Policy Mark.* 33 (2), 173–187.

- Claudy, M.C., Garcia, R., O'Driscoll, A., 2015. Consumer resistance to innovation—A behavioral reasoning perspective. *J. Acad. Mark. Sci.* 43 (4), 528–544.
- Claudy, M.C., Peterson, M., O'Driscoll, A., 2013. Understanding the attitude-behavior gap for renewable energy systems using behavioral reasoning theory. *J. Macromark.* 33 (4), 273–287.
- Collins, A.M., Loftus, E.F., 1975. A spreading-activation theory of semantic processing. *Psychol. Rev.* 82 (6), 407.
- Davis, F.D., Bagozzi, R.P., Warshaw, P.R., 1989. User acceptance of computer technology: a comparison of two theoretical models. *Manage. Sci.* 35 (8), 982–1003.
- de Oliveira, U.R., Marins, F.A.S., Rocha, H.M., Salomon, V.A.P., 2017. The ISO 31000 standard in supply chain risk management. *J. Clean. Prod.* 151, 616–633.
- Diddi, S., Yan, R.N., Bloodhart, B., Bajtelsmit, V., McShane, K., 2019. Exploring young adult consumers' sustainable clothing consumption intention-behavior gap: a behavioral reasoning theory perspective. *Sustain. Prod. Consum.* 18, 200–209.
- Festinger, L., 1957. A theory of cognitive dissonance: row, Peterson. Evanston, IL.
- Fishbein, M., & Ajzen, I. (1975). *Attitude, Intention and Behavior: An Introduction to Theory and Research*. 1st Edn., Addison-Wesley, Reading, Mass., ISBN-10: 0201020890, pp: 578.
- Gilal, F.G., Zhang, J., Paul, J., Gilal, N.G., 2019. The role of self-determination theory in marketing science: an integrative review and agenda for research. *Eur. Manag. J.* 37 (1), 29–44.
- Greenwald, A.G., Banaji, M.R., 1995. Implicit social cognition: attitudes, self-esteem, and stereotypes. *Psychol. Rev.* 102 (1), 4.
- Greve, W., 2001. Traps and gaps in action explanation: theoretical problems of a psychology of human action. *Psychol. Rev.* 108 (2), 435.
- Greening, C., Sarkis, J., Zhu, Q., 2018. Green marketing consumer-level theory review: a compendium of applied theories and further research directions. *J. Clean. Prod.* 172, 1848–1866.
- Gupta, A., Arora, N., 2017a. Understanding determinants and barriers of mobile shopping adoption using behavioral reasoning theory. *J. Retail. Consum. Serv.* 36, 1–7.
- Gupta, A., Arora, N., 2017b. Consumer adoption of m-banking: a behavioral reasoning theory perspective. *Int. J. Bank Mark.* 35 (4), 733–747.
- Hagger, M., Chatzisarantis, N., Biddle, S., 2002. A meta-analytic review of the theories of reasoned action and planned behavior in physical activity: predictive validity and the contribution of additional variables. *J. Sport Exerc. Psychol.*
- Hirsch, J.E., 2005. An index to quantify an individual's scientific research output. *Proceed. Natl. Acad. Sci.* 102 (46), 16569–16572.
- Hsieh, H.F., Shannon, S.E., 2005. Three approaches to qualitative content analysis. *Qual. Health Res.* 15 (9), 1277–1288.
- Janis, I.L., Mann, L., 1977. *Decision making: A psychological Analysis of conflict, choice, and Commitment*. Free press.
- Janz, N.K., Becker, M.H., 1984. The health belief model: a decade later. *Health Educ. Q.* 11 (1), 1–47.
- Kahneman, D., Frederick, S., 2002. Representativeness revisited: attribute substitution in intuitive judgment. *Heur. Bias.* 49, 81.
- Kerlinger, F.N., 1979. *Behavioral research: A conceptual Approach*. Rinehart and Winston, New York: Holt.
- Khanra, S., Dhir, A., Mäntymäki, M., 2020. Big data analytics and enterprises: a bibliometric synthesis of the literature. *Enterprise Information Systems* 1–32.
- Koole, S.L., Schlinkert, C., Maldei, T., Baumann, N., 2019. Becoming who you are: an integrative review of self-determination theory and personality systems interactions theory. *J. Pers.* 87 (1), 15–36.
- Kushwah, S., Dhir, A., Sagar, M., & Gupta, B. (2019). Determinants of organic food consumption. A systematic literature review on motives and barriers. *Appetite*, 104402
- Lazuras, L., Barkoukis, V., Loukovitis, A., Brand, R., Hudson, A., Mallia, L., Zelli, A., 2017. "I Want It All, and I Want It Now": lifetime prevalence and reasons for using and abstaining from controlled Performance and Appearance Enhancing Substances (PAES) among young exercisers and amateur athletes in five European countries. *Front. Psychol.* 8, 717.
- Lewin, K., In Cartwright, D., & University of Michigan. (1951). *Field Theory in Social Science: Selected Theoretical Papers*.
- Lunenburg, F.C., 2011, November. The generation and verification of theory: a bridge to the continuing quest for a knowledge base. *Natl. For. Educ. Admin. Supervis. J.* 29 (4), 1–9.
