Consumers' brand personality perceptions in a digital world: A systematic literature review and research agenda

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Abstract

In a digital world, it is becoming increasingly important for marketing researchers and practitioners to understand how consumers attribute humanlike characteristics and personality traits to brands, as the brand's personality has a significant influence on consumers' behavior and their brand relationships. However, despite a growth in research interest over the past two decades, the literature on consumers' digital brand personality perceptions remains fragmented and dispersed across digital contexts. Thus, now is an opportune time to take stock of the field and build a knowledge foundation for future research to establish the domain of digital brand personality. To this end, this systematic literature review, based on the TCCM framework, identifies dominant theories, contexts, characteristics, and methodologies used to study consumers' digital brand personality perceptions by systematically reviewing 107 peer-reviewed journal articles published between 2005 and 2021. Using an in-depth content analysis of the articles, this review integrates research findings from different digital contexts and provides a new conceptual framework of digital brand personality. The review concludes with a comprehensive research agenda that highlights the need to broaden the theoretical groundings of the field (*theory*); identifies numerous digital touchpoints and new technologies that remain underexplored (*context*); reveals inconsistencies and knowledge gaps regarding dimensions, antecedents, and consequences of digital brand personality (*characteristics*); and suggests diverse, digital-based research approaches (*methodology*) to further advance the study of consumers' digital brand personality perceptions.

KEYWORDS
brand personality, consumer perceptions, digital, digital branding, future research agenda, systematic literature review, TCCM framework

1 | INTRODUCTION

Brand personality (BP hereafter), the idea originally introduced by Aaker (1997) that consumers perceive brands as having humanlike characteristics and personalities, is an important instrument in differentiating a brand from its competitors and building relationships with consumers (Fournier, 1998). More recently, the study of BP has gradually shifted its attention to the digital world (e.g., Garanti &

Kissi, 2019; Torres & Augusto, 2019). Researchers have begun to explore how consumers associate brands with humanlike attributes in digital interactions on websites (Shobeiri et al., 2015), on social networking sites (Machado et al., 2019), or with virtual brand agents (Youn & Jin, 2021). Despite the increasing research attention, extant knowledge about consumers' digital BP perceptions remains fragmented and dispersed across these different digital settings. If digital BP studies continue to emerge in an unrelated manner, it poses challenges for researchers to comprehensively understand extant knowledge and inhibits novel research that will move the field forward.

However, a more holistic understanding of the construct of digital BP would be advantageous for several reasons. First, numerous studies have demonstrated that digital BP is highly effective in shaping consumers' responses towards brands. For instance, extant research has shown that perceptions of a digital BP increase social media brand engagement (Bernritter et al., 2016), electronic word-of-mouth (Torres & Augusto, 2019), and even purchase intentions (Jin & Sung, 2010; Lee & Cho, 2017). Thus, creating and managing a digital BP across digital touchpoints should be a main priority for brand managers (Lara-Rodríguez et al., 2019). However, digital platforms have morphed and grown in recent years, and yet little is known about the construct of digital BP. Thus, a detailed synthesis of key constructs and their relationships will serve as a knowledge base and springboard for future research. Indeed, a number of recent reviews on the overall field of BP literature has identified BP in digital contexts as a rapidly emerging research domain (Llanos-Herrera & Merigo, 2019; Saeed et al., 2021). Yet, to date, there has been no attempt at integrating research findings from the numerous online-based BP studies. Neither has there been a review that consolidates the theories, contexts, and methods used in previous research on digital BP to provide guidance for future research.

To address these research gaps, this study adopts a systematic literature review methodology that maps out the current state of research on consumers' digital BP perceptions, and, for the first time, integrates and synthesizes research findings from various digital contexts. Overall, this review offers three main contributions (Palmatier et al., 2018), as it (i) provides a holistic synthesis of extant knowledge, (ii) develops a conceptual model of digital BP based on prior research findings, and (iii) identifies research gaps and directions for future inquiry. Thereby, this review aims to establish the domain of consumers' digital BP perceptions as a research area in its own right—similar to prior reviews that have done the same for online brand relationships (e.g., Veloutsou & Ruiz Mafe, 2020).

The framework-based review approach is the most insightful and structured among the different types of domain-based reviews (Paul et al., 2021; Södergren, 2021) and thus most suitable to achieve a holistic understanding of a research domain. The application of existing popular frameworks, such as the ADO framework (antecedents, decisions, outcomes) (Paul & Benito, 2018), the 5W1H framework (what, why, where, when, how, who) (Lim, 2020), or the Theory-Context-Characteristics-Methods framework (TCCM) (Paul & Rosado-Serrano, 2019) is a proven strategy to ensure

robustness, clarity, and coverage of systematic literature reviews (Paul et al., 2021). Specifically, the TCCM framework by Paul and Rosado-Serrano (2019) was chosen as the lens to review research on consumers' digital BP perceptions for two main reasons. First, the TCCM helps to map out the breadth of a research field, both theoretically and empirically (Akhmedova et al., 2021; Hassan et al., 2022), allowing us here to critically evaluate the theoretical underpinnings, methodological approaches, and various contexts of digital BP research. Second, it also entails the analysis of characteristics and has been frequently used to identify key variables of a domain and their relationships (Hassan et al., 2022; Roy Bhattacharjee et al., 2022), hence allowing for a more in-depth consideration of the key dimensions of digital BP, its antecedents, and consequences—based on this analysis, a conceptual model will be created.

Similar to previous research (Billore & Anisimova, 2021; Khatoon & Rehman, 2021; Rosado-Serrano et al., 2018), we combine the TCCM with the 3W1H questions of Callahan (2014) to derive the research questions guiding the review:

> RQ1a: What is known about consumers' digital BP perceptions in terms of theory?
>
> RQ1b: What is known about the characteristics of consumers' digital BP perceptions?
>
> RQ2: Where have consumers' digital BP perceptions been studied?
>
> RQ3: How has research on consumers' digital BP perceptions been conducted thus far?
>
> RQ4: Why do we need more research on consumers' digital BP perceptions and where should we be heading?

The remainder of the article is structured as follows. Section 2 introduces the review approach, explains the methodological decisions, and gives an overview of the research field. The review findings, structured according to the TCCM framework (Paul & Rosado-Serrano, 2019), are discussed next in Section 3. Then, a research agenda is presented, again using TCCM as an organizing framework, in Section 4, followed by a discussion of theoretical and managerial contributions in Section 5.

2 | REVIEW APPROACH

The systematic literature review is an established research instrument to synthesize emergent research fields (Palmatier et al., 2018; Paul & Criado, 2020; Paul et al., 2021; Snyder, 2019). Of the five types of systematic literature reviews identified by Paul et al. (2021), this review adopts a domain-based review design. In contrast to theory-based (Shahab et al., 2021), method-based (Tavakoli & Mura, 2018), meta-analytical (Frigerio et al., 2020), or meta-systematic reviews (Lim & Weissmann, 2021), domain-based reviews (Lim, 2020) focus on the development of a research area/topic (Paul et al., 2021)—in this case, consumers' digital BP perceptions. More specifically, this domain-based review adopts the framework-based approach using the TCCM framework by Paul and Rosado-Serrano (2019)

to structure both review findings and future research directions. Besides the choice of the organizing framework, the decision about the protocol the systematic literature review should adopt is equally important.

2.1 | SPAR-4-SLR protocol

In recent years, not only has the number of published systematic literature reviews increased, but also the number of articles on the methodology of systematic literature review. Today, there are numerous guiding manuals on how to conduct a systematic literature review that differ only marginally in how they number and classify the steps of the process (Booth et al., 2016; Denyer & Tranfield, 2009; Fernandez, 2019; Palmatier et al., 2018; Paul & Criado, 2020; Snyder, 2019). To overcome this methodological confusion, Paul et al. (2021) recently developed the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR), a detailed methodological protocol that synthesizes existing advice into a rigorous procedure and has already been successfully used in the marketing discipline (Lim, Rasul, et al., 2022). Therefore, this review follows the SPAR-4-SLR protocol with its three stages and six sub-stages (Figure 1) to ensure scientific rigor.

2.1.1 | Assembling

Identification
This review was restricted to consider peer-reviewed academic journal articles, which are generally regarded to be of higher quality than conference proceedings, theses, dissertations, or industry sources (Paul et al., 2021). The source quality was determined by the most recent update (Summer 2021) of the Chartered Association of Business Schools Academic Journal Guide (CABS AJG) (2021) as it is one of the most popular journal ranking lists in business studies (Paul et al., 2021) and has been used in other brand-focused systematic reviews (Radler, 2018; Södergren, 2021).

Acquisition
For the structured keyword search, the Web of Science (WOS) was used as the primary database (Mishra et al., 2021), whereas Scopus and EBSCO—also commonly used in brand-focused reviews (Hao et al., 2021; Veloutsou & Ruiz Mafe, 2020)—were used as secondary databases for the purpose of cross-checking (Paul et al., 2021). Although the start date was set to 1997, the publication year of Aaker's founding paper (Radler, 2018), 2005 emerged as the organic start date with the first publication on BP in a digital context (Merrilees & Miller, 2005). The keyword string was developed through a literature review of related reviews (e.g., Veloutsou & Ruiz Mafe, 2020), consultation among the research team, and scoping searches (Paul et al., 2021; Shahab et al., 2021). To retrieve all relevant sources on consumers' BP perceptions in digital contexts, it was necessary to combine "brand personality" with digitally focused

search terms, such as "digital", "virtual", and "social media" (see Figure 1). The final search and download of bibliometric data were conducted on 1 July 2021, and the filtering and analysis of the results took place afterwards.

2.1.2 | Arranging

Organization
To organize the paper, first, the bibliographic details were recorded (see Figure 1). At this point, the TCCM was chosen as the overall organizing framework as it allows the review to consider multiple aspects of the literature.

Purification
As shown in Figure 1, the purification stage entailed three main stages of screening and determining the eligibility of papers (Lim, Yap, et al., 2021; Mishra et al., 2021). First, the results from the three databases were assessed individually on the basis of the source type and quality criteria set upfront in the identification stage, yielding an integrated list of 537 articles. Second, this list was checked for duplicates between the databases and 262 sources were removed. The full texts of the 275 remaining articles were screened for relevance to this review. This resulted in a final set of 107 papers that span a time frame of over 16 years, which is a substantial body of literature suitable for systematic reviews (Paul & Criado, 2020; Paul et al., 2021).

2.1.3 | Assessing

Evaluation
Due to its framework-based approach, this review relied on content and thematic analysis of the eligible articles instead of using bibliometrics (Harju, 2022; Paul et al., 2021). Based on the TCCM framework, a review protocol was developed (Table 1) and the research team jointly coded the theoretical themes, contexts (digital, industries), characteristics (dimensions, antecedents, consequences), and methodologies of each article in Excel. This content analytical approach followed a combined inductive-deductive approach so that emerging codes and labels were grouped into broader categories.

Reporting
The final phase entailed the development of condensed tables and visuals based on the extensive content analysis of the evaluation phase, as will be detailed in the next sections. Figure 2 shows the overall structure of the findings based on the TCCM and the connected sections, figures, and tables.

2.2 | Profile of extant research

Referring to the review protocol (Table 1), this initial bibliographic analysis counted and classified the articles according to their journal
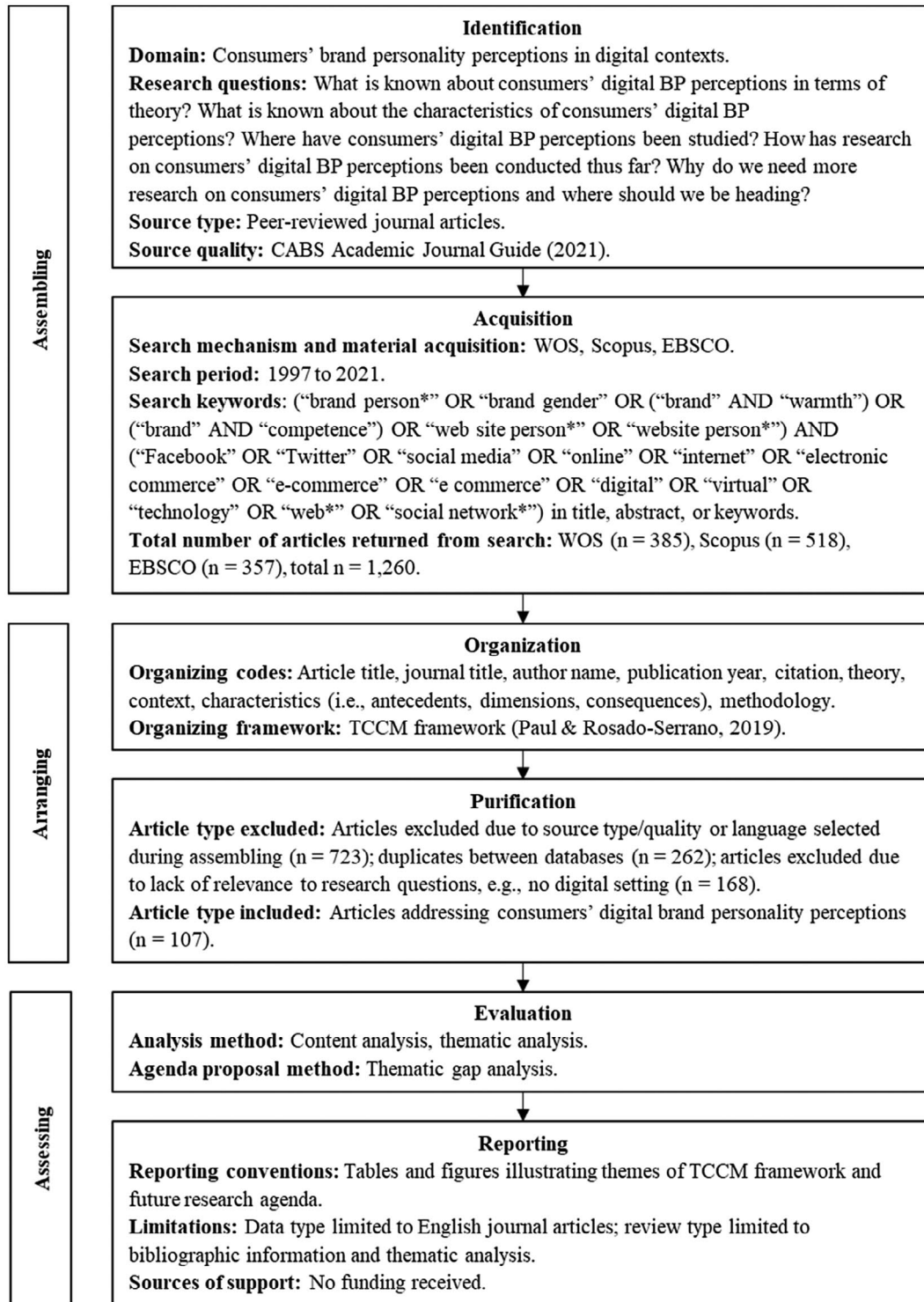
Assembling

