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The user experience of voice assistants in retailing: a qualitative comparative study

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Abstract

Purpose – This study aims to examine the user experience of voice assistants (VAs) in different retailing contexts by highlighting factors that impact the effectiveness of voice commerce services.

Design/methodology/approach – This study follows a qualitative research method using 30 in-depth semi-structured interviews with online shoppers (15 users of VAs from Nigeria and 15 from the UK). Following Gioia's methodology and automated content analysis using LexiPortal, this paper examined users' motivations for adopting VAs, their challenges and how VAs might influence customers' brand trust and loyalty.

Findings – This paper found that anthropomorphism, convenience, companionship and literacy support drove shoppers' adoption of VAs. Technophobia, audio bias, audio disparity and data security emerged as challenges facing VA users. In addition, the Nigerian participants also highlighted unreliable power supply. Despite these challenges, the participants have developed trust and personal attachment to their VAs.

Originality/value – This study is one of the few academic works to specifically analyse how retail experiences are shaped through VAs in a comprative setting of British and Nigerian VA users. The findings enrich the extant literature on user experience of VAs with a granular focus on customer motivations as well as challenges.

Keywords User experience, Anthropomorphism, Voice assistants (VAs), Voice of commerce services, Retailing, Concept mapping, Nigeria, UK

Paper type Research paper

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1. Introduction

Drawing on the theories of planned behaviour (Ajzen, 1991) and reasoned action (Azjen, 1980), this paper examines the influence of voice assistants (VAs) on the shopping experience of online shoppers in Nigeria and the UK. Despite recent advances in VAs and voice recognition devices in the customers' decision-making process, we still lack research examining the impact of artificial intelligence (AI) on customers' decision-making processes in diverse cultural contexts. For instance, we need to understand if and how cultural and institutional contexts influence the effectiveness of VAs in retailing. We view this as a significant omission in the theoretical development of the AI and consumer behaviour literature streams, which our research is set to address in the unique contexts of Nigeria versus the UK.

The application of VAs (also known as "predictive chatbot" or "voice assistant") in service marketing has increased. For instance, smart devices such as Google Home, Google Assistant or Mycroft on Android smartphones, Apple's Siri on iPhones and iPads, Bixby on Samsung phones, Amazon's Alexa, Amazon Echo and Microsoft's Cortana have been on the rise. Proponents of AI in the field of service marketing argue for high information processing speed (De Bellis and Johar, 2020), high capacity to perform some mundane or repetitive electronic tasks (Shih, 2020), simulate dialogue with the human user (Klaus and Zaichkowsky, 2022), and thus an improved relationship with customers (Troshani *et al.*, 2021) as the motivation for investments in these advanced gadgets.

VAs' capacity to influence consumers' decision-making (Mari, 2019), revolutionise the shopping process (Shi *et al.*, 2020), enhance firms' marketing/business strategies (Samiee, 2020) and facilitate smart working and 24-h customer support with minimised language barriers (Figueiredo *et al.*, 2022) has also been highlighted. VA has been argued a timely response to the changing business–customer relationship in service firms (Troshani *et al.*, 2021; Del Giudice *et al.*, 2022), especially since the COVID-19 pandemic (Hassounah *et al.*, 2020; Rautela and Agrawal, 2020; Sharevski *et al.*, 2022; Shetty and Pai, 2021).

Furthermore, apart from retailing, the use of VAs to fulfil varied needs by individuals in their daily lives (e.g. social and utility) is also increasing (Jain *et al.*, 2022). Given other benefits of VAs, e.g. in traffic (re)directions, hotel and travel bookings (Olson and Kemery, 2019), researchers (e.g. Tabassum *et al.*, 2019) have suggested that the industry 5.0 VAs could recognise when families discuss their meal plans and could make recommendations around restaurants, takeaways, or inviting loved ones for dinner. Despite these benefits, the issue of customers' dissatisfaction (Heitmann *et al.*, 2007; Sharma *et al.*, 2022), discomfort, insecurity, uncertainty (Blut and Wang, 2020; Sia *et al.*, 2004; Vimalkumar *et al.*, 2021) and low self-esteem (Usta and Häubl, 2011) have been under-researched. Notwithstanding such a burgeoning body of VA literature, research examining the application of VAs in diverse cultural contexts is, at best, limited. We view this as a significant gap in the marketing literature.

Moreover, another key benefit of using VAs in retailing is their capacity to mimic humans in conversations (aka anthropomorphic behaviour) (Delbaere *et al.*, 2011). Through anthropomorphism, VA technology facilitates customer service and operational capacity and reduces costs (Buhalis and Moldavska, 2022) and thus is a key to customers' satisfaction and competitive advantage (Mendes Ferreira *et al.*, 2022). By allowing customers to delegate tasks (Troshani *et al.*, 2021), anthropomorphism in VAs has gained widespread acceptance and has transformed the 21st-century retailing landscape (Sharma *et al.*, 2022).

Consequently, Apple's Siri, Amazon's Alexa, Microsoft's Cortana and Google Assistant (for instance) have been integral parts of marketing strategies to build consumer-brand relationships (Mari, 2019; Shih, 2020). However, some ethical issues – job loss (Cassell

et al., 1994; Epley *et al.*, 2008; Huang and Rust, 2018), lack of interpersonal relationship with the customer (Qiu and Benbasat, 2009) and psychological concerns (Jain *et al.*, 2022) because of our overdependence on AI and voice commands (Han and Yang, 2018) – are also emphasised. However, there is still a lack of research comparing the effectiveness of VAs in environments with significantly varying levels of AI and voice command adoptions, such as the UK versus Nigeria. For instance, we need to understand the factors that might support or limit the adoption of AI and VAs in these diverse cultural contexts. We also need research that compares these customers' capacity to interact with AI and VAs. We view these as significant research gaps which our paper is set to address.