- Miralles, F., Giones, F., Gozun, B., 2017. Does direct experience matter? Examining the consequences of current entrepreneurial behavior on entrepreneurial intention. *Int. Entrepreneur. Manag. J.* 13 (3), 881–903.
- Norman, P., Conner, M.T., Stride, C.B., 2012. Reasons for binge drinking among undergraduate students: an application of behavioural reasoning theory. *Br. J. Health Psychol.* 17 (4), 682–698.
- Nowak, A., Vallacher, R.R., Tesser, A., Borkowski, W., 2000. Society of self: the emergence of collective properties in self-structure. *Psychol. Rev.* 107 (1), 39.
- Oh, L.B., Teo, H.H., 2010. To blow or not to blow: an experimental study on the intention to whistleblow on software piracy. *J. Organ. Comput. Electron. Comm.* 20 (4), 347–369.
- Palvia, P., Pinjani, P., Sibley, E.H., 2007. A profile of information systems research published in *Information & Management Inform. Manag.* 44 (1), 1–11.
- Park, M., Cho, H., Johnson, K.K., Yurchisin, J., 2017. Use of behavioral reasoning theory to examine the role of social responsibility in attitudes toward apparel donation. *Int. J. Consum. Stud.* 41 (3), 333–339.
- Parris, D.L., Peachey, J.W., 2013. A systematic literature review of servant leadership theory in organizational contexts. *J. Bus. Ethics* 113 (3), 377–393.
- Pennington, N., Hastie, R., 1993. Reasoning in explanation-based decision making. *Cognition* 49 (1–2), 123–163.
- Peterson, M., Simkins, T., 2019. Consumers' processing of mindful commercial car sharing. *Bus. Strat. Environ.* 28 (3), 457–465.
- Pillai, R., Sivathanu, B., 2018. An empirical study on the adoption of M-learning apps among IT/ITeS employees. *Interact. Technol. Smart Educ.* 15 (3), 182–204.
- Ram, S., Sheth, J.N., 1989. Consumer resistance to innovations: the marketing problem and its solutions. *J. Consum. Mark.* 6 (2), 5–14.
- Rowley, J., Slack, F., 2004. Conducting a literature review. *Manag. Res. News* 27 (6), 31–39.
- Russo, M., Buonocore, F., Ferrara, M., 2015. Motivational mechanisms influencing error reporting among nurses. *J. Manag. Psychol.* 30 (2), 118–132.
- Ryan, J., Casidy, R., 2018. The role of brand reputation in organic food consumption: a behavioral reasoning perspective. *J. Retail. Consum. Serv.* 41, 239–247.
- Schwartz, S.H., 2012. An overview of the Schwartz theory of basic values. *Online Read. Psychol. Cult.* 2 (1) 2307-0919.
- Seth, H., Talwar, S., Bhatia, A., Saxena, A., Dhir, A., 2020. Consumer resistance and inertia of retail investors: Development of the resistance adoption inertia continuance (RAIC) framework. *Journal of Retailing and Consumer Services* 55, 102071.
- Silverman, D. (Ed.), 2016. *Qualitative Research*. Sage.
- Simonson, I., Tversky, A., 1992. Choice in context: tradeoff contrast and extremeness aversion. *J. Mark. Res.* 29 (3), 281–295.
- Sivathanu, B., 2018a. Adoption of online subscription beauty boxes: a Behavioural Reasoning Theory (BRT) perspective. *J. Electro. Comm. Organ. (JEKO)* 16 (4), 19–40.
- Sivathanu, B., 2018b. Adoption of internet of things (IOT) based wearables for healthcare of older adults—a behavioural reasoning theory (BRT) approach. *J. Enabl. Technol.* 12 (4), 169–185.
- Snyder, M., 1992. Motivational foundations of behavioral confirmation. In: *Advances in Experimental Social Psychology*, 25. Academic Press, pp. 67–114.
- Thaler, R.H., 1999. Mental accounting matters. *J. Behav. Decis. Mak.* 12 (3), 183–206.
- Thomas, J.B., Clark, S.M., Gioia, D.A., 1993. Strategic sensemaking and organizational performance: linkages among scanning, interpretation, action, and outcomes. *Acad. Manag. J.* 36 (2), 239–270.
- Vakola, M., 2016. The reasons behind change recipients' behavioral reactions: a longitudinal investigation. *J. Manag. Psychol.* 31 (1), 202–215.
- Venkatesh, V., Morris, M.G., Davis, G.B., Davis, F.D., 2003. User acceptance of information technology: toward a unified view. *MIS Q.* 425–478.
- Westaby, J.D., 2002. Identifying specific factors underlying attitudes toward change: using multiple methods to compare expectancy-value theory to reasons theory 1. *J. Appl. Soc. Psychol.* 32 (5), 1083–1104.
- Westaby, J.D., 2005. Behavioral reasoning theory: identifying new linkages underlying intentions and behavior. *Organ. Behav. Hum. Decis. Process.* 98 (2), 97–120.
- Westaby, J.D., Fishbein, M., 1996. Factors underlying behavioral choice: testing a new reasons Theory Approach 1. *J. Appl. Soc. Psychol.* 26 (15), 1307–1323.
- Westaby, J.D., Probst, T.M., Lee, B.C., 2010. Leadership decision-making: a behavioral reasoning theory analysis. *Leadersh. Q.* 21 (3), 481–495.