Identification
Domain: Consumers' brand personality perceptions in digital contexts.
Research questions: What is known about consumers' digital BP perceptions in terms of theory? What is known about the characteristics of consumers' digital BP perceptions? Where have consumers' digital BP perceptions been studied? How has research on consumers' digital BP perceptions been conducted thus far? Why do we need more research on consumers' digital BP perceptions and where should we be heading?
Source type: Peer-reviewed journal articles.
Source quality: CABS Academic Journal Guide (2021).

Acquisition
Search mechanism and material acquisition: WOS, Scopus, EBSCO.
Search period: 1997 to 2021.
Search keywords: ("brand person*" OR "brand gender" OR ("brand" AND "warmth") OR ("brand" AND "competence") OR "web site person*" OR "website person*") AND ("Facebook" OR "Twitter" OR "social media" OR "online" OR "internet" OR "electronic commerce" OR "e-commerce" OR "e commerce" OR "digital" OR "virtual" OR "technology" OR "web*" OR "social network*") in title, abstract, or keywords.
Total number of articles returned from search: WOS (n = 385), Scopus (n = 518), EBSCO (n = 357), total n = 1,260.

Arranging

Organization
Organizing codes: Article title, journal title, author name, publication year, citation, theory, context, characteristics (i.e., antecedents, dimensions, consequences), methodology.
Organizing framework: TCCM framework (Paul & Rosado-Serrano, 2019).

Purification
Article type excluded: Articles excluded due to source type/quality or language selected during assembling (n = 723); duplicates between databases (n = 262); articles excluded due to lack of relevance to research questions, e.g., no digital setting (n = 168).
Article type included: Articles addressing consumers' digital brand personality perceptions (n = 107).

Assessing

Evaluation
Analysis method: Content analysis, thematic analysis.
Agenda proposal method: Thematic gap analysis.

Reporting
Reporting conventions: Tables and figures illustrating themes of TCCM framework and future research agenda.
Limitations: Data type limited to English journal articles; review type limited to bibliographic information and thematic analysis.
Sources of support: No funding received.

FIGURE 1 Review procedure following the SPAR-4-SLR protocol (Paul et al., 2021)

outlet and publication year. Additionally, the number of citations were compared, both overall and per year.

Whereas the early years between 2005 and 2010 only saw a few studies (*n* = 16; 15%), in the past 10 years there has been an increasing amount of research (see Figure 3) on the phenomenon of digital BP (*n* = 91; 85%). Notably, the highest numbers of articles per year have been published in the last two years (2019–2020), with 15 publications already published in 2021 (concluding June). This further supports the rising relevance of the field and thus the need for this review.

Overall, the 107 articles included in this review were published in 69 peer-reviewed journals (see Appendix A). However, only 20 journals had published two or more of the articles, while 49 had only one publication

TABLE 1 Review protocol adapted from Mishra et al. (2021)

Bibliographic data and content categories	Description
Author(s)	Who is the author?
Journal	In which journal was the paper published?
Year	When was the article published?
Citation	How many times has the article been cited (total; per year)?
Major themes	What are the major themes regarding consumers' digital BP perception studies?
Theoretical underpinning	What disciplines, theories, or models have been applied?
Digital context	What is the digital setting/touchpoint of the article?
Brand/industry context	Which brand types and industries are used for data collection?
BP dimensions	What BP model(s) or measurement technique(s) has(have) been applied?
Antecedents	What factors influence consumers' BP perceptions in digital contexts?
Consequences	What are consumers' responses to digital-based BP perceptions?
Methodology	What is the methodology of the empirical research? (quantitative, qualitative, mixed)
Data collection tools	What are the tools of data collection? (e.g., survey, interviews)
Findings/conclusions	What are the main findings/conclusions of the study?

Theory (RQ1a)
(section 3.1; figure 4)

i) Brand personality theory
ii) Consumer-brand relationships theory
iii) Self-congruity theory
iv) Human personality theory
v) Other theories

Context (RQ2)
(section 3.2; table 3)

i) Research contexts (industries)
ii) Digital contexts
   a) Websites and online stores
   b) Social media
   c) New technologies
   d) Other contexts

Characteristics (RQ1b)
(section 3.3; tables 4, 5, 6; figure 5)

i) Dimensions (e.g., sincerity, competence)
ii) Antecedents (e.g., channel type)
iii) Consequences (e.g., brand loyalty)

→ Conceptual model of digital brand personality

Methodology (RQ3)
(section 3.4; table 7)

i) Quantitative (e.g., content analysis)
ii) Qualitative (e.g., interviews)
iii) Mixed methods (e.g., surveys and interviews)

FIGURE 2 Structure of review findings and corresponding sections according to TCCM (adapted from Paul & Rosado-Serrano, 2019)

each. Despite the dominance of marketing and consumer psychology journals, research was also published in sector journals of tourism, general management, or service research. This shows that the construct of digital BP is relevant across many marketing and business disciplines. The two journals with the most publications were *Journal of Brand Management* (6) and *Journal of Business Research* (6). By contrasting the most cited articles based on total number of citations versus average citations (Table 2), it is evident that social media-based studies published in more recent years (e.g., Lee et al., 2018) are receiving increasing research attention, while foundational works (e.g., Poddar et al., 2009) also remain widely cited overall.

3 | REVIEW FINDINGS (TCCM)

3.1 | Theory (RQ1a)

To answer the question of *what* is known about digital BP perceptions, this review identified the theoretical underpinnings of extant literature. Of the 107 articles reviewed, the analysis found that 105

Number of publications over time
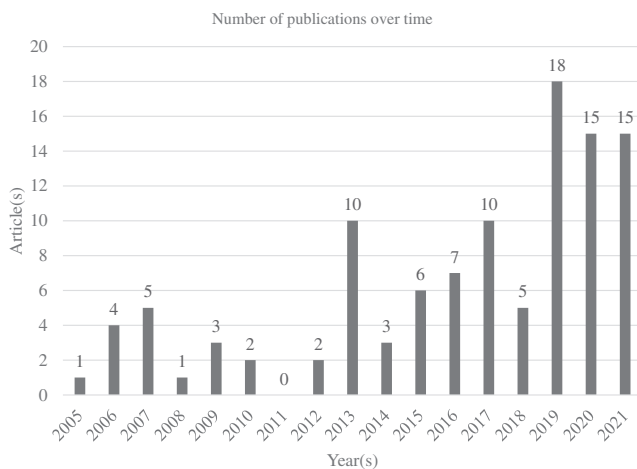
FIGURE 3 Number of publications by year(s) (*n* = 107); note: as of July 1, 2021

have drawn on 51 different theoretical perspectives/frameworks to explain how digital BP perceptions are formed and how they affect consumer behavior. However, apart from traditional BP theory and related concepts such as self-congruity theory, no theoretical perspective has gained dominance. There is a striking lack of a clear conceptualization of digital BP, which has led to the proliferation of many different theoretical frameworks that stem from different disciplines, such as marketing theory or psychology (see Figure 4; a full list of applied theories is given in Appendix B). Following the examples of other TCCM reviews (Chen et al., 2021; Hassan et al., 2022), the following sections discuss in-depth the most frequently applied theories in extant digital BP research, in order of dominance.

3.1.1 | Brand personality theory

The vast majority of articles (90; 85.71%) applied BP theory, which contends that consumers associate brands with humanlike characteristics (Aaker, 1997). Traditional BP theory borrows from brand anthropomorphism (Epley et al., 2007; Guido & Peluso, 2015; Puzakova et al., 2009) and symbolic consumption theory (Gardner & Levy, 1955; Plummer, 1984) to explain why brands can be associated with humanlike attributes and how BP is meaningful for brands and consumers. By imbuing a brand with a humanlike personality, marketers can differentiate their brand from its competitors and consumers can better identify themselves with the brand and thus fulfil self-definitional needs (Aaker, 1997, 1999).

Numerous studies have extended BP theory, based on Aaker (1997), to the digital realm to demonstrate that brands in the digital world indeed become personified in the perception of consumers. Through the analysis of digital user-generated content, some studies have provided evidence that consumers naturally use human personality characteristics and traits to refer to brands (Paschen et al., 2017; Ranfagni et al., 2016). By applying the premises and models of BP theory to digital settings, other studies have further confirmed that BP perceptions positively affect consumer

TABLE 2 Ten most cited articles based on Google Scholar (retrieved 12/08/2021); citations per year = total citations ÷ current year (2021) minus year of publishing

| Rank	Publications	Total citations	Rank	Publications	Citations per year
1	Lee et al. (2018)	451	1	Lee et al. (2018)	150.33
2	Poddar et al. (2009)	359	2	Machado et al. (2019)	42.50
3	Da Silva and Syed Alwi (2006)	245	3	Killian and McManus (2015)	38.17
4	Killian and McManus (2015)	229	4	Poddar et al. (2009)	29.92
5	Pitt et al. (2007)	227	5	Priporas et al. (2020)	29.00
6	Okazaki (2006)	202	6	Luangrath et al. (2017)	24.50
7	Opoku et al. (2006)	197	7	Bernritter et al. (2016)	24.20
8	Pentina Zhang et al. (2013)	189	8	Lee et al. (2020)	24.00
9	Kim and Lehto (2013)	173	9	Lee and Eastin (2020)	24.00
10	Ingenhoff and Fuhrer (2010)	144	10	Pentina Zhang et al. (2013)	23.63
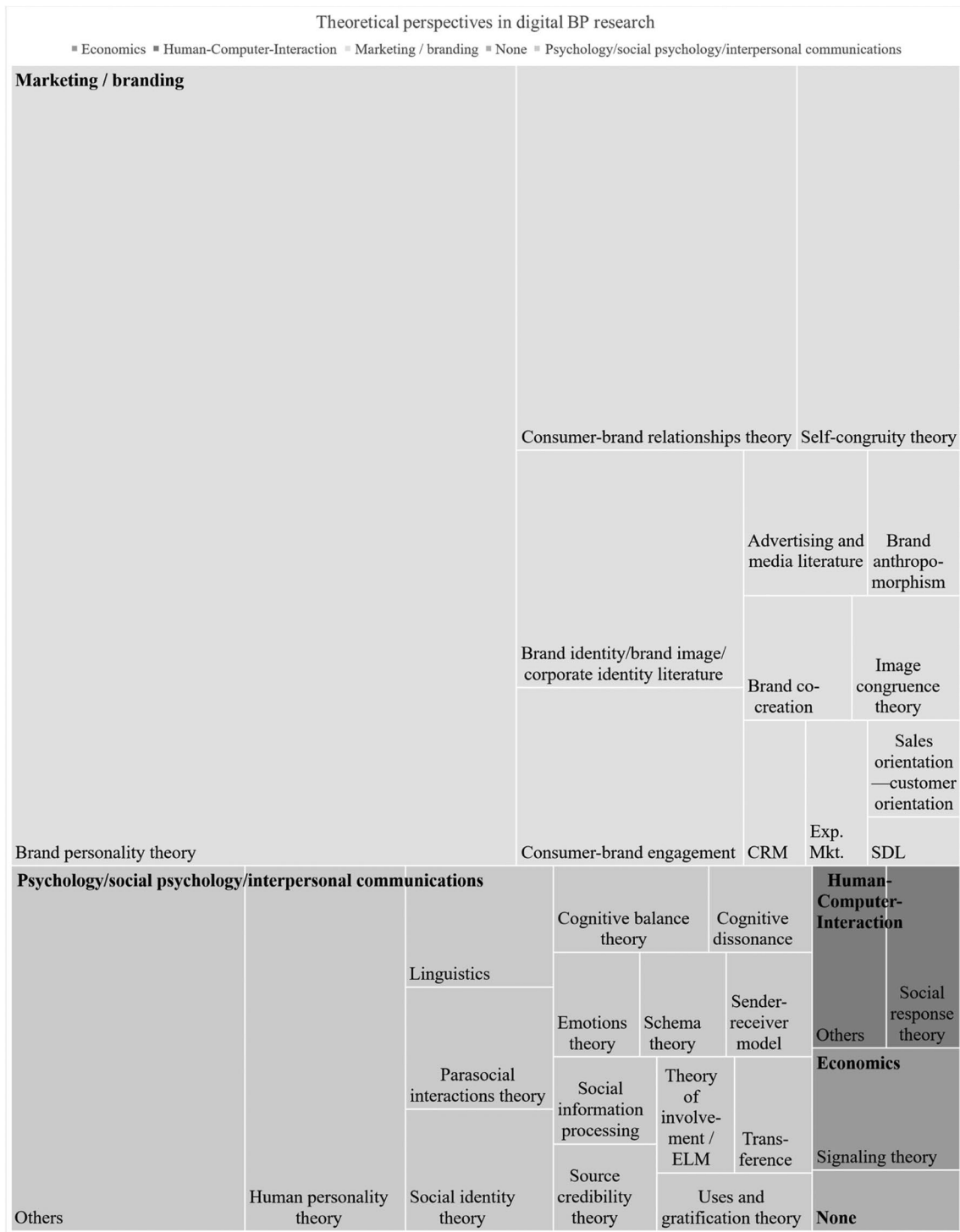
FIGURE 4 Tree map of theoretical perspectives applied in digital BP research

responses, such as customer satisfaction (Ong et al., 2017), brand attitude (Torres & Augusto, 2019), and brand equity (Anselmsson & Tunca, 2019).