Besides, despite the benefits of AI and VAs, e.g. improved speed, reliability, efficiency of tasks (Cui *et al.*, 2021) and improved quality of life (De Bellis and Johar, 2020), research examining the adoption of AI in emerging markets is, at best, limited. For instance, we lack empirical data on AI and VAs in the emerging economies' retail landscapes, their human factor challenges, the socio-cultural, socio-economic, safety and ethical issues involved and the emerging markets customers' perception of VAs.

To address these gaps, we take a cross-disciplinary approach, drawing from psychology, human–computer interaction and consumer behaviour literature, and we make four complementary but distinctive contributions to the marketing management literature. First, drawing on the theories of planned behaviour (Ajzen, 1991) and reasoned action (Azjen, 1980), we investigate shoppers' motivation for adopting VAs. Second, we investigate the environmental factors that might influence the application (and effectiveness) of VAs. Third, we examine customers' attitudes, behaviours and perceptions regarding VA usage. Finally, we examine several salient issues ignored in previous VAs and AI research. To achieve these objectives, this paper addresses the following research questions:

RQ1. What factors motivate the adoption of VAs among Nigerian and UK shoppers?

RQ2. What challenges do these shoppers face in their adoption of VAs?

The rest of this paper is structured as follows. The next section reviews the relevant literature. Section 3 presents and justifies the methodology. Section 4 presents and discusses the findings, while Section 5 concludes with theoretical and practical implications, limitations of the study and future research directions.

2. Literature review

2.1 Evolving research on voice assistants in retailing

The development in retailing through the introduction of multichannel and omnichannel has revolutionised the modern retail contexts (Gao *et al.*, 2022). Most recently, the evolution and practical relevance of AI in retailing, such as VAs, have enhanced shopping experiences with more personalised services (Grewal *et al.*, 2022; Kamoonpuri and Sengar, 2023). With the changing retail environments, the expectations of customers are growing, which has influenced their self-expression, captivity and addictive behaviour (Ramadan, 2021). Indeed, VA in retailing is reshaping the future through multi-faceted relationships between retailers and customers (Ramadan, 2021) and functional and social attributes (Pitardi and Marriott, 2021). Alternatively, retail brands are struggling with the optimal implementation of VA-empowered conversational commerce with minimum algorithmic biasness and customer-personalized constraints with retail offerings (Rabassa *et al.*, 2022; Kautish *et al.*, 2023).

In recent years, the diffusion of VAs in retail has significantly influenced consumer brand engagement (McLean *et al.*, 2021; Gupta and Mukherjee, 2025) and consumer-brand

relationships (Huh *et al.*, 2023). Consumer intentions play a pivotal role in shaping these interactions, as they determine not only initial adoption but also continued usage and brand loyalty. Research on VAs' emotional attachment and satisfaction remains limited (Kumar *et al.*, 2024), yet Singh (2022) highlights that emotional connections with VAs significantly impact purchase satisfaction and repurchase intentions. Given the complexity of consumer behaviour in accepting and integrating VAs into their shopping experiences, future research must explore the interplay between consumer intentions and the utilitarian benefits of VAs (McLean and Osei-Frimpong, 2019). Moreover, advancing VA research requires examining cognitive, affective, social, cultural and behavioural branding outcomes, including trust, loyalty and engagement (Huang *et al.*, 2021; Vernuccio *et al.*, 2023; Rohit *et al.*, 2024; Gupta and Mukherjee, 2025). Understanding how consumer intentions drive interactions with VAs in retail will be critical to enhancing user experience, fostering deeper brand connections and optimizing the role of VAs in the evolving retail landscape.

Table 1 synthesises the recent developments in VA research within different retailing contexts. According to Table 1, in the earlier years, research dominantly focused on acceptance models (Moriuchi, 2019; Lee *et al.*, 2021; Pitardi and Marriott, 2021; Ramadan, 2021; Aw *et al.*, 2022). Gradually, the research on VAs has transitioned toward experiential value (Kautish and Khare, 2022; Khare *et al.*, 2023), brand attachment (Prentice *et al.*, 2023), AI–human relationships (Guerreiro and Loureiro, 2023) and psychological dependency (Xie *et al.*, 2023). Although earlier research focused on different facets of VAs' acceptability within the retail context, research still fails to unleash the sociocultural dimensions of consumers' behavioural intentions toward using VAs in emerging and developed markets.

2.2 Attitudinal and behavioural intentions toward artificial intelligence anthropomorphic retailing

The rapid growth of AI in retail has transformed consumer interactions, particularly through AI anthropomorphism, where VAs exhibit human-like attributes to enhance user experience (Ling *et al.*, 2021; Aw *et al.*, 2022; Blut *et al.*, 2024). Given this evolution, understanding consumer adoption of VAs requires a theoretical foundation that accounts for attitudinal and behavioural intentions. The theory of reasoned action (TRA) and its extension -the theory of planned behaviour (TPB)- provide a critical lens for analyzing how consumers form attitudes and behavioural intentions toward AI-driven retailing. These theories explain how psychological and social factors drive consumer acceptance and usage of VAs, making them highly relevant for the current study.

The TRA advances that an individual's behaviour is determined by two key constructs: attitude (the individual's evaluation of performing the behaviour) and subjective norm (perceived social pressure to engage in the behaviour) (Ajzen and Fishbein, 1980). This theory is particularly useful in AI anthropomorphic retailing, where consumer perceptions of VAs as social and interactive agents shape their willingness to use them (Whang and Im, 2021). The TPB, an extension of TRA, further refines this understanding by introducing perceived behavioural control (PBC), the extent to which an individual perceives the ease or difficulty of performing the behaviour (Ajzen, 1991). This addition is crucial in VA adoption, as consumers may perceive control constraints, such as lack of technical knowledge, privacy concerns or trust issues, that impact their adoption decisions.