However, general BP theory is divided into two schools of thought (Oklevik et al., 2020; Radler, 2018) that differ in how they conceptualize and measure BP: The first, originally developed by Aaker (1997), conceptualizes BP as the total set of humanlike characteristics associated with the brand, including gender, profession, status, and traits (brand-as-a-person metaphor). The second conceptual approach is directly driven by human personality psychology and restricts the definition of BP to include human personality traits only (brand-as-a-personality definition) (Azoulay & Kapferer, 2003; Geuens et al., 2009). The review reveals that the two schools of thoughts have been extended to the digital context, and this can be traced through to differences in dimensionalities studied (to be detailed in Section 3.3.1).

3.1.2 | Consumer-brand relationships theory

The next most frequently employed theoretical framework is consumer-brand relationships (CBR) theory (24 articles; 22.86%), which posits that relationships between brands and consumers resemble interpersonal relationships (Fournier, 1998). CBR theory is inextricably linked with BP theory as both have originated from the premise that consumers see brands as persons, personalities, or active relationship partners (Aaker & Fournier, 1995; Blackston, 1993). It has even been argued that the concept of CBR is an extension of BP, as brands should first be humanized so that consumers can build humanlike relationships with them (Davies & Chun, 2003). Drawing on interpersonal relationships theory and social psychology, CBR researchers have provided evidence that interpersonal relationship norms apply to brand relationships (Aggarwal, 2004), that consumers use the dimensions of social judgement, warmth and competence, to evaluate a brand's intentions and abilities as a relationship partner (Aaker et al., 2010, 2012; Kervyn et al., 2012), and that consumers can develop strong emotional bonds such as brand attachment (Thomson et al., 2005) or brand love (Carroll & Ahuvia, 2006).

Based on this theory, researchers have assumed that building a strong BP through digital interactions can contribute to consumers viewing the brand as a relationship partner. Hence, digital BP perceptions have been confirmed to be a steppingstone towards building strong brand relationships in digital contexts (e.g., Roy et al., 2016). Another line of inquiry has applied the Brands-as-Intentional-Agents-Framework (Aaker et al., 2012; Bennett & Hill, 2012; Kervyn et al., 2012)—which adapted the stereotype content model of social perception and its universal dimensions warmth and competence (Cuddy et al., 2008; Fiske et al., 2002, 2007) to the branding context—to explore what motivates consumers to engage with personified brands online (Bernritter et al., 2016; Chang et al., 2019; Eigenraam et al., 2021). For example, in their study on the impact of in-feed social ads, Chang et al. (2019) found that consumers' perceptions of a brand's warmth or competence in combination with narrative voice (first-person vs. third-person) resonated with their own self-expressive needs for social belonging or self-enhancement, respectively. Thus, they showed that, by designing a congruent communication strategy that fits consumers' BP perceptions, brands could gather more likes on social media platforms.

3.1.3 | Self-congruity theory

The concept of self-congruity (Sirgy, 1982), i.e., the perceived alignment between a consumers' self-concept and the brand's personality, is another related theoretical framework that has been widely used to argue for the significance of BP in general (Aaker, 1997, 1999; Radler, 2018). Numerous studies have established that consumers prefer brands with a personality similar or complementary to their own because this allows them to verify, express, or enhance their self-concept (Karampela et al., 2018; Kressmann et al., 2006; Malär et al., 2011; Sirgy, 1982). Thus, self-congruity is also important for initiating and developing consumer-brand relationships.

This theory has also been used in digital BP research (14 articles; 13.33%) where researchers have relied on the congruity-premise to explain why consumers form stronger attachment to brands that fit their own self-concept or personality. For example, several studies showed that the perceived self-brand congruity with social networking sites, like Facebook or Twitter, positively affected the users' emotional attachment, brand trust, and brand relationship quality (Pentina, Gammoh, et al., 2013; Pentina, Zhang, et al., 2013; Wang et al., 2016). Importantly, other digital-based studies have substantially corroborated self-congruity theory as they provided evidence that the personalities of brand followers on social media are indeed more aligned with the brands' personalities than those of non-followers (Hu et al., 2019; Yun et al., 2019).

3.1.4 | Human personality theory

Human personality theory has often been referred to as a starting point for BP research (Ha, 2016; Louis & Lombart, 2010) and it has also been widely employed in digital BP research (13 articles; 12.38%). Within the range of personality theories, the psycholexical/trait approach has become the most dominant. Trait theory posits that an individual's personality is made up of distinct characteristics (traits) that drive thoughts, feelings, and actions. Moreover, the psycholexical/trait approach is based on the premise that personality traits are manifested in naturally spoken day-to-day language (McCrae & Costa, 1997). In trait theory, the currently dominant five-factor model captures personality along the dimensions of Openness to Experience, Conscientiousness, Agreeableness, Extraversion, and Neuroticism/Emotional Stability (Digman, 1990; McCrae & Costa, 1987). General BP theory has drawn parallels to the personality trait structure of the five-factor model to develop its own trait-based models (Aaker, 1997; Geuens et al., 2009).

There are two main ways in which human personality theory has been used to study digital BP. First, researchers following the brand-as-a-personality definition have directly transferred the human personality trait structure to brands and applied the five-factor model (e.g., Wang et al., 2021) or its abridged form (e.g., Phelan et al., 2013) to measure digital BP. Second, researchers have relied on the personality theory of Hogan (1991) to infer personality from self-disclosing texts of brands and consumers. Those studies sought to examine either the intrinsic BP in terms of "what the brand says about itself" (Pitt et al., 2007) or the extrinsic BP, i.e., "what others say about the brand" (Paschen et al., 2017).

3.1.5 | Other theories

Besides these dominant theories, digital BP research has employed a variety of other theoretical perspectives. Digital BP research has applied 32 other theoretical lenses from the field of (social) psychology or interpersonal relationships research, such as parasocial interaction theory (Youn & Jin, 2021), social identity theory (Farhat

et al., 2021), linguistics (Chang et al., 2019), social information processing theory (Garanti & Kissi, 2019), cognitive balance theory (Nadeau et al., 2020), and so forth. It is striking that the majority of theoretical perspectives stem from the fields of BP-related marketing theories, psychology, or interpersonal relationships/communications theories (see Figure 4).

However, more recent studies have broadened the theoretical underpinnings by including other marketing theories/paradigms. For example, researchers have applied theoretical lenses such as brand value co-creation (Ramaswamy & Ozcan, 2016) or service-dominant logic (SDL) (Vargo & Lusch, 2004) to explore the role of the consumers as co-creators of BP perceptions in a digital world (e.g., Fang, 2019). Borges-Tiago et al. (2019) showed that digital communications are increasingly dominated by user-generated content that conveys different personality traits if compared to the official brand communication.

Interestingly, only a few articles utilized theoretical models from research fields beyond marketing and (social) psychology (see Figure 4). One example is signaling theory (Spence, 1973), which has its origins in economics and postulates that the asymmetry of information between two parties can be overcome through communicative signals. Recently, signaling theory has also been suggested as an alternative theoretical foundation for general BP theory (Davies et al., 2018; Saeed et al., 2021). Similarly, the review reveals that four digital-based articles also drew on signaling as the underlying mechanism through which consumers absorb and interpret BP cues in online communication (e.g., Carpentier et al., 2019).

Moreover, special attention should be directed to the set of human-computer-interaction (HCI) theories that have been applied to study consumers' digital interactions with brands and their impact on BP perceptions (see Figure 4). HCI theories offer a promising theoretical grounding since they specifically consider the role of anthropomorphized technological agents and computer-mediated communications. For example, Jin and Sung (2010) used the "computers are social actors" (CASA) paradigm from social response theory to highlight how the deliberate manipulation of virtual brand avatars can help to stimulate BP perceptions of consumers. However, although such parallels between BP research and HCI were noted early on, not a lot of research in BP has acted upon this, yet.

In sum, this review highlights that the field of digital BP research has mainly relied on traditional BP literature or closely related theories. The general rationale seems to be that consumer-brand interactions in digital environments mirror interpersonal interactions, thus models of human-to-human relationships and classical BP research are applied. However, this application of extant theories often fails to account for the digital context, the interaction with technology and its specific characteristics, and the potential influence of other actors. The theoretical and conceptual development of the construct of a digital BP is still lagging behind as research is largely dominated by the perpetual re-application of existing theories and there are few attempts at innovative theorizing. This may be explained by the fact that BP theory in general is also divided in its theoretical foundation (Davies et al., 2018; Radler, 2018) or by the tendency of

digital BP researchers to directly transfer existing models from the offline world to the digital world instead of developing new theories and models explicitly for the digital context. This observed stagnation of theories can also be explained by the fact that most studies took place in only a few digital contexts, the impact of which is examined in greater depth in the following section.

3.2 | Context (RQ2)

Following the TCCM framework (Paul & Rosado-Serrano, 2019), this section analyzes the contexts of the reviewed articles to show *where*, i.e., in what research and specific digital contexts, studies on digital BP perceptions have been conducted.

In terms of research contexts, the review has revealed that studies on digital BP have been carried out across a wide range of industries and brands (see Appendix C), whereby product brands (Aguirre-Rodriguez et al., 2015), digital-native brands and e-stores (Poddar et al., 2009), service brands (Shi & Shan, 2019), and tourism/destination brands (Borges-Tiago et al., 2021) were most dominant. While BP has traditionally been more strongly associated with consumer product brands (Saeed et al., 2021), the dominant presence of non-physical brands was somewhat surprising, yet this may be explained by the fact that in a digital world, all (types of) brands require a strong digital presence and may opt to position their brand using humanlike attributes to engage consumers at different digital channels.

In terms of digital contextualization (see Table 3), this review shows how digital BP research has initially begun with a narrow focus on websites and then has spread out to acknowledge more and more digital touchpoints. In the first digital BP studies (e.g., Merrilees & Miller, 2005), brands only started to set up websites and online stores, which at the time represented their main digital presence. These studies examined the digital BP conveyed by a brand's website (Okazaki, 2006; Opoku et al., 2006) or the personality of online-based brands such as e-stores (Poddar et al., 2009).

As digital BP research has continued to evolve, social media has become the most frequently studied digital context (49 articles). One plausible explanation for this may be that the more informal, interpersonal style of social media communication is closely associated with brands adopting a more human voice and thus humanlike attributes as they interact with consumers on these platforms (Chang et al., 2019). It is not surprising that the social media platforms Facebook (16 articles) and Twitter (15 articles) are the most widely studied contexts, given their worldwide popularity. Nevertheless, in recent years, researchers have added other platforms to the social media mix of digital BP research, including Instagram (Priporas et al., 2020), Sina Weibo (Chu et al., 2020), and WeChat (Chang et al., 2019).

However, there is a striking dearth of research on digital contexts beyond websites and social media. The review revealed only four articles that examined consumers' BP perceptions based on their interactions with anthropomorphized brand agents such as smart objects

TABLE 3 Digital contexts studied based on Shahab et al. (2021)

Digital contexts	#	%	Examples
Websites and online stores incl. brand websites of retail brands (e.g., nike.com), website or e-store brands (e.g., amazon.com), internet media brands (e.g., YouTube.com)	**38**	**35.51**	Opoku et al. (2006); Poddar et al. (2009); Ham and Lee (2015); Chang and Kwon (2022)
Social media[a]	**49**	**45.79**	
Facebook	16		Machado et al. (2019)
Twitter	15		Pentina Zhang et al. (2013)
LinkedIn	3		Carpentier et al. (2019)
YouTube	3		Wen and Song (2017)
Instagram	2		Priporas et al. (2020)
Sina Weibo	1		Chu et al. (2020)
WeChat Moments	1		Chang et al. (2019)
Glassdoor	2		Hu et al. (2019)
Social media influencer	2		Lee and Eastin (2020)
Online brand communities	1		Paschen et al. (2017)
Online (tourism) reviews	4		Dickinger and Lalicic (2016)
Not specified or self-selected	10		Xia (2013)
Anthropomorphized brand agents incl. avatars or chatbots	**4**	**3.74**	Jin and Sung (2010); Youn and Jin (2021)
Multiple types of online or offline touchpoints	**8**	**7.48**	Ranfagni et al. (2016); Chan et al. (2018)
Others e.g., online games, apps, search engines etc.	**8**	**7.48**	Fang (2019); Lee and Cho (2017)

Bold values indicate the numbers of references for the main categories.
[a]Studies that used multiple social media platforms appear in multiple rows.

(Internet of Things (IoT hereafter)), avatars, or AI-powered chatbots (Youn & Jin, 2021). This is even more surprising given that the first research attempt to combine avatar research with BP was made over ten years ago by Jin and Sung (2010). Moreover, other digital contexts, such as online games (Lee & Cho, 2017; Palomba, 2020), branded apps (Fang, 2019), online videos ads (Holmes, 2021), and search engine data (Aggarwal et al., 2009), among others, were examined in only one or two articles each. Nonetheless, even these dispersed findings reinforce that every digital consumer-brand interaction has the potential to significantly influence consumers' perceptions of the brand's digital personality. That is all the more reason why the lack of many important digital contexts is a critical issue in existing research.

Apart from the lack of variety of digital touchpoints, the in-depth analysis of digital contexts further shows that research has mainly been conducted in a single digital context (e.g., Chang, 2012). Only eight articles (see Table 3) examined consumers' BP perceptions at different types of digital touchpoints, for example, across websites and social media platforms (e.g., Eigenraam et al., 2021; Ranfagni et al., 2016), or compared consumers' BP perceptions that were drawn from an online context with those from an offline context (e.g., Anselmsson & Tunca, 2019; Chan et al., 2018). By contrast, the vast majority of studies opted to choose one digital touchpoint as representative for the digital environment (e.g., Ong et al., 2017). This may have been done for reasons relating to ease of access/data

collection. However, the various digital touchpoints differ significantly in terms of interaction, ownership, experience, and purpose (Lemon & Verhoef, 2016; Swaminathan et al., 2020) and not even two social media platforms are the same. Hence, the scarcity of studies involving different digital touchpoints is an important limitation of existing research because it fails to account for potential differences in the nature of interactions and may constrain the generalizability of research findings.

3.3 | Characteristics (RQ1b)

To integrate research findings about *what* is known about digital BP perceptions, this review also focused on the characteristics aspect of the TCCM framework (Paul & Rosado-Serrano, 2019). In the next sections, the review first discusses the different dimensions of consumers' BP perceptions in digital contexts, and then their antecedents and consequences.

3.3.1 | Dimensions

The lack of a clear conceptualization and theorization of digital BP detailed earlier has led to the proliferation of models used to capture consumers' digital BP perceptions. Apart from the studies that

assessed brand anthropomorphism (3 articles) or self-congruity (10 articles), research has treated digital BP as a multi-dimensional, trait-based construct—drawing parallels to the structure of human personality. Yet, there is no consensus and agreement about digital BP's dimensionality in terms of the number and meaning of factors. This section considers the models, dimensions, and traits that have been most frequently validated in digital contexts (see Table 4), either through survey-based measures and factor analyses, content analyses, or qualitative work.

Referring back to the two schools of thoughts in general BP theory (Section 3.1.1), the majority of studies have followed the brand-as-a-person metaphor (74 articles). Therein, most studies (50 articles) have applied the Brand Personality Scale ("Big Five") of Aaker (1997), either directly or with minor modifications. Thus, the five dimensions of sincerity, excitement, competence, sophistication, and ruggedness and the corresponding traits were most frequently observed (Table 4). Additionally, three articles have validated 10 items of Grohmann's (2009) brand gender model for the digital context. However, numerous studies (21 articles) have relied on context-specific adaptations or developed idiographic scales to measure consumers' digital perceptions of the brand as a person. As a result, there exist a number of additional digital BP dimensions, such as Enthusiasm (Poddar et al., 2009), Innovation (Syed Alwi & Da Silva, 2007), or Intelligence (Ham & Lee, 2015). In addition, researchers have occasionally used the same labels as Aaker (1997) to name their newly discovered dimensions, even if they included vastly different items (e.g., excitement in Table 4), thereby adding to the conceptual confusion in the field.

In contrast, a smaller number of studies (16 articles) followed the more restricted brand-as-a-personality definition and directly applied human personality traits to capture consumers' digital BP perceptions. In this vein, most studies (10 articles) have relied on the stereotype content model or rather its adaptation, the Brands-as-Intentional-Agents-Framework (Aaker et al., 2010; Kervyn et al., 2012), to assess how consumers perceive the brand to be warm (e.g., warm, friendly, generous) and competent (e.g., competent, efficient, effective). Other studies partially validated the New Brand Personality Scale by Geuens et al. (2009) or the five-factor model of human personality for brands (Table 4). Finally, four studies did not specify any established BP model.

Our in-depth analysis further identified similarities and differences between the dimensions and traits of the multiple models. In spite of the structural differences, some characteristics and traits seem to be particularly relevant as they appear across models. For example, in general BP theory, Aaker's (1997) sincerity dimension has also been associated with agreeableness (human personality) and warmth (Brands-as-Intentional-Agents-Framework) (Aaker et al., 2001; MacInnis & Folkes, 2017). Likewise, in digital BP research, sincerity/warmth and related traits such friendly, honest, or warm are among the most frequently validated characteristics (see Table 4). However, the relevance of such characteristics in determining digital BP remains uncertain. While some researchers suggested that different BP dimensions and traits may become more

or less relevant in a digital environment (Garanti & Kissi, 2019; Ong et al., 2017), others contended that the underlying dimensionality of digital BP may vary between online and offline brands (Syed Alwi & Da Silva, 2007). Thus, there is limited clarity on what dimensions and traits constitute digital BP or how these may vary depending on other factors such as the digital context.

3.3.2 | Antecedents

Antecedents capture the factors that contribute to consumers perceiving the brand as having humanlike attributes in a digital context. The review shows that extant studies mostly focus on brand-related/brand-controlled independent variables, which can be mapped across the different steps that brands have to consider when designing their digital personality; these can be broadly categorized as channel type, platform design, content/communication style, and other factors (see Table 5).

First, the brand's choice of a channel or touchpoint is crucial since the media type itself can affect how its personality is perceived. Research on channel choice (5 articles) has demonstrated that brand messages in online or social media channels lead to higher perceptions of warmth and excitement, whereas the same brand messages elicit higher perceptions of competence if presented in an offline (print) medium (Anselmsson & Tunca, 2019; Chan et al., 2018). Likewise, several studies indicated that a brand's mere presence on social media platforms is sufficient to strengthen the overall BP perceptions of consumers (Peco-Torres et al., 2021; Simiyu et al., 2020; Walsh et al., 2013). These findings reinforce that the digital context can play a role in shaping consumers' digital BP perceptions.

Second, the platform design-related antecedents (6 articles) denote the more specific structural aspects and affordances of the channel. It is important for brand managers to create online brand experiences that help to humanize their brand in the minds of consumers. To illustrate, research has shown that online experiential values and attributes of websites such as personalization (Da Silva & Syed Alwi, 2006), customer orientation (Poddar et al., 2009), and service excellence (Shobeiri et al., 2013) have direct positive effects on BP perceptions. In a similar fashion, Fang (2019) demonstrated that the value-in-use (indicated by personalization, relationship, experience) of a branded app predicts perceived brand competence and warmth, which in turn lead to higher brand loyalty. These findings, albeit limited in number, indicate that experiential values and affordances, potentially across digital touchpoints, have a strong influence on consumers' digital BP perceptions.

Third, it is interesting that the most researched antecedents (7 articles) pertain to content strategies and communication styles. To illustrate, Carpentier et al. (2019) demonstrated that social presence of social media brand pages is an antecedent to brand warmth, whereas informativeness is an antecedent to brand competence. In another digital context, a more friend-like interaction or relationship style of an anthropomorphized brand agent such as a chatbot has been revealed to drive higher perceptions of warmth and parasocial

TABLE 4 Dimensions of consumers' digital BP perceptions (Numbers in parentheses = number of times a dimension/trait has been confirmed)

BP model	#	Dimensions	Traits	Example references
1. Brand-as-a-person	74			
Brand Personality Scale based on Aaker (1997)	50	Excitement (44)	Imaginative (17), daring (16); exciting (14), spirited (14)	Priporas et al. (2020)
		Sincerity (43)	Honest (13), down-to-earth (11), wholesome (11), cheerful (10), friendly (10)	Lee and Eastin (2020)
		Competence (43)	Successful (14), intelligent (11), reliable (11), secure (11)	Hu et al. (2019)
		Sophistication (36)	Charming (12), glamorous (9), good-looking (9), smooth (8), upper-class (8)	Kim and Phua (2020)
		Ruggedness (32)	Tough (9), rugged (8), outdoorsy (7), Western (7)	Merrilees and Miller (2005)
Contextual applications/adaptations	21	Excitement (8)	Exciting (3), up-to-date (2), assertive (1), humorous (1), sensual (1)	Okazaki (2006)
		Sophistication (8)	Elegant (6), stylish (4), high-class (3), snobbish (3)	Rezaei et al. (2016)
		Competence (7)	Secure (3), confident (2), leader (2), reliable (2), strong (2)	Da Silva and Syed Alwi (2006)
		Enthusiasm (5)	Dynamic (5), congenial (5), enthusiastic (4), lively (4), welcoming (3), friendly (1)	Poddar et al. (2009)
		Genuineness (5)	Genuine (4), honest (4), sincere (4), truthful (4). Reliable (3), trustful (3)	Shobeiri et al. (2013)
Brand gender dimensions of Grohmann (2009)	3	Brand femininity (3)	Expresses-tender-feelings (3), graceful (3), sensitive (3), sweet (3), tender (3)	Machado et al. (2019); Vacas de Carvalho et al. (2020); Farmaki et al. (2021)
		Brand masculinity (3)	Adventurous (3), brave (3), daring (3), dominant (3), sturdy (3)	
2. Brand-as-a-personality	16			
Brands-as-Intentional-Agents-Framework	10	Warmth (9)	Warm (9), friendly (8), generous (5)	Bernritter et al. (2016); Chang et al. (2019)
		Competence (9)	Competent (7), efficient (6), effective (5)	
New Brand Personality Scale of Geuens et al. (2009)	3	Responsibility (3)	down-to-earth (2), stable (2), responsible (2)	Garanti and Kissi (2019); He et al. (2021)
		Activity (3)	active (3), dynamic (3), innovative (3)	
		Aggressiveness (2)	Aggressive (2), bold (2)	
		Simplicity	Ordinary (2), simple (2)	
		Emotionality (2)	Romantic (2), sentimental (2)	
Human personality five-factor model (FFM)	3	Openness to Experience (3)	open to new experiences (1), complex (1)	Phelan et al. (2013); Rojas-Méndez and Hine (2017); Wang et al. (2021)
		Conscientiousness (3)	Dependable (1), self-disciplined (1)	
		Agreeableness (3)	Sympathetic (1); warm (1)	
		Extraversion (3)	Extraverted (1); enthusiastic (1)	
		Neuroticism/Emotional Stability (3)	Calm (1); emotionally stable (1)	

TABLE 5 Antecedents to consumers' digital BP perceptions

Antecedents	#	References
Channel type-related antecedents	**5**	
Media type	2	Chan et al. (2018); Anselmsson and Tunca (2019)
Social media communication	3	Walsh et al. (2013); Simiyu et al. (2020); Peco-Torres et al. (2021)
Platform design-related antecedents	**6**	
Brand app value-in-use	1	Fang (2019)
Website attributes/experiential values	5	Merrilees and Miller (2005); Da Silva and Syed Alwi (2006); Poddar et al. (2009); Shahin et al. (2013); Shobeiri et al. (2013)
Content-related antecedents	**7**	
Communication style	1	Zhang (2017)
Customer orientation	1	Dolan and Goodman (2017)
(Parasocial) Interaction and relationships style	2	Wu et al. (2017); Youn and Jin (2021)
Perceived interactivity	1	van Prooijen and Bartels (2019)
Social media content strategy	1	He et al. (2021)
Social presence and informativeness	1	Carpentier et al. (2019)
Other antecedents	**3**	
Brand-brand relational moments	1	Ramadan (2019)
Company attributes	1	Lee and Cho (2017)
Consumer avatar similarity	1	Aguirre-Rodriguez et al. (2015)

Bold values indicate the numbers of references for the main categories.

interaction in contrast to a more professional style (engineer-like, assistant) (Wu et al., 2017; Youn & Jin, 2021). Collectively, these studies show that brands can create vastly different digital BP perceptions simply by changing the tonality of their messages or by creating a sense of interactivity and human interaction (e.g., van Prooijen & Bartels, 2019).