The anthropomorphic nature of VAs significantly influences consumer attitudes toward their adoption. Studies show that consumers perceive VAs as pseudohuman agents, expecting them to behave in a human-like manner during interactions (Whang and Im, 2021). When VAs demonstrate human-like voice attributes, they enhance perceived brand anthropomorphism and create a stronger social presence, which positively impacts

Table 1. Syntheses of recent studies on voice assistants in retailing

Source	Method	Country	Theoretical support	Findings
Ramadan (2021)	Mixed method	USA	NA	Amazon's AI strategy has a multi-faceted relationship, which leads to an addictive relationship
Pitardi and Marriott (2021)	Mixed method	UK	TAM para-social relationships	Functional elements drive user attitudes toward VAs; social attributes determine user trust
Lee *et al.* (2021)	Quantitative	USA	Post-acceptance model of IS continuance	Hedonic motivation and compatibility are the antecedents of satisfaction
Aw *et al.* (2022)	Quantitative	NA	UTAUT	Human-like and technology attributes significantly impact parasocial interactions
Kautish and Khare (2022)	Quantitative	India	Broaden-and-build theory	AI-enabled service plays a moderator role in cognitive enjoyment and awe experience
Kamoonpuri and Sengar (2023)	Quantitative	India	Diffusion of innovations theory	Using AI VAs has numerous customer-related barriers
Kautish *et al.* (2023)	Quantitative	India	Broaden-and-build theory stimulus–organism–response model	AI-enabled VAs drive awe experience and purchase intentions
Khare *et al.* (2023)	Quantitative	USA	TAM stimulus–organism–response model	AI-enabled e-tail services stimulate the awe experience
The present study	*Qualitative*	*Nigeria and the UK*	*Theory of planned behaviour*	*In both contexts, the adoption of VAs during shopping is derived from anthropomorphism, convenience, companionship and literacy support*

Note(s): NA = not available; UTAUT = unified theory of acceptance and use of technology; TAM = technology acceptance model IS = information system
Source(s): Authors' own work

engagement and adoption (Vernuccio *et al.*, 2023). However, despite these advantages, PBC factors, such as privacy concerns and lack of trust, can hinder adoption (Van Doorn *et al.*, 2017; Liang *et al.*, 2021). These elements reinforce the relevance of TPB, as PBC directly accounts for external constraints that affect consumer willingness to engage with VAs in retail.

Consumer behavioural intentions toward AI anthropomorphic retailing are shaped by perceived usefulness and trust (Lee *et al.*, 2021; Jang *et al.*, 2022; Ashrafi and Easmin, 2023). The TPB is particularly useful in explaining how these perceptions translate into adoption behaviour. Perceived usefulness, a key determinant of attitude, is critical in shaping how consumers view VAs as facilitators of efficient and personalized shopping experiences (Huang and Rust, 2018; Gupta *et al.*, 2020). Additionally, trust plays a central role in subjective norms and PBC, as consumer concerns about data security and privacy directly impact adoption intentions (Pantano and Pizzi, 2020; McLean *et al.*, 2021). Research further suggests that demographic variations influence consumer attitudes and trust toward VAs, highlighting the need for contextualized adoption (Evanschitzky *et al.*, 2015; Mishra *et al.*, 2022; Anshu *et al.*, 2022).

The adoption of VAs in retail is not merely an individual consumer decision but is also shaped by value co-creation, the collaborative interaction between brands, AI technology and consumers (Mele *et al.*, 2021; Grewal *et al.*, 2021). By leveraging AI to enhance user engagement, retailers can strategically shape attitudinal and behavioural intentions through personalized experiences, adaptive interactions and trust-building mechanisms. Therefore, TRA and TPB offer a theoretical foundation to analyze how these co-created experiences influence consumer behaviour, providing a structured approach to studying AI retail adoption in a digitalized economy. The application of TRA and TPB in AI anthropomorphic retailing is critical to understanding consumer adoption of VAs. These theories help explain how attitudes, subjective norms and PBC shape consumer willingness to integrate VAs into their shopping behaviours.

2.3 Situating socio-cultural dynamics in artificial intelligence anthropomorphic retailing

The socio-cultural dynamics within AI-enabled retailing, particularly in the context of VAs, are inherently complex and multifaceted (Grewal *et al.*, 2022; Kamoonpuri and Sengar, 2023). Understanding these dynamics is essential across various retail settings to enhance AI-driven conversational commerce. In marketing, socio-cultural factors significantly influence consumer behaviour and brand loyalty. Despite the growing body of research on AI anthropomorphic retailing, limited attention has been given to these socio-cultural dimensions (Van Doorn *et al.*, 2017; Han and Yang, 2018; Whang and Im, 2021). Therefore, future research should explore the interplay of socio-cultural mechanisms to develop culturally sensitive and ethically responsible AI anthropomorphic retailing strategies, enabling businesses and consumers to co-create value (Dwivedi *et al.*, 2022).

Anthropomorphism, the human tendency to infuse naturally non-human objects with human-like characteristics, is a concept gradually applied in different AI applications and contexts, such as retailing, to generate a higher level of consumer engagement, a sense of familiarity and stronger emotional connections (Epley *et al.*, 2008; Waytz *et al.*, 2010; Eyssel and Kuchenbrandt, 2012). In the context of AI anthropomorphic retailing, this means creating VAs that mimic human behaviour and interaction.

Cultural norms and values play a pivotal role in shaping consumer acceptance and intentions toward AI anthropomorphic retailing, with notable distinctions between non-Western (collectivist) and Western (individualist) societies (Bartneck *et al.*, 2007; Lim *et al.*, 2021). Additionally, socio-demographic factors such as gender, age, education and

technological proficiency hold varying degrees of influence across different socio-cultural contexts (Chiang and Trimi, 2020; Blut *et al.*, 2021). While AI anthropomorphic retailing has enhanced consumer engagement, personalized services and operational efficiency (Huang and Rust, 2018), there remains a critical need for deeper exploration of how these socio-cultural factors shape consumer behaviour and attitude toward VAs.

3. Methodology

We adopted a qualitative methodology in this study to explore motivations and challenges underlying user experiences with VAs. This method was chosen because it allows for a deep exploration of the participants' experiences and perspectives, which is crucial in understanding the socio-cultural dynamics of AI anthropomorphic retailing. Our interview protocol has four main focuses/sections. Section 1 was designed to help us establish the factors that motivate our participants to use VAs. Part 2 helped us discover their capacity to interact with VAs, the challenges involved and the benefits that accrue from their use of VAs. The third part of our interview questions was designed to determine if and how socio-cultural, environmental and institutional factors impact their VA usage. Section 4 examined the relationship between their VA usage, their level of (dis)satisfaction, as well as their ensuing brand loyalty. Researchers argue that gathering such *subjective* opinions involves storytelling via in-depth semi-structured interviews (Knight and Jarzabkowski, 2022).