Taken together, these studies have outlined a number of ways in which a brand can build and position its digital personality. However, it is surprising that extant research has focused on brand-related or context-related variables, but has largely neglected or failed to consider the role of the consumer and other digital actors, such as peers, influencers, or media, who may also influence digital BP. Another limitation stems from the fact that research has primarily investigated positive effects, i.e., antecedents that enhance BP perceptions. In a time of fast-paced social media communication, in which brands can easily become targets of public criticism and outrage, it is also necessary to understand the factors that could negatively impact or hinder the formation of BP perceptions, such as service failures, brand crises, or negative word-of-mouth.

3.3.3 | Consequences

When reviewing previous research on the consequences of consumers' digital BP perceptions, i.e., the outcomes and effects of digital BP, both direct effects of BP as a stand-alone construct and how BP interacts with other variables must be considered.

Direct effects

The reviewed studies have conclusively shown that a strong, recognizable digital BP has a direct significant effect on consumers' cognitive, affective/relational, and conative responses as well as on brand equity (see Table 6). The majority of extant research has focused on affective/relational consequences or conative consequences. The former category studies (22 articles) have shown that, in a variety of digital contexts, a digital BP can help to build brand trust (Ha, 2016), strengthen brand attachment (Wu et al., 2017), elicit feelings of brand love (Machado et al., 2019), and predict higher brand loyalty (Ong et al., 2017). Collectively, these findings corroborate that the formation of BP strongly contributes to the development of an emotional bond between consumers and brands (Fournier, 1998). These findings may be explained by the fact that BP—as an emotional and symbolic part of the brand's image—has always been inextricably linked with consumer-brand relationships (Aaker et al., 2004; Fournier, 1998), and the same is true in a digital context.

The conative consequences consist of behavioral intentions and have received the most attention from research (26 articles). Numerous studies in this domain (11 articles) have revealed digital BP to be a highly engaging construct. For example, in a widely cited study, Lee et al. (2018) demonstrated that the presence of BP-related content in Facebook posts leads to higher numbers of likes, shares, and comments compared to merely informative content. In the same vein, other researchers have found that consumers are not only more likely to engage with a post if the brand has a strong digital personality (Chu et al., 2020), but they are also more likely to

TABLE 6 Direct effects of consumers' digital BP perceptions on cognitive, affective/relational, conative, and brand-related dependent variables (Mishra et al., 2021; Saeed et al., 2021)

Consequences	#	References
Cognitive consequences	**6**	
Brand authenticity	1	Eigenraam et al. (2021)
Organizational attractiveness	1	Carpentier et al. (2019)
Perceived quality	1	Vacas de Carvalho et al. (2020)
Source trustworthiness and expertise	1	Jin and Sung (2010)
Website involvement	1	Shobeiri et al. (2015)
Website quality	1	Poddar et al. (2009)
Affective/relational consequences	**22**	
Brand loyalty	5	Merrilees and Miller (2005); Roy et al. (2016); Ong et al. (2017); Fang (2019); Garanti and Kissi (2019)
Attitudes towards brands	5	Jin and Sung (2010); Zhang (2017); Torres and Augusto (2019); Lee and Eastin (2020); He et al. (2021)
Brand love	4	Roy et al. (2016); Machado et al. (2019); Vacas de Carvalho et al. (2020); Farmaki et al. (2021)
Customer satisfaction/brand satisfaction	3	Da Silva and Syed Alwi (2006); Jin and Sung (2010); Ong et al. (2017)
Attitudes towards website	2	Chen and Rodgers (2006); Shobeiri et al. (2015)
Brand attachment	2	Wu et al. (2017); Joo and Kim (2021)
Brand trust	2	Ha (2016); Youn and Jin (2021)
Brand admiration (emotional responses)	1	Joo and Kim (2021)
Brand affect	1	Farhat et al. (2021)
Brand forgiveness	1	Joo and Kim (2021)
Relationship satisfaction	1	Youn and Jin (2021)
Self-congruity	1	Das and Khatwani (2018)
Conative consequences	**26**	
Social media engagement intention/consumer-brand engagement/holistic digital engagement	11	Chen et al. (2015); Bernritter et al. (2016); Wen and Song (2017); Lee et al. (2018); Luna-Cortés (2018); Machado et al. (2019); Chu et al. (2020); Priporas et al. (2020); Vacas de Carvalho et al. (2020); Farhat et al. (2021); Peco-Torres et al. (2021)
Purchase intention/repeat purchase intention/purchases	7	Da Silva and Syed Alwi (2006); Jin and Sung (2010); Lee and Cho (2017); Zhang (2017); Chan et al. (2018); Chiang and Yang (2018); Das and Khatwani (2018)
Word-of-mouth intention	3	Da Silva and Syed Alwi (2006); Das and Khatwani (2018); Carpentier et al. (2019)
Electronic word-of-mouth	2	Torres and Augusto (2019); van Prooijen and Bartels (2019)
Advergame intention to play	1	Lee and Cho (2017)
App continuance intention	1	Fang (2019)
Financial performance/revenue	1	Shi and Shan (2019)
Intention to enroll	1	Simiyu et al. (2020)
Intention to visit brand website	1	Youn and Jin (2021)
Online impulse buying	1	Rezaei et al. (2016)
Utilitarian and hedonic web browsing	1	Rezaei et al. (2016)
Brand-related	**2**	
Brand equity	**2**	Anselmsson and Tunca (2019); Garanti and Kissi (2019)

Bold values indicate the numbers of references for the main categories.

post about the brand or spread other forms of (electronic) word-of-mouth (Torres & Augusto, 2019). These observations resonate with the idea that giving a brand a human voice in digital communications can help with consumer-brand engagement (Chang et al., 2019). In

a digital world, brands are constantly fighting for attention and trying to actively engage their consumers. The aggregated evidence of the review findings suggests that building a strong digital BP is one important strategy to achieve this. Additionally, a number of studies

has shown that digital BP has a positive direct effect on consumers' purchase intentions (e.g., Da Silva & Syed Alwi, 2006).

Finally, some studies examined cognitive consequences (6 articles) that refer to the direct impact of BP perceptions on consumers' thoughts and their rational evaluations of a brand or a website. Although the reviewed articles demonstrated that digital BP perceptions have a positive effect on, for example, perceived quality (Vacas de Carvalho et al., 2020) or website quality (Poddar et al., 2009), cognitive outcomes remain under-researched. Likewise, only two articles found a direct positive effect of BP on brand equity (Anselmsson & Tunca, 2019; Garanti & Kissi, 2019).

Interaction effects

Besides these direct effects of a salient BP, researchers have questioned how specific BP dimensions interact with other variables in order to influence consumer behavior. This is based on the idea that BP is a multi-facet construct, thus, different brand personalities are more/less appropriate depending on the context or the communication strategy. For instance, Béal and Grégoire (2021) demonstrated that BP interacts with the type of humor that a brand uses in its response to public complaints on social media; affiliative humor is more effective for sincere brands, aggressive humor is more suitable for exciting brands in increasing consumers' purchase intentions. Similarly, other studies have revealed interaction effects between BP and narrative voice (Chang et al., 2019), engagement initiative (Eigenraam et al., 2021), and consumer sentiment (Lopez et al., 2020).

Finally, researchers have tested how BP may be aligned with other constructs. In line with self-congruity theory (Sirgy, 1982), the online-based studies found that a high degree of perceived congruence between the brand's digital personality and the consumer's own personality leads to more positive brand attitudes, higher brand engagement, and increased purchase intentions (Chang, 2012; Chiang & Yang, 2018; Das & Khatwani, 2018; Holmes, 2021; Lee et al., 2020). The congruity-premise also extends to matching digital BP with other constructs. For instance, Chang and Kwon (2022) argued for the importance of e-store brand personality (in)congruence as an indicator of how well the BP of the e-store reflected the personality of the overall brand (within-brand-congruity). Other researchers demonstrated that congruity between a brand's personality with its advertising context, the internet media's personality (Ham & Lee, 2015), or the fit between social media influencers, their followers, and brands have positive effects on consumer responses (Lee & Eastin, 2020; von Mettenheim & Wiedmann, 2021) (between-brands-congruity).

To conclude, although the review identified conceptual confusion about the characteristics of the digital BP, it also found ample evidence that consumers' BP perceptions in digital contexts have significant positive effects on consumer behavior.

3.3.4 | Conceptual model

Drawing on the synthesized research findings on digital BP's characteristics, we propose a conceptual model that displays the direct,

significant relationships between the different categories of antecedents and consequences of consumers' digital BP perceptions (see Figure 5). Importantly, extant research on antecedents has only considered a small set of mostly brand-related variables. However, to acknowledge the potential influence on the digital context and the role of consumers and external factors or agents, our conceptual model integrates four different categories of variables that could potentially shape consumers' digital BP perceptions, namely, brand-related factors (e.g., brand content or communication style), context-related factors (e.g., technology affordances, online experiential values), consumer-related factors (e.g., individual characteristics, traits), and external factors (e.g., online peer-to-peer communication, influencers).

Moreover, the context analysis (Section 3.2) has revealed that most studies on the relationships between those key variables have been conducted in either website or social media settings. In an increasingly digital world, new digital touchpoints and spheres emerge constantly (Hollebeek, Clark, Macky, et al., 2021; Swaminathan et al., 2020). It remains to be seen whether the same relationships pertain to other digital contexts, such as augmented reality applications or consumers' interactions with AI. Although these digital touchpoints are currently underrepresented in extant research, they are gaining importance for marketing practice. Thus, our conceptual model further maps out a number of potential, though not exhaustive, digital contexts where future research is needed to explore digital brand personality, its dimensions, antecedents, and consequences.

3.4 | Methodology (RQ3)

Having discussed the theories, contexts, and characteristics of digital BP research, the methodology analysis (TCCM) now examines the applied research approaches to shed light on *how* research on consumers' digital BP perceptions has been conducted. Given that the digital world is characterized by new forms of online brand experiences and the integration of new technologies into consumers' everyday life (MacInnis & Folkes, 2017; Swaminathan et al., 2020), we would have expected more exploratory, conceptual, and qualitative works in the domain of digital BP research. However, all articles were classified as empirical, none of them as conceptual or review. On the one hand, the absence of conceptual works has led to some inconsistencies in terms of theoretical foundations and characteristics, as explained above. On the other hand, the large volume of empirical studies has provided strong evidence that digital BP affects consumer behavior. On a final note, the body of literature is also dominated by cross-sectional studies that mainly stem from a single cultural context (for exceptions, see Ha, 2016; Shi & Shan, 2019), which may restrict the generalizability of the research findings (Table 7).

Furthermore, the majority of the reviewed papers had a *quantitative* research design (92 articles). This finding aligns with prior reviews on BP literature in general who noted a lack of qualitative
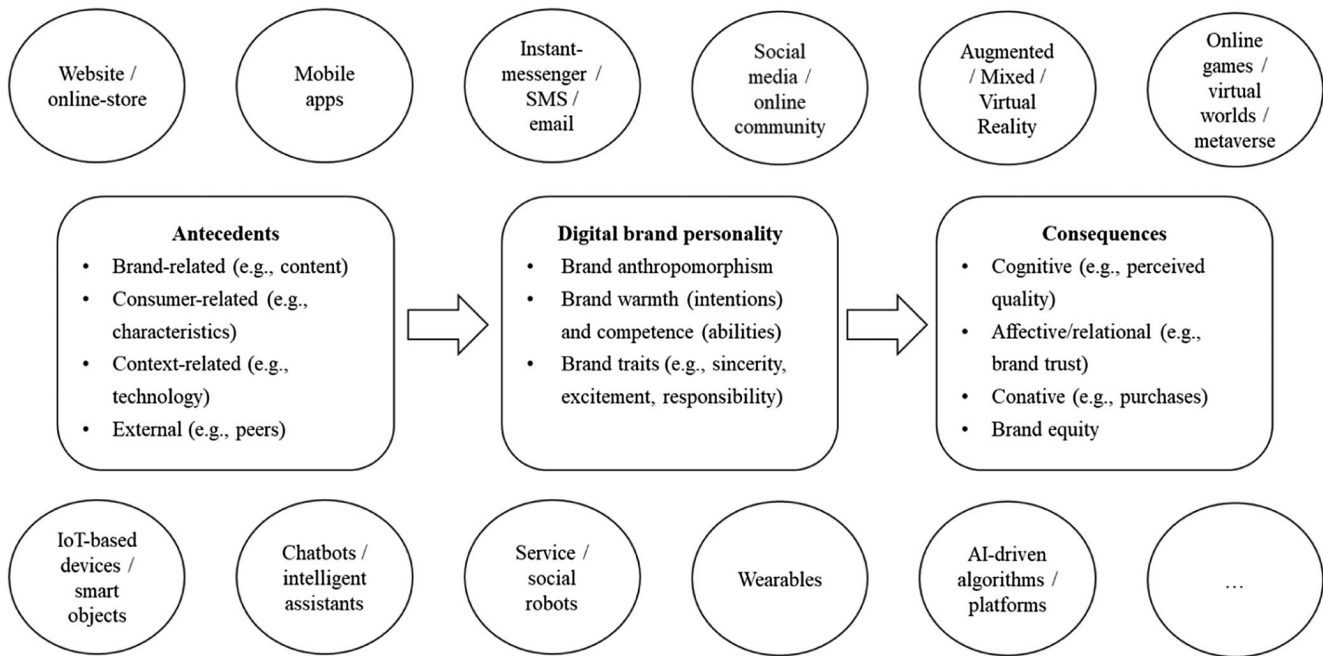
FIGURE 5 Conceptual model of digital BP

approaches (Saeed et al., 2021). In digital BP research, *qualitative* studies only accounted for a small number of the reviewed articles (6 articles); these applied qualitative content analyses/netnography, interviews, focus groups, or combined qualitative methods—mainly relying on thematic analysis as their analytical approach. Similarly, *mixed methods* research that uses both qualitative data and quantitative data (Johnson et al., 2007) was scarce with only seven articles.