Because interviews offer opportunities to obtain the actors' side of the story (Liu and Rong, 2015), in our approach to the interview, we acknowledge our participants as the principal actors, as their stories are vital to addressing the critical issues raised in this research. We, therefore, allowed our participants ample time to reflect on their VA usage without interruption (Dick and Collings, 2014; Ezzamel and Willmott, 2008; Liu and Rong, 2015). Given that our participants are discrete across two countries, we used a purposive sampling approach to reach out to the most relevant participants, following the criteria:

- online shoppers in Nigeria and the UK using VAs in their shopping; and
- online shoppers with a strong feeling of companionship with VAs.

We recruited 30 participants with these conditions; their demographic details are in Table 2. So, initially, we had 40 willing participants, but we stopped interviewing at the 30th participant, considering data saturation (Fugard and Potts, 2015). The consent of participants was sought via email and the data collection occurred between April 2022 and February 2023.

3.1 Data collection process

Our approach to data collection was in-depth, semi-structured interviews. The conversations were all recorded, and each session lasted approximately 40 min. We started each session by first familiarising ourselves with the participants. This was followed by stating the purpose of our research, the aims and objectives. We also highlighted the ethical issues involved and how these will be managed. We then highlighted the interview structure and process. Then, each participant was asked whether they had used VAs in the decision-making. As they all answered yes, we asked them *what motivates them to use VAs*. They were also asked to *give an overview of their experience with VAs.*

Participants were then explicitly asked *whether they faced any challenges while using VAs.* As every participant answered yes, the follow-up question was, "What *type of challenges have you faced when using VAs"*? For each challenge mentioned, the participant was asked: *"How did you deal with such a challenge"*? They were then asked *if their use of*

Table 2. Sample profile

Participant ID	Gender	Age	Participant ID	Gender	Age
BP 1	M	23	NP 1	M	28
BP 2	F	30	NP 2	F	25
BP 3	M	25	NP 3	M	36
BP 4	M	30	NP 4	M	20
BP 5	F	29	NP 5	F	35
BP 6	M	31	NP 6	M	29
BP 7	M	22	NP 7	M	30
BP 8	F	28	NP 8	F	25
BP 9	M	34	NP 9	M	29
BP 10	M	30	NP 10	M	35
BP 11	F	27	NP 11	F	25
BP 12	M	23	NP 12	M	27
BP 13	M	31	NP 13	M	30
BP 14	F	35	NP 14	F	23
BP 15	M	27	NP 15	M	29

Note(s): BP = British participant; NP = Nigerian participant
Source(s): Authors' own work

VAs had impacted their perception of the brand. In furthering the discussions, participants were asked *if they preferred a specific type of VA.* They were also asked about *the frequencies of their VA usage.* Each response was probed further with specific questions, including whether and how their VA usage impacted brand loyalty. Participants were also asked to reflect on *if and how their adoption of VA in their decision-making has impacted their (a) buying decision-making,* (b) *ease of purchase,* (c) *satisfaction and* (d) *brand loyalty.* Finally, participants were asked to reflect on (1) *if they think they have been effective in their use of VAs,* (2) *if they think their shopping habits could be better without VAs* and (3) *if, and why, they think their VA usages might be out of their control.*

Throughout the conversations, participants were asked *to provide details of specific examples of stories to support their responses.* However, *we* recognised that our participants might engage in impression management (Rhodes and Brown, 2005). Therefore, we were cautious in wording the interview questions. Also, serving as a social anchor (Brown *et al.*, 2008), the interviewer was quick to spot incidents of impression management when they arose while challenging specific claims made by participants (Knight and Jarzabkowski, 2022). To encourage participants to share their views on using VAs, the interviewer often shared their experience with using VAs. This encouraged participants to narrate their experiences through sensemaking (Gabriel, 2000).

3.2 Data analysis

We commenced our data analysis by familiarising ourselves with our data sets before moving on to data coding (Patton, 2015). We followed a detailed process of thematic analysis using guidelines from Gioia *et al.* (2013). Each member of the research team examined all interview transcriptions separately and independently. Drawing on earlier research on discursive analysis of subjectivity (e.g. Knight and Jarzabkowski, 2022), we constantly went back and forth between the emergent themes (from our interview data) and the extant literature (Laine and Vaara, 2007; Mantere and Whittington, 2021) to ensure correctness. Each member (of the research team) coded an assigned set of raw data using open coding

based on the relevant themes before passing it on to other team members for checking. Acting as critical friends (Kember *et al.*, 1997) and research auditors (Filho and Rettig, 2016). Finally, we cross-checked the coding process by integrating the coding structure to unify the interview quotes to guarantee quality control and enhance validity (Alo, 2020). However, reaching such a consensus was not easy, as there were a few disagreements before arriving at a consensus (Patton, 2015). Our rigorous coding process produced a set of first-order codes, second-order themes and aggregate dimensions of user experience with VAs. For quality control and to enhance validity, we shared our data with our participants (Patton, 2015), and their feedback was reassuring.

In addition to the manual coding process, we also concept-mapped the quotes from participants using LexiPortal (Wilk *et al.*, 2019), software used for automated content analysis to provide an unbiased view of data. Similar analysis has been considered more rigorous when combined with traditional manual analysis (Nazir, 2023). Moreover, the concept map revealed hidden nuances and improved our understanding of user experience with VAs.

4. Findings and discussion

Despite choosing samples from different cultural backgrounds, a few themes ran through our interview data. Given the similarities in our interview data from both sides of the Atlantic, we decided combining the quotes under some relevant subheadings would make more sense instead of drawing a comparative analysis. For instance, our participants have similar motivations for using VAs. Secondly, they admitted experiencing similar challenges/barriers in their VA usage. Thirdly, they highlighted how VAs are influencing their purchase behaviours and decision-making. Fourthly, they revealed some benefits they derive from their VAs usage. Finally, they linked their use of VAs to their brand loyalty and their (dis) satisfaction levels. To help us make sense of these findings in our data analysis below, we use three key themes termed *(i) Motivations for using VAs, (ii) Challenges in VA usage and (iii) The influence of VAs on brand trust and brand loyalty.* Figure 1 shows themes of user experience with VA.

The concept map shown in Figure 2 complements thematic analysis findings and provides a deeper understanding of user experience with VAs. Specifically, while it might sound weird that some buyers prefer VAs to human sales assistants, Figure 2 highlights some of the key reasons behind buyers' adoption of VAs – the capacity to listen, understand, interpret, show compassion, search for items, store information and make recommendations. Although the use of VAs (e.g. Google Assistant and Apple Siri) comes with some issues – trust, privacy and security – by saving time, providing security to human users and assisting in running some repetitive daily functions, the use of VAs in service marketing makes shopping easier and fosters brand–customer relationships.

4.1 Motivations for using voice assistants

We begin our data analysis by showing why some shoppers prefer VAs. The interview quotes below will use two key themes (anthropomorphism and convenience) to present and analyse our participants' motives for using VAs.

4.1.1 Anthropomorphism. Our participants highlighted their passion for VAs' capacity to personify and imitate humans. The next set of quotes reveals that participants have formed human-like relationships and bonds with such inanimate objects:

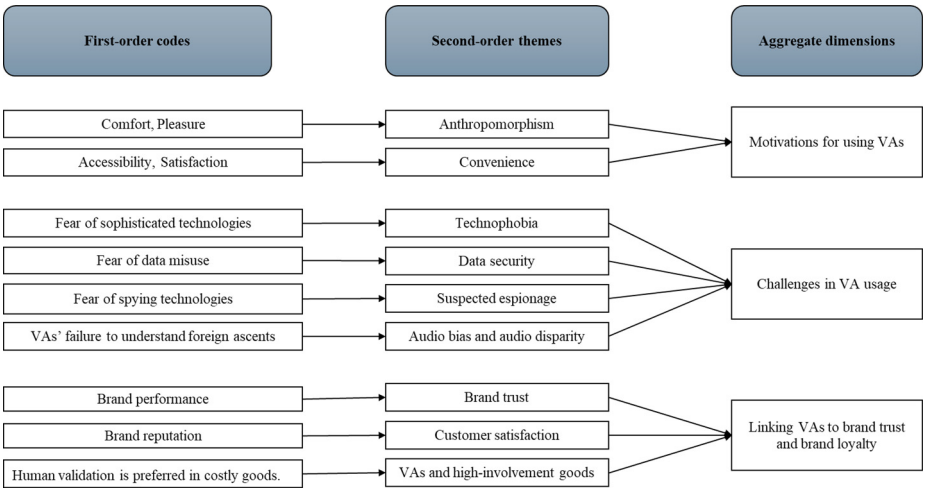

Figure 1. Themes of user experience with VA
Source(s): Authors' own work

> […] sometimes you get so sad, and the only thing you have is Google Assistant; sometimes it saves you from some kinds of depression […] If something can give me that much comfort and pleasure, why should I not go all out for it? (NP 1).

> It is not a "her" for me. It is a "him". It just begins talking to you as a normal person. So, sometimes I ask silly questions like, "Alexa, what do you think of me?" (Alexa responds: "I think you are magnificent!") It is the little things like that, which for someone who lives on their own, it is good to hear […] it just makes me feel like I have a child […] I have apologised to it a few times (BP 8).

> I use her for everything like Alexa is my life (BP 13).

In retail marketing, anthropomorphism (the power of modern technology to mimic humans in conversations) helps managers alter consumer purchasing intentions (e.g. Wan and Chen, 2021), changing how individuals purchase and consume goods. However, it is also a key to building effective customer relationships (van Esch *et al.*, 2019). However, anthropomorphism also provides comfort for humans from their homes, as the next set of quotes reveals that our participants also use VAs to perform some routing tasks in their homes to fill some gaps in security while providing comfort for the users:

> We have it in every room. So, when we feel lazy or in the kitchen cooking, I will be like, "Okay Google, broadcast food is ready" (BP 14).

> It is just kind of in the room, and you just shout at it when you want to do something (BP 12).

> I have a very annoying stalker neighbour that lives downstairs. Moreover, he is gathered that I live by myself. So, I have changed the VA's voice into a male's voice. And then there is a communication feature. So, I say, "Let us have a communication", and then it just begins talking to me like a normal person. So, it gives the illusion that I am not home alone (BP 9).