However, in contrast to general BP research (Saeed et al., 2021), it was not survey-based approaches (33 articles) or experiments (17 articles) that were applied most frequently, but content analysis and text mining (36 articles). In particular, there is a clear trend toward quantitative content analysis as a means of measuring BP perceptions online. This finding is important as it shows how researchers utilize new platforms and forms of data that arise in the digital environment.

The establishment of content analysis as a tool for measuring BP reflects another interesting development in digital BP research that mirrors contemporary human personality research (Hu et al., 2019). First, early researchers sought to identify the projected BP, i.e., BP characteristics that are communicated by the brand's website content (e.g., Opoku et al., 2006; Pitt et al., 2007), which was later extended to the brand's social media communications (e.g., Alpert et al., 2019; Wang et al., 2021). Second, other researchers identified perceived BP as the traits that naturally emerge in online consumer conversations or reviews about brands (e.g., Dickinger & Lalicic, 2016; Paschen et al., 2017). Third, recent research has begun to investigate the alignment of projected and perceived brand personalities by comparing different sources and senders with content analyses (e.g., Borges-Tiago et al., 2021). Interestingly, this approach

has become more advanced over time: Instead of the original dictionary approach pioneered by Opoku et al. (2006), that simply matched adjectives with existing BP inventories, recent studies have applied more sophisticated techniques such as sentiment analysis and text mining to detect BP in digital contents (e.g., Hu et al., 2019; Ranfagni et al., 2016). Overall, this shows that the digital context is giving rise to new methods to measure digital BP and that there are further opportunities to embed digital elements into the research approaches.

4 | FUTURE RESEARCH AGENDA (RQ4)

The final section of this review identifies knowledge gaps in extant literature and develops an agenda for future research, which in line with previous systematic literature reviews (Chen et al., 2021; Mandler et al., 2021; Paul & Rosado-Serrano, 2019) is also organized according to the TCCM framework. A comprehensive overview of emergent research topics and questions is presented in Table 8.

4.1 | Future directions for theory development (T)

The review has shown that extant digital BP literature lacks a strong theoretical foundation. The absence of conceptual articles in the set of reviewed studies shows that there remain many opportunities for theory development to conceptualize the construct of digital BP. Moreover, the review highlighted those existing theories are stagnating as researchers tend to merely apply theories and frameworks from

TABLE 7 Methodologies, data collection and data analysis tools used in the reviewed articles [based on Södergren (2021) and Lim, Yap, et al. (2021)]

Methodology and methods	#	Examples
Quantitative research	**92**	
Content analysis and text mining (e.g., frequency analysis with QDA Miner/WordStat; machine-learning algorithm; linguistic analysis with LIWC—Linguistic Inquiry and Word Count)	36	Okazaki (2006); Opoku et al. (2006); Ranfagni et al. (2016); Paschen et al. (2017); Hu et al. (2019)
Experiments (e.g., ANOVA/MANOVA, t-test)	17	Aguirre-Rodriguez et al. (2015); Bernritter et al. (2016)
Surveys (e.g., regression analysis, structural equation modeling)	33	Ong et al. (2017); Machado et al. (2019)
Multi-method/others	6	Kim and Lehto (2013); Eigenraam et al. (2021)
Qualitative research	**6**	
Focus groups	1	Sashittal et al. (2015)
Interviews	1	Killian and McManus (2015)
Qualitative content analysis/netnography	2	Lee and So (2007); Luangrath et al. (2017)
Multi-method	2	Dolan and Goodman (2017); Masiello et al. (2020)
Mixed methods research	**7**	
Case study research and content analysis	1	Nadeau et al. (2020)
Scale development based on Aaker (1997)	4	Chen and Rodgers (2006); Ham and Lee (2015)
Survey and interviews	2	Walsh et al. 2013; Farmaki et al. 2021
New methodology development	**1**	Dzyabura and Peres (2021)
Not stated	**1**	Syed Alwi and Melewar (2013)

Bold values indicate the numbers of references for the main categories.

traditional contexts instead of developing them for the digital context. We suggest that future research could introduce a broader set of theories, going beyond the marketing discipline, to account for how the digital context shapes consumers' BP perceptions and their responses.

First, the review has revealed that the majority of studies has relied on classic BP theory and the interrelated theories of CBR and self-congruity—thus, taking a rather narrow-minded, inward-looking perspective on the phenomenon of digital BP perceptions. However, more recently emerging theoretical perspectives indicate that digital BP research could benefit from newer marketing paradigms such as value co-creation (Ramaswamy & Ozcan, 2016) or service-dominant logic (Vargo & Lusch, 2004) as theoretical frames (e.g., Borges-Tiago et al., 2019; Fang, 2019). For example, using brand co-creation as a theoretical lens may help to understand how, and to what extent, not only brands and consumers but other stakeholders such as employees, influencers, retailers, or media platforms co-create digital BP perceptions.

Second, the review has found that extant literature has been almost exclusively based on theories of human interactions and interpersonal communications. However, consumers increasingly interact with intelligent interfaces, chatbots, voice assistants, robots, and smart objects that not only represent but enact the brand in consumer-brand interactions (Hoyer et al., 2020; MacInnis & Folkes, 2017). We suggest that future research should rely on theories of human-machine interactions as an additional lens to acknowledge the role of technology in consumer-brand interactions. By applying HCI theories, such as social response theory (Nass & Moon, 2000; Pentina, Zhang, et al., 2013), researchers may identify the technological factors, interaction

patterns, or design parameters that enhance specific BP characteristics. Likewise, digital BP research could be more strongly connected to artificial intelligence (AI hereafter) and human-robot-interaction theory to explore how the anthropomorphization of brand robots may shape consumers' overall BP perceptions (Kim et al., 2019). Similarly, recent IoT literature has pointed out that interactions and relationships with smart objects and algorithms may significantly differ from interpersonal interactions (Hoffman & Novak, 2018; Novak & Hoffman, 2019). Thus, digital BP researchers may consider assemblage theory (DeLanda, 2006; Deleuze & Guattari, 1987) or actor-network theory (Latour, 2005) to further investigate the role of non-human intelligent agents such as smart objects or AI-driven algorithms that contribute to personifying the brand in the minds of the consumers.

In conclusion, there is scope to introduce a more diversified set of theoretical perspectives to the domain of consumers' digital BP perceptions. By broadening the set of applied marketing theories or taking an interdisciplinary approach, future research can account for the new rules of a digital world and further advance digital BP theory.

4.2 | Future directions for context (C)

The review has revealed that the majority of studies used either social media or websites as their digital setting, whereas studies on new technologies or digital brand agents are relatively less represented. Future research is clearly needed to explore consumers' BP perceptions at a broader range of digital touchpoints, that may include but are not limited to instant-messengers, apps, virtual spaces,

TABLE 8 Topics and questions for further research based on gap analysis (Mishra et al., 2021)

Topics	Research gaps identified	Future research questions
Future directions—Theory development		
Theoretical foundations and theory development	Need to introduce new theories	• What disciplines and research fields can help to develop BP theories for the digital world? • What relevant marketing paradigms can be applied to digital BP research? • How can co-creation and service-dominant logic be applied to explain consumer-related factors and the influence of other stakeholders in shaping digital BP perceptions? • How can human-computer-interaction (HCI) and human-robot-interaction (HRI) theories shed light on how personality traits/attributes are transferred onto brands from consumers' interactions with anthropomorphized digital brand agents? • How can IoT research and by extent assemblage thinking enrich our understanding of how consumers draw inferences about the brand's personality from interactions with smart objects and how they build brand relationships through them?
Future directions—Context		
New technologies and digital contexts	Lack of research on new technologies	• How do consumers infer BP from visual, audio, or audio-visual brand communications? • How can interactions with AI-powered brand agents and smart devices influence consumers' BP perceptions? • How can virtual reality and augmented reality tools shape brand experiences and BP perceptions? Can immersive experiences bring consumers closer to brands or bring brands to life?
Comparative studies	Need for comparisons across digital touchpoints	• How do consumers' digital BP perceptions change across different types of touchpoints along the customer journey? • How do digital BP perceptions differ if they stem from interactions at human-to-human platforms or human-to-machine platforms? • How can BP perceptions be managed across digital contexts?
Future directions—Characteristics		
Dimensionality	Lack of consensus about BP dimensions	• What BP dimensions and traits are applicable and relevant to brands and consumers in digital contexts? • Could BP perceptions vary in dimensionality across digital touchpoints?
Antecedents	Need to explore consumer-related and context-related factor	• How do consumer-related factors shape their motivations to personify and interact with brands in digital contexts? • What is the role of BP for consumers' self-expression in different digital spaces? • Could new experiential value dimensions, including flow, immersion, social presence, and interactivity, enhance consumers' perceptions of certain BP dimensions?
	Need to explore external factors and actors	• What external actors are involved in the creation of consumers' digital BP perceptions? (e.g., influencers, peers) • How do digital interactions between brands shape consumers' digital perceptions of their respective personalities?
Consequences	Need to study cognitive consequences	• How do consumers' digital BP perceptions affect brand awareness and brand associations?
	Need to connect BP with other brand/marketing constructs	• How do consumers' digital BP perceptions relate to brand equity, brand value, and brand meaning?
Future directions—Methodology		
Methodology	Opportunities for qualitative research	• What exploratory-qualitative research is necessary to advance research on consumers' BP perceptions in digital contexts? • How can exploratory research help to uncover consumers' digital BP perceptions at touchpoints that have not yet been investigated?
	Opportunities for quantitative research	• How can digital BP research benefit from big data analysis, including AI-driven machine learning and natural language processing algorithms?
	Need for longitudinal studies	• Can longitudinal research answer whether digital BP perceptions have short-term or long-term effects on consumer responses? • How can longitudinal studies help to understand the dynamics of consumers' digital BP perceptions and their interactions with consumer-brand relationships?
	Need to expand set of research methods and techniques	• How can qualitative research methods (e.g., interpretive, visual, textual) expand and deepen insights into consumers' digital BP perceptions? • How can digital BP research benefit from technological advancements? What new measurement approaches and digital-based data collection tools can be developed using advanced quantitative analysis techniques?

smart home appliances, wearables, service or social robots, self-driving cars, and also new social media.

We suggest that there are three main areas with promising potential for further exploration. First, extant literature has predominantly focused on social networking sites and text-based communications, with Facebook and Twitter being most prominent. While the review has shown a growing research interest in more diverse social media platforms, there is room for exploration on audio-, visual- or audio-visual-based platforms, such as Instagram, Snapchat, Clubhouse, or TikTok. Further research is needed to elucidate how consumers infer BP from visual/audio content or how they express their BP perceptions through such user-generated content. Second, it was striking that none of the reviewed BP papers considered augmented, virtual, or mixed reality (AR/VR/MR hereafter) (Hoyer et al., 2020) as their digital setting. Nowadays, more and more brands are applying AR/VR/MR to stimulate consumer-brand interactions across the customer journey (Hollebeek, Clark, Andreassen, et al., 2020) and the global pandemic has only accelerated the trend towards virtual engagement (Kirk & Rifkin, 2020; Sheth, 2020). In addition, companies such as Facebook (Meta) are building on these technologies to create new online spaces and spheres; their vision of a metaverse will most likely open a completely new world where consumers and brands can interact (Hart, 2021). Future research may explore consumers' digital BP perceptions in those contexts and may, for instance, examine whether the level of immersion or social presence could enhance consumers' perceptions of certain BP characteristics. Third, the review further demonstrated a shortage of studies considering IoT or AI as digital contexts, with only a few exceptions that have mainly focused on avatars or text-based chatbots (e.g., Jin & Sung, 2010; Youn & Jin, 2021). Exploring consumers' BP perceptions that stem from interactions with other types of anthropomorphized digital brand agents, such as voice assistants, visual interfaces, or robots (Hoyer et al., 2020), would be an exciting avenue for future inquiry.

Moreover, the review revealed that extant digital BP research tends to study the different digital contexts separately. However, future research should be undertaken that considers the structural and functional differences between digital platforms and how they may interact with consumer-brand interactions to influence BP perceptions (Eigenraam et al., 2021; Voorveld et al., 2018). For example, Hollebeek, Clark, Macky, et al. (2021) suggested that human-to-human platforms (H2HP) and human-to-machine platforms (H2MP) differ in their social presence and their effects on digital value co-creation. Similarly, future research on digital BP could compare consumers' BP perceptions that are drawn from interactions on H2HP with those on H2MP.

4.3 | Future directions for characteristics (C)

Drawing on the proposed conceptual model (Figure 5), this section outlines avenues for future research in terms of dimensions, antecedents, and consequences to expand our understanding of the characteristics of consumers' digital BP perceptions.