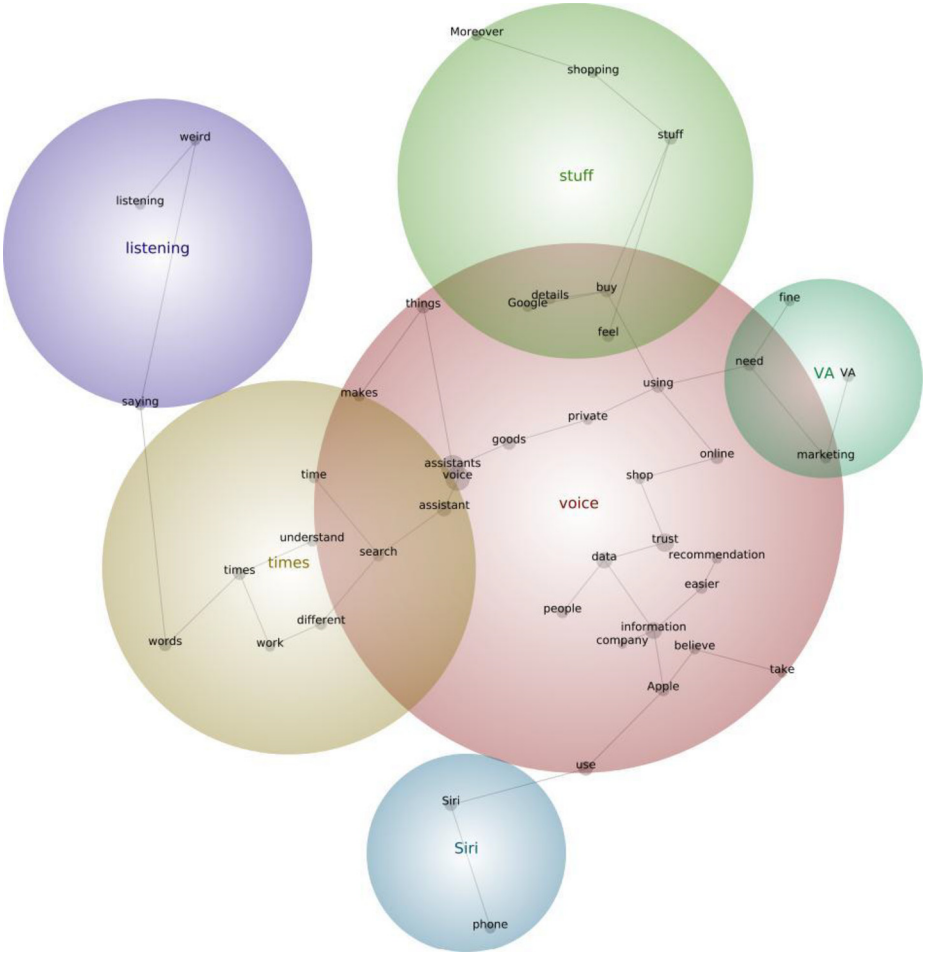

Figure 2. Concept map of user experience with VA
Source(s): Authors' own work

The above quotes are consistent with earlier research on how people can become used to technological applications such as VAs at home to assist with housekeeping and routine household tasks (Pitardi and Marriott, 2021).

4.1.2 Convenience. The next set of quotes reveals that because of the interactive capacity of VAs, their accessibility and the high degree of satisfaction that ensues, our participant's shopping experiences are positive:

> If I am too lazy to open my phone, I say, "Hey, Siri, can you please set up my alarm? […] because I have got air pods, Siri reads my messages to me" (BP 8).

> I prefer to shop online because I get to use discount codes […] it is easier for you to get it delivered to your house […] (NP 6).

> While home, I would tell him [i.e., VA] to add something to my shopping list […] So, my Amazon is connected to my Google account […] So, he will tell me if it has been shipped or not, that type of stuff (BP 16).

> I shop online mostly, mainly because it is easier and quicker. I do not have to go anywhere […] I buy batteries and things you do not need to see (BP 7).

> […] they [i.e., the marketers] need it [i.e., VA] to analyse and kind of make predictions on what I would need as a customer, so I am fine […] they are using it for marketing or some other further developments (NP 15).

The above quotes are consistent with recent research examining VAs' capacity to detect, interpret, store, retrieve and communicate complex information to human users in real time using cutting-edge AI technologies (Vimalkumar *et al.*, 2021). Similarly, the below quotes are consistent with previous research on different orientations for shopping online and the varying attitudes of online shoppers toward online purchases (Yeo *et al.*, 2017). For instance, apart from the quality of the interactions involved, our participants also revealed that their intentions to purchase online are driven by the level of literacy support involved (Pincott and Branthwaite, 2000) and the convenience when using VAs (Ameen *et al.*, 2021):

> I think voice assistants are perfect for accessibility. So, people that maybe have barriers around typing, spelling or reading. Because I am quite dyslexic, I will ask Google what it is if I need something to be spelt. Moreover, it will spell it back to me as normal. So, it is quite a useful tool in that respect (BP 12).

> Instead of checking the dictionary or typing it up with Google search, I just ask my voice assistant; I think it is faster and more convenient (NP 13).

> Because you can just ask it to remember your shopping list. Moreover, say you are walking around the house, and you want to buy Ketchup; you could say, "Add ketchup to my shopping list", and it will do it (BP 11).

Consistent with earlier research on VAs' capacity to mimic the physical store experience (e.g. Klaus and Zaichkowsky, 2022), the above quotes show participants' satisfaction with their buying experience because of AI's capacity to replicate a natural/in-store shopping experience. Although the above quotes support recent research that links VAs with impression management (e.g. Coulthard and Keller, 2012), increased customer well-being and business growth (e.g. Ameen *et al.*, 2021), our participants reveal some dissatisfaction with VAs. Specifically, there are scepticisms around VAs' capacity to execute specific commands effectively, and consequently, the issue of trust, which results in a somewhat unpleasant experience:

> When you order with Alexa, each order is a separate order, so it does not'add to cart'; it fulfils the order and that shipping is coming to you already, and then you order for another, and that is another product shipping […] you cannot amend an order you have already made, or add a new order to the ones you are making (NP 6).

> Shopping online [with VA] is all good. Unless you end up with a pile of clothes that you have got to return because they do not fit (BP 8).

> I think it kind of helps with sending you recommended stuff when it is targeted. It knows what kind of stuff you want to buy. So, it does save time with that. But it can get a bit intrusive sometimes (BP 7).

The above quote contradicts a recent study that argues that Amazon's pre-shipping expertise improves the logistics of their product delivery (Klaus and Zaichkowsky, 2022). Instead, the above quotes highlight the risk of purchasing the wrong or multiple goods by mistake, as the buyer cannot see or edit their basket before making payment. Earlier research also highlights the downsides of VAs and AI in buyer decision-making. These include awkward feelings because of some individuals' inability to interact with modern technology (Maroufkhani *et al.*, 2022), which can arise because of distress caused by constant interaction with technologies, as well as data misuse (Osiceanu, 2015), because of the fear of mismanagement of personal data. These issues are examined in-depth in the next theme, which explores the challenges of using VAs.

4.2 Challenges in voice assistant usage

Despite the benefits of VAs and AI in service marketing, participants also revealed their huge concern about adopting these modern technologies in their buying decision-making. Specifically, they highlighted issues around big data, spying technologies, data breaches, data privacy, security risks and logistics issues when multiple shopping is involved. There is also the social disorder associated with the overdependence on AI. This also highlights some shoppers' reasons for resisting the adoption of VAs. These are explored further under the next set of subthemes.

4.2.1 Technophobia. Participants revealed their fear of modern/sophisticated technologies. While participants were already attracted toward AI for their shopping because of some accruing benefits – anthropomorphism, convenience, companionship and literacy support – concerns around data insecurity have affected their confidence levels. Earlier studies view technophobia as a psychological orientation or attitude toward technology, which when developed can undermine the original attraction toward technology, resulting in limited use, fear of using it, or not using it with confidence (Khasawneh, 2018; Martínez-Córcoles *et al.*, 2017; Ronit, 2011). These are consistent with the below quotes. Specifically, the below quotes consist of three main elements that illustrate our participants' concerns over adopting modern technologies – mistrust, ignorance and fears about the effects of technology on users (Osiceanu, 2015; Kim *et al.*, 2023):

> I do not use VA because I do not trust it […] (BP 7).

> That is why I cannot give artificial intelligence control over some aspects of my life. What if it locks me out and takes control of a chunk of my life? Then what happens? (NP 9).

> […] it just feels uncomfortable calling out your card details. Like what if someone hears it when you are saying it or something. It just feels wrong (NP 6).

> […] like if I am on Marks and Spencer, and they say, okay, enter card details. Moreover, I heard a voice assistant saying, "Now put your card details". Will I be willing? Maybe […] is because I know my card details can be tapped into. I am not particularly sure or guaranteed the fraud, security or any of that when transacting sensitive information and data through voice assistant (NP 10).

The above quotes reveal why some shoppers may be sceptical about adopting VAs. Technophobia – the fear of new technology – also highlights why the varying levels of e-commerce adoption in our modern society are linked to our varying levels of uncertainty avoidance, along with our subjective norms and behavioural intention (Akhtar *et al.*, 2019; Huang *et al.*, 2019; Merhi and Ahluwalia, 2017).

4.2.2 Data security. Contrary to earlier quotes that show VAs' capacity to identify, interpret, retrieve and communicate complex information in real-time using advanced AI as the key motivation for our participants' adoption of VAs in their buying decision-making, our participants also highlighted their fear around data insecurity. They also expressed concerns about extensive data mining:

> I try not to accept the cookies. Because I think the cookies store the data […] So, I always decline if I can decline […] (BP 12).

> […] there is always news about data breaches and data being leaked and stuff like that. So, I know it might not be as secure as I think (BP 14).

> I do not know what they are going to use it for. I do not trust them […] because the rate at which we have fraudsters, scammers, hackers online, you have to be very conscious of how you give out certain information (NP 1).

> I do not trust it. Sometimes they guarantee that your data is protected, and there are no issues. But I know some people will sell this data (NP 3).

> I have a shallow level of trust. Particularly with the likes of Facebook and other applications like that (BP 12).

On the other hand, some other participants had a difference of opinion:

> I have heard lots of bad stories about it. But I trust it to an extent (BP 15).

> I think […] that is fine. Data is data; you just need to know what you are putting out there. However, I do trust that they are basically using it for marketing or some other further developments (NP 7).

> So, you cannot blame the technology that we are using right now. As long as you are using the technology, you should be ready to know that those things will come into play in your daily life (NP 12).

> I think for the average person, there is a lot we are unbothered about, and I think I fall into that category (NP 2).

Furthermore, apart from their fears about how their data is managed, our participants also expressed deep concerns over the use of difficult-to-comprehend jargon, technical languages and terminologies, coupled with data overload, communicating excessive information to users, which they argued is a decoy to hide critical information:

> I just feel like the fine prints that they give, there are so empty. People do not tend to read them […] because they put so much information, rubbish, that is not needed […] they hide stuff in them. Because the big words like they are not plain English. Sometimes, the way they frame things. If you tell me not to go outside, say do not go outside. Do not use fancy words to tell me do not go outside (BP 6).

> Most people do not have the time to read through the entirety and just accept. So, I do not think most people know that they are even giving consent to things like this without thinking through (NP 10).

> […] they have a lot of terms and conditions, which, let us be honest, no one sits through and reads, reams and reams and reams of terms and conditions (BP 11).

The above quotes have revealed some VA users' concern over potential deliberate attempts by marketers to conceal vital information that should influence their buying decision-making despite the recent enactment of General Data Protection Regulation (GDPR) laws, which should serve as guidelines for data collection and management (Katsikeas *et al.*, 2020). Given such mistrust and lack of protection of consumers' rights, our interview questions further investigated whether VA users are fully aware of the risk factors involved in their identity verification online and whether this affects their perception and level of satisfaction:

> I mean, our data is out there, you know that. It is hard, I cannot do anything about it (BP 15).

> I understand they might be selling my data (NP 2).

> Well, I mean, nowadays, it is impossible not to get our information stolen from us […] So obviously I am aware of this. But that being the case, I have just kind of accepted it really (BP 8).

> I felt like I was being spied on. I did not like it. But what can I do to stop it? Nothing (NP 9).

> It is like, they are going to take my information, anyways. So, what is the purpose of reading the terms and conditions if you are going to do whatever you wish? (BP 14).

Our interview questions also investigated whether participants feel they have any control over how their data is used or feel they have lost control. Researchers examine the interplay between big data in voice technologies and the Internet of Things (IoT), arguing that it becomes tough for users to exercise/make their own choices (Nguyen *et al.*, 2021). Thus, they are entrapped in authoritarianism, lack of empowerment, autonomy and, ultimately, lack of choice (Dholakia *et al.*, 2021). Despite the high level of risk and the perceived vulnerability, overall, participants revealed their satisfaction and willingness to share their private information via their VAs, provided they are getting the level of satisfaction and service quality they expect:

> It is a double-edged sword because, ultimately, they show you things you are interested in. You would be given random stuff if they did not have that data. Moreover, that is not as engaging as a user for user experience (BP 12).