Considering the dimensions of digital BP, the review has shown that there is no consensus about what BP dimensions and traits apply in a digital world. In line with traditional BP literature (Radler, 2018; Saeed et al., 2021), the majority of studies simply transferred existing inventories, such as Aaker's (1997) Big Five, to the digital realm without considering potential changes due to the digital setting. Future research is needed to pin down the most valid factors and dimensions. Moreover, research has shown that digital touchpoints and platforms can vary in their impact on brand perceptions, experiences, and engagement (Baxendale et al., 2015; Kranzbühler et al., 2019; Voorveld et al., 2018). Thus, it can be further questioned how the dimensionality of BP perceptions could vary across digital touchpoints.

The conceptual model development (Section 3.3.4) has already revealed many opportunities for exploring antecedents of digital BP. While a substantial body of research has focused on brand-related factors and to some extent context-related factors, less attention has been given to consumer-related and external factors, which could have a positive or a negative influence on digital BP. General BP research has found that consumer characteristics such as attachment style or implicit self-theories influence how they use BP in an instrumental way for identity construction and self-expression (Bagozzi et al., 2021; Park & John, 2010, 2012; Swaminathan et al., 2009). However, it is not yet clear how these relationships extend to a digital context. Given that consumers construct and express different digital selves (personae) across digital channels and platforms (Swaminathan et al., 2020), brands may be required to adopt more malleable personality facets that accommodate consumers' needs for self-expression depending on the digital setting. Another interesting avenue for future research would be to further identify context-specific or platform-related antecedents. In this vein, it may be worthwhile to expand research into online brand experiences as antecedents to BP perceptions. In the offline world, the causal relationship between brand experiences and BP perceptions is well established (Brakus et al., 2009; Japutra & Molinillo, 2019). Thus far, however, only few studies considered online experiential values of websites as antecedents (e.g., Shobeiri et al., 2013). Future research could test the effects of other online brand experience dimensions such as flow (Novak et al., 2000; Rose et al., 2012), immersion (van Kerrebroeck et al., 2017), social presence (Bleier et al., 2019), and interactivity (Mollen & Wilson, 2010) for their influence on consumers' BP perceptions. Besides those consumer-related and contextual/experiential factors, there is further scope to investigate a broader range of stakeholders and sources as external drivers of digital BP perceptions. These may include digital peer-to-peer conversations, social influencers, competitor brands, connected smart devices (e.g., Amazon's Echo; Google Home), or digital co-branding activities (e.g., Starbucks and Spotify).

Finally, extant literature has mainly focused on consumers' emotional and behavioral responses towards BP perceptions. By contrast, cognitive consequences have received less research attention and the effect of digital BP perceptions on variables such as brand awareness and brand associations may be further tested. Future

research is also needed to elucidate how digital BP perceptions are connected to other differentiating brand constructs such as brand image, values, and meaning (Batra, 2019).

4.4 | Future directions for methodology (M)

Thus far, the field of consumers' digital BP perceptions has been dominated by empirical, quantitative studies. To advance research in this domain, we suggest that future research should apply a more diversified set of research methods, both qualitatively and quantitatively. In particular, we encourage future research to make digital elements integral parts of their research designs.

In terms of qualitative research, visual and textual methods using interpretive techniques may help to explore more in-depth how consumers experience brands as having humanlike attributes in different digital contexts. Digital ethnography research (Pink et al., 2016) and netnography (Kozinets, 1998, 2002, 2020) may shed light on the motives and behavioral patterns of consumers who interact with brands and peers online. Going a step further, more-than-human netnography (Lugosi & Quinton, 2018) places special emphasis on interactions with non-human actors and may, therefore, offer deeper insights into the complex construction of consumers' BP perceptions in the networks of digital agents, platforms, and technologies. Additionally, visual methods may help to capture consumers' multisensory online brand experiences and understand how they shape BP perceptions. For example, projective techniques and visual elicitation methods (Belk et al., 2013) may help to delineate what digital stimuli evoke specific BP perceptions; the Zaltman Metaphor Elicitation Technique (Zaltman & Coulter, 1995) could be a starting point to dive deeper into how consumers use BP to construct their own digital identities; and digital-based methods such as screencast videography (Kawaf, 2019) could be useful to explore the dynamics of consumers' BP perceptions across the digital customer journey.

In terms of quantitative research, the trend in digital BP research to use computer-assisted content analyses, sentiment analyses, and social media analytics (Hu et al., 2019; Lee et al., 2018; Lopez et al., 2020) is a best practice example for the new routes of inquiry that arise from technological innovations. Similar to modern psychology research that uses digital footprints to measure human personality (Hinds & Joinson, 2019; Montag & Elhai, 2019), future BP research may explore a variety of digital cues in visual or textual content to assess consumers' BP perceptions. The review has already revealed the rising popularity of more advanced text mining techniques (Ranfagni et al., 2016) and we expect that these will be further developed with the help of AI-driven natural language processing and machine learning algorithms. Further opportunities arise from the use of big data and social media analytics, whereby researchers may test how the personalization of advertising and brand messages in digital interactions can impact consumers' digital BP perceptions (Yun et al., 2019).

Finally, longitudinal studies should be carried out to test whether the effects of digital consumer-brand interactions on BP perceptions

are stable in the long-term. Most importantly, it may be explored how consumers may update their digital BP perceptions as they continuously interact with the brand at different digital touchpoints. Also, since many cross-sectional studies have pointed to the positive impact of digital BP perceptions on relationship-constructs like brand attachment, brand affect, and brand love (e.g., Roy et al., 2016), future longitudinal research may test if digital BP indeed has a lasting effect on online brand relationships.

5 | CONCLUSION

This domain-based systematic literature review (Paul et al., 2021) has corroborated the significant increase of research interest in the construct of digital brand personality, i.e., the humanlike characteristics and personality traits that consumers attribute to brands in digital consumer-brand interactions. Through a framework-based analysis of 107 peer-reviewed journal articles published over the past 16 years, this research has, for the first time, synthesized extant knowledge from different digital contexts, developed a conceptual model of digital BP, and pointed out gaps in terms of theory development, characteristics, contexts, and methodologies.

5.1 | Theoretical contributions

By adopting the TCCM framework (Paul & Rosado-Serrano, 2019) for both review and research agenda, this research has laid the foundation for establishing consumers' digital BP perceptions as a research domain in its own right. Most importantly, the review has revealed that only a small part of the digital world has been investigated so far, while there remain many unexplored digital realms.

First, the review has raised the issue that new digital spheres may require completely new theoretical approaches and conceptualizations of digital BP. By contrast, extant research is marked by an inward-looking focus and has primarily relied on stagnating theories. Instead of developing theories for the digital environment, most studies transferred frameworks from interpersonal relationships theories and offline consumer-brand interactions to the online context. Hence, we suggest that future theory development must consider the specific rules and nature of the digital world. The main theoretical implication of this review is that future research needs to broaden its theoretical foundation and potentially adopt an interdisciplinary approach. Specifically, this review has suggested theories of human-machine interactions, assemblage theory, or actor-network theory to understand how BP traits are inferred from consumers' interactions with new technologies, platforms, and networks.

Second, the review has highlighted that extant research has mainly treated digital BP as consumers' perceptions formed on websites and social media. However, the digital world is ever expanding and new technologies, such as AR/VR/MR, smart objects, or robots, are increasingly entering consumers' lives. In particular, the review has drawn attention to the previously neglected differences

between those digital touchpoints. Given the proliferation of touchpoints and technologies, it will be crucial for brands to gain a more nuanced understanding of a platform's distinct nature to identify context-related factors, such as affordances or experiential values, that may shape digital consumer-brand interactions and thus consumers' digital BP perceptions.

Third, a conceptual contribution was made by identifying the key antecedents and consequences variables studied in extant literature and synthesizing them into a conceptual model. Moreover, the review has revealed that previous research has predominantly studied brand-related variables that can affect consumers' digital BP perceptions. Thus, our conceptual model moves beyond extant knowledge to integrate a broader range of antecedents that relate to brand, consumers, context, and external factors/agents. This conceptual framework further integrates the diverse digital touchpoints and highlights that future research needs to test existing relationships across these touchpoints.

Finally, another implication relates to the methodological approaches of prior research. The review has revealed that digital BP, like the overarching field of general BP (Saeed et al., 2021), is dominated by empirical, quantitative studies. To address the significant theoretical and empirical gaps, we suggest that future research at first aims for theoretical, conceptual, and qualitative contributions. Furthermore, we have pointed to a number of digital-based methods that could further advance research on consumers' digital BP perceptions, such as videography, netnography, or big data analysis.

5.2 | Managerial implications

The review has further substantiated the importance of digital BP as a differentiating brand image component and relationship-building tool, which is applicable across a wide array of industries. Hence, we believe that our review can help brand managers familiarize with the domain/construct of digital BP and gain insights for their own branding and communication strategies. Overall, our conceptual model links the most important variables and relationships studied in extant literature. In particular, we suggest that brand managers take inspiration from our list of brand-related antecedents on how to build a digital BP and what steps to take, from channel choice to platform design to communication style. Moreover, the review has conclusively shown that a strong, recognizable digital BP favorably impacts consumer responses, especially on an affective/relational and behavioral level. Our findings suggest that marketers must build a strong digital BP to stimulate consumer brand engagement and foster long-term brand relationships in a digital world. By positioning the brand as having a humanlike personality in digital contexts, brands can help consumers to identify with the brand and (continue to) use it for self-expressive purposes. Finally, attention was drawn to the increasing popularity of content analysis and text mining as research methods that also have high practical relevance. Brand managers may utilize these cost-efficient and unobtrusive methods to monitor their own brand's personality or those of their competitors.

To conclude, this research has mapped out the current state of digital BP research and outlined directions for future research. We invite future researchers to use the synthesized evidence and research agenda as a knowledge base and idea platform to further develop the domain of consumers' digital BP perceptions.

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APPENDIX A

Journals disseminating digital BP research (note: rank denotes the journal rank according to the CABS AJG 2021)

Journal outlet	Rank	#	References
Journal of Brand Management	2	6	Opoku et al. (2006); Jin and Sung (2010); Haarhoff and Kleyn (2012); Roy et al. (2016); Ramadan (2019); Mirzaei et al. (2021)
Journal of Business Research	3	6	Poddar et al. (2009); Machado et al. (2019); Torres and Augusto (2019); Priporas et al. (2020); Borges-Tiago et al. (2021); Farmaki et al. (2021)
Journal of Interactive Advertising	1	5	Chen and Rodgers (2006); Chen et al. (2015); Wen and Song (2017); Kim and Phua (2020); Lee and Eastin (2020)
Journal of Marketing Management	2	4	Wu et al. (2017); Hanna and Rowley (2019); Nadeau et al. (2020); Vacas de Carvalho et al. (2020)
Computers in Human Behavior	2	3	Pentina Zhang et al. (2013); Lee and Cho (2017); Youn and Jin (2021)
International Journal of Advertising	2	3	Chang (2012); Ham and Lee (2015); Yun et al. (2019)
International Journal of Internet Marketing and Advertising	1	3	Merrilees and Miller (2005); Zhang (2017); Mutsikiwa and Maree (2019)
Journal of Hospitality and Tourism Technology	1	3	Phelan et al. (2013); Rezaei et al. (2016); Paiva Neto et al. (2020)
Journal of Interactive Marketing	3	3	Bernritter et al. (2016); Ranfagni et al. (2016); Eigenraam et al. (2021)
Anatolia: An International Journal of Tourism and Hospitality Research	1	2	George and Anandkumar (2014); Pereira et al. (2014)
Business Horizons	2	2	Killian and McManus (2015); Sashittal et al. (2015)
Corporate Communications	1	2	Lee and So (2007); Ingenhoff and Fuhrer (2010)
International Journal of Bank Marketing	1	2	Ong et al. (2017); Garanti and Kissi (2019)
International Journal of Electronic Commerce	3	2	Pentina Gammoh et al. (2013); Xia (2013)
Journal of Consumer Behavior	2	2	van Prooijen and Bartels (2019); von Mettenheim and Wiedmann (2021)
Journal of Fashion Marketing and Management	1	2	Chang and Kwon (2022); Joo and Kim (2021)
Journal of Hospitality and Tourism Management	1	2	Dolan and Goodman (2017); Luna-Cortés (2018)
Journal of Marketing for Higher Education	1	2	Opoku et al. (2008); Simiyu et al. (2020)
Marketing Intelligence and Planning	1	2	Abdullah et al. (2013); Shi and Shan (2019)
Tourism Management	4	2	Pitt et al. (2007); Vinyals-Mirabent and Mohammadi (2018)

Journal outlet	Rank	#	References
Academia Revista Latinoamericana de Administracion	1	1	Borges-Tiago et al. (2019)
Asia Pacific Journal of Marketing and Logistics	1	1	Syed Alwi and Melewar (2013)
Corporate Reputation Review	1	1	Syed Alwi and Da Silva (2007)
Current Issues in Tourism	2	1	Wang et al. (2021)
Current Psychology	1	1	Lee et al. (2020)
Electronic Commerce Research	2	1	Chu et al. (2020)
Health Marketing Quarterly	1	1	Alpert et al. (2019)
Information and Management	3	1	Fang (2019)
Information Systems Frontiers	3	1	Shin et al. (2017)
Information Technology and Tourism	1	1	Dickinger and Lalicic (2016)
Interacting with Computers	2	1	Yang and Bolchini (2014)
International Journal of Business Information Systems	1	1	Shahin et al. (2013)
International Journal of Contemporary Hospitality Management	3	1	Masiello et al. (2020)
International Marketing Review	3	1	Okazaki (2006)
Internet Research	3	1	Rutter et al. (2020)
Journal for Global Business Advancement	1	1	Frank et al. (2020)
Journal of Advertising Research	3	1	Chan et al. (2018)
Journal of Business-to-Business Marketing	2	1	Robertson et al. (2019)
Journal of Consumer Marketing	1	1	Holmes (2021)
Journal of Consumer Psychology	4*	1	Luangrath et al. (2017)
Journal of General Management	1	1	Opoku et al. (2009)
Journal of Internet Commerce	1	1	Farhat et al. (2021)
Journal of Management Information Systems	4	1	Hu et al. (2019)
Journal of Marketing	4*	1	Dzyabura and Peres (2021)
Journal of Marketing Analytics	1	1	Lopez et al. (2020)
Journal of Marketing Communications	1	1	Anselmsson and Tunca (2019)
Journal of Marketing Theory and Practice	2	1	Shobeiri et al. (2015)
Journal of Media Business Studies	1	1	Palomba (2020)
Journal of Product and Brand Management	1	1	Da Silva and Syed Alwi (2006)
Journal of Research in Interactive Marketing	1	1	He et al. (2021)
Journal of Retailing	4	1	Aggarwal et al. (2009)
Journal of Retailing and Consumer Services	2	1	Shobeiri et al. (2013)
Journal of Service Research	4	1	Béal and Grégoire (2021)
Journal of Services Marketing	2	1	Ha (2016)
Journal of Strategic Marketing	2	1	Das and Khatwani (2018)
Journal of the Academy of Marketing Science	4*	1	Chang et al. (2019)
Journal of Transport Geography	2	1	Baştuğ et al. (2020)
Journal of Travel Research	4	1	Kim and Lehto (2013)
Journal of Vacation Marketing	1	1	Rojas-Méndez and Hine (2017)
Journal of Vocational Behavior	4	1	Carpentier et al. (2019)
Management Science	4*	1	Lee et al. (2018)
Marketing Letters	3	1	Aguirre-Rodriguez et al. (2015)
Online Information Review	1	1	Paschen et al. (2017)
Qualitative Market Research	2	1	Opoku, Abratt, et al. (2007)
Service Industries Journal	2	1	Wang et al. (2016)

Journal outlet	Rank	#	References
South African Journal of Business Management	1	1	Opoku, Pitt, et al. (2007)
Sport Marketing Quarterly	1	1	Walsh et al. (2013)
Technological Forecasting and Social Change	3	1	Chiang and Yang (2018)
Tourism Review	1	1	Peco-Torres et al. (2021)
Total		107	

APPENDIX B

Theories used in studies of consumers' digital BP perceptions

Theoretical approach	#	References[a]
Psychology, social psychology, and interpersonal communications theories		
Affect regulation theory	1	Chang (2012)
Associative learning theory	1	Rutter et al. (2020)
Benign violation theory (humor theory)	1	Béal and Grégoire (2021)
Cognitive balance theory	3	Pentina, Gammoh, et al. (2013); Pentina, Zhang, et al. (2013); Nadeau et al. (2020)
Cognitive dissonance theory	2	Pentina, Gammoh, et al. (2013); Pentina, Zhang, et al. (2013)
Communication accommodation theory	1	Chang et al. (2019)
Complexity theory	1	Farmaki et al. (2021)
Dual coding theory	1	Chu et al. (2020)
Emotions theory	2	Dickinger and Lalicic (2016); Lopez et al. (2020)
Expectation-disconfirmation theory	1	Xia (2013)
Hierarchy of effects model	1	Holmes (2021)
Human personality theory	13	Chen and Rodgers (2006); Opoku et al. (2006); Opoku, Abratt, et al. (2007); Opoku, Pitt, et al. (2007); Pitt et al. (2007); Opoku et al. (2009); Phelan et al. (2013); Paschen et al. (2017); Rojas-Méndez and Hine (2017); Hu et al. (2019); Robertson et al. (2019); Yun et al. (2019); Wang et al. (2021)
Impression formation management	1	van Prooijen and Bartels (2019)
Interpersonal communication style	1	Zhang (2017)
Lens of affordance	1	Fang (2019)
Linguistics	4	Lee and So (2007); Aggarwal et al. (2009); Luangrath et al. (2017); Chang et al. (2019)
Parasocial interactions theory	4	Lee and Eastin (2020); Palomba (2020); He et al. (2021); Youn and Jin (2021)
Personality-behavior congruence model	1	Poddar et al. (2009)
Schema theory	2	Chan et al. (2018); Lee and Eastin (2020)
Self-consistency motive	1	Chang (2012)
Self-expression motive	1	Wang et al. (2016)
Sender-receiver model	2	Frank et al. (2020); Masiello et al. (2020)
Social comparison theory	1	Lee and Eastin (2020)
Social identity theory	4	Pentina, Zhang, et al. (2013); Carpentier et al. (2019); Chang et al. (2019); Farhat et al. (2021)
Social information processing theory	2	Carpentier et al. (2019); Garanti and Kissi (2019)
Social interaction model	1	Wu et al. (2017)
Social learning theory	1	Lee and Eastin (2020)
Source credibility theory	2	Jin and Sung (2010); Zhang (2017)
Spiral of silence theory	1	Farmaki et al. (2021)
Theory of involvement/Elaboration likelihood model	2	Shobeiri et al. (2015); von Mettenheim and Wiedmann (2021)
Theory of Planned Behavior	1	Simiyu et al. (2020)

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Theoretical approach	#	References[a]
Transference phenomenon	2	Pentina, Gammoh, et al. (2013); Pentina, Zhang, et al. (2013)
Uses and gratification theory	2	Walsh et al. (2013); Palomba (2020)
Marketing and branding theories		
Advertising and media literature	4	Okazaki (2006); Chan et al. (2018); Lee et al. (2018); Kim and Phua (2020)
Brand anthropomorphism	3	Chen et al. (2015); Sashittal et al. (2015); Wen and Song (2017)
Brand co-creation	3	Borges-Tiago et al. (2019); Masiello et al. (2020); Borges-Tiago et al. (2021)
Brand identity/brand image/corporate identity literature	12	Da Silva and Syed Alwi (2006); Opoku et al. (2006); Syed Alwi and Da Silva (2007); Ingenhoff and Fuhrer (2010); Abdullah et al. (2013); George and Anandkumar (2014); Yang and Bolchini (2014); Wen and Song (2017); Robertson et al. (2019); Borges-Tiago et al. (2021); Dzyabura and Peres (2021); Farhat et al. (2021)
Brand personality theory	90	e.g., Opoku et al. (2008); Syed Alwi and Melewar (2013); Ranfagni et al. (2016); Rezaei et al. (2016); Ong et al. (2017); Anselmsson and Tunca (2019); Mutsikiwa and Maree (2019); Shi and Shan (2019); Torres and Augusto (2019); Paiva Neto et al. (2020)
Consumer-brand engagement	9	Wen and Song (2017); Machado et al. (2019); Robertson et al. (2019); Chu et al. (2020); Vacas de Carvalho et al. (2020); Eigenraam et al. (2021); Farhat et al. (2021); Farmaki et al. (2021); Peco-Torres et al. (2021)
Consumer-brand relationships theory (incl. Stereotype Content Model/Brands-as-Intentional-Agents-Framework, brand love, brand attachment etc.)	24	Pentina, Gammoh, et al. (2013); Pentina, Zhang, et al. (2013); Shahin et al. (2013); Xia (2013); Chen et al. (2015); Bernritter et al. (2016); Ha (2016); Roy et al. (2016); Wang et al. (2016); Luangrath et al. (2017); Wu et al. (2017); Chan et al. (2018); Carpentier et al. (2019); Chang et al. (2019); Fang (2019); Machado et al. (2019); Ramadan (2019); van Prooijen and Bartels (2019); Vacas de Carvalho et al. (2020); Eigenraam et al. (2021); Farmaki et al. (2021); Joo and Kim (2021); Mirzaei et al. (2021); Youn and Jin (2021)
Customer-relationship management	2	Shahin et al. (2013); Chiang and Yang (2018)
Experiential marketing/brand experience	2	Shobeiri et al. (2013); Youn and Jin (2021)
Image congruence theory	3	Ham and Lee (2015); Chang and Kwon (2022); von Mettenheim and Wiedmann (2021)
Sales orientation—customer orientation	2	Poddar et al. (2009); Dolan and Goodman (2017)
Self-congruity theory	14	Chang (2012); Pentina, Gammoh, et al. (2013); Aguirre-Rodriguez et al. (2015); Ranfagni et al. (2016); Wang et al. (2016); Chiang and Yang (2018); Das and Khatwani (2018); Luna-Cortés (2018); Hu et al. (2019); Yun et al. (2019); Lee et al. (2020); Simiyu et al. (2020); Holmes (2021); von Mettenheim and Wiedmann (2021)
Service-dominant logic (SDL)	1	Fang (2019)
Economics		
Signaling theory	4	Bernritter et al. (2016); Carpentier et al. (2019); van Prooijen and Bartels (2019); Frank et al. (2020)
Human-Computer-Interaction theories (HCI)		
Artificial intelligence literature	1	Youn and Jin (2021)
Social response theory/computers are social actors (CASA) paradigm/ computer personality literature	3	Chen and Rodgers (2006); Jin and Sung (2010); Pentina, Zhang, et al. (2013)
Technology Acceptance Model (TAM)	1	Simiyu et al. (2020)
Web design/usability	1	Yang and Bolchini (2014)
None	2	Killian and McManus (2015); Alpert et al. (2019)

[a] Some sources appear in multiple rows because they drew on more than one major theoretical perspective.

APPENDIX C

Brand/industry research contexts studied

Research context	#	References
Online-based brands	**18**	
Website brands	10	Merrilees and Miller (2005); Poddar et al. (2009); Shahin et al. (2013); Shobeiri et al. (2013); Shobeiri et al. (2015); Ha (2016); Rezaei et al. (2016); Roy et al. (2016); Das and Khatwani (2018); Farmaki et al. (2021)
Online media brands	8	Haarhoff and Kleyn (2012); Pentina, Gammoh, et al. (2013); Pentina, Zhang, et al. (2013); Ham and Lee (2015); Wang et al. (2016); Lee and Cho (2017); Mutsikiwa and Maree (2019); Palomba (2020)
Product brands	**18**	Da Silva and Syed Alwi (2006); Syed Alwi and Da Silva (2007); Aggarwal et al. (2009); Jin and Sung (2010); Chang (2012); Aguirre-Rodriguez et al. (2015); Ranfagni et al. (2016); Zhang (2017); Chiang and Yang (2018); Alpert et al. (2019); Anselmsson and Tunca (2019); Chu et al. (2020); Kim and Phua (2020); Chang & Kwon (2021); He et al. (2021); Holmes (2021); Joo and Kim (2021); Youn and Jin (2021)
Service brands	**16**	Opoku et al. (2006, 2008, 2009); Opoku, Abratt, et al. (2007); Syed Alwi and Melewar (2013); Walsh et al. (2013); Xia (2013); Yang and Bolchini (2014); Ong et al. (2017); Garanti and Kissi (2019); Shi and Shan (2019); Torres and Augusto (2019); Frank et al. (2020); Masiello et al. (2020); Simiyu et al. (2020); Béal and Grégoire (2021)
Tourism/destination brands	**20**	Pitt et al. (2007); Kim and Lehto (2013); Phelan et al. (2013); George and Anandkumar (2014); Pereira et al. (2014); Dickinger and Lalicic (2016); Dolan and Goodman (2017); Rojas-Méndez and Hine (2017); Shin et al. (2017); Luna-Cortés (2018); Vinyals-Mirabent and Mohammadi (2018); Borges-Tiago et al. (2019); Hanna and Rowley (2019); van Prooijen and Bartels (2019); Baştuğ et al. (2020); Paiva Neto et al. (2020); Priporas et al. (2020); Borges-Tiago et al. (2021); Peco-Torres et al. (2021); Wang et al. (2021)
Organizational brands	**3**	Carpentier et al. (2019); Robertson et al. (2019); Mirzaei et al. (2021)
Human brands	**3**	Opoku, Pitt, et al. (2007); Lee and Eastin (2020); von Mettenheim and Wiedmann (2021)
Multiple	**29**	Chen and Rodgers (2006); Okazaki (2006); Lee and So (2007); Ingenhoff and Fuhrer (2010); Abdullah et al. (2013); Chen et al. (2015); Killian and McManus (2015); Sashittal et al. (2015); Bernritter et al. (2016); Luangrath et al. (2017); Paschen et al. (2017); Wen and Song (2017); Wu et al. (2017); Chan et al. (2018); Lee et al. (2018); Chang et al. (2019); Fang (2019); Hu et al. (2019); Machado et al. (2019); Ramadan (2019); Yun et al. (2019); Lee et al. (2020); Lopez et al. (2020); Nadeau et al. (2020); Rutter et al. (2020); Vacas de Carvalho et al. (2020); Dzyabura and Peres (2021); Eigenraam et al. (2021); Farhat et al. (2021)