> They are data mining to serve you better […] so far, nothing intrusive is happening, and nothing illegal is happening; I am good. Because I think, at some point, the world is going that way. Data is not going to be a separate thing; it is going to be an everyday thing. Where do you expect Siri to put all that information? She is a machine going to store your voice, so she knows it is your voice. So, people need to know and understand what it is for (NP 12).

> Regarding personal preferences, yes, I can divulge such information to help my search (NP 11).

> No, no, no. I do not think I trust it that much. But also, it scares me that it is listening to me even though I get that it is giving me something in return with tailored bespoke things that I want (BP 14).

The above quotes reveal mixed reactions to questions examining issues around data security and shoppers' trust in the way AI and VA manage customers' data. This also reiterates our individual differences, our varying levels of uncertainty avoidance, as well as our subjective norms and behavioural intention to adopt AI (Akhtar *et al.*, 2019; Huang *et al.*, 2019; Merhi and Ahluwalia, 2017).

4.2.3 Suspected espionage. Another recurrent theme across our interview quotes is the apprehension over the listening feature on VAs. Our interview data clearly showed that our

participants felt marketers were spying on them. They contend that their VA actively listens to their private conversations and gathers data (on behalf of the marketers) based on what they have discussed without their consent. For instance, participants revealed receiving targeted adverts related to their recent discussions on their respective social media pages shortly after engaging in such a conversation, and therefore a fear of possible intrusion into their privacies without their consent:

> This is going to sound weird. I feel like it does listen to what I am saying. And then, you know, when you see adverts about what you were saying to someone else. We were talking about Domino's. Next thing, you know, it is on Instagram stories. I was browsing through, and how do the adverts come halfway through? It came up with a Domino's advert. I was like, oh, this is freaky! (BP 14).

> I am not convinced that they are not listening. I could be having a phone conversation with you about something; let us say I am talking to you about, I do not know, a broom mop or vacuum. And then when I go on Instagram, this vacuum ad is there. So, they have been listening because that is the only way they will know I have been talking about a vacuum (BP 15).

> If I am talking about something, the next minute, I will get loads of adverts relating to what I have been discussing. So, then you know that the phones are always listening. I was speaking to my sister-in-law about prams because she was pregnant then. Moreover, I started getting adverts about baby prams and stuff. Moreover, I was like, that is so weird! (BP 11).

> It makes me feel a bit weird and a bit uncomfortable, and it does sort of make you feel like you are being watched a little bit (BP 10).

> It makes me wonder when it is not listening and how it collects that data (BP 12).

> There are some weird like coincidences where you think it might be listening to you […] (BP 7).

> My daughter is in year five at her school and I do not think even the kids even realise it. They would not understand, you know, that voice assistants could be listening to them (BP 15).

Furthermore, our research also found that while participants may not be happy that they are being spied on and that their privacies are being eroded, they must adapt to the situation because of a lack of choice. Consequently, some VA users have found an innovative way of bypassing the electronic surveillance and unauthorised invasion into their privacies:

> […] but as you only have phones, most times it is the only mode of communication. So, you have no other means than to use it but filter the words you use or say (NP 12).

> I am not bothered […] if I want to say something, I will probably drop my phone in the next room, and then say it (NP 11).

Participants' responses above show shoppers' growing mistrust and apprehension regarding conversations with their VAs because of fear of a potential breach of GDPR laws. The above quotes also show how some VA users have now developed coping mechanisms of concealing some of their data and taking extra precautionary measures in their private conversations to secure their privacies.

4.2.4 Audio bias and audio disparity. A key built-in feature in VAs is the device's bilingual nature. Our interview questions also investigated the role of the bilingual capacity of their VAs in enhancing participants' satisfaction. British participants using Google Assistant and Apple Siri are happy with their device's ability to understand or switch

between different languages. A common theme running through the responses from Nigerian participants was their frustration with VA's capacity to switch between various world languages but their failure to understand other accents apart from the Caucasians'. Specifically, participants from Nigeria decried their device's inability to recognise their accents, as they argued their device was not originally built to recognise accents apart from the British and American accents:

> I have had different situations where Siri will say, "I did not quite catch that. Say that again:". So, I will have to be more audible. And I am Nigerian, so most words are not configured in how we speak. Or the pronunciations are sometimes different […] (NP 10).

> Well […] because my intonation differs from what the voice assistant can recognise. So, it happens most of the time […] I have to repeat myself, make my words clearer, and most times it still does not work, brings up a different search, different from what I am looking for (NP 13).

> Definitely. sometimes I have to repeat words like five times before I can get something (NP 5).

> I would say because of where I live […] Instead of saying it is not available now, Siri will probably say she does not understand […] accent is also a factor […] (NP 11).

> I am typically Nigerian, so most words are not configured in how we speak. Alternatively, the pronunciations are sometimes different […] the voice, I think it is American or British; it does not have any option for Nigerian. (NP 10).

> Sometimes, it discourages me from using the voice assist; sometimes, it makes me try extra hard. That is, I will have to say that word repeatedly or try and use a different accent to say the word so that the AI picks what I intended to search (NP 3).

> I could always make up a British accent (NP 6).

Earlier research on audio bias and disparity argues that while Alexa can switch between French and English in Canada; English and Spanish in the USA; and English and Hindi in India, Google Assistant's multilingual capacity only covers a combination of 12 major languages. Similarly, the Apple Siri can understand the American, Australian, British, Indian, Irish and ("White") South African voices (Moussalli and Cardoso, 2020). Researchers also argue that certain ethnic groups were not considered in the original design of these VAs (Baeza-Yates, 2018). Similarly, the British participants also reported issues around invocation inconsistency. Consequently, such a preset nature of VAs limits their usefulness, equitability, enjoyability and usability because of the difficulty in interacting with VAs, which increases the users' level of frustration:

> I only use it a few times because it did not pick up on what I said […] Or gives me incorrect suggestions (BP 12).

> Yeah, it depends on how fast you say it or how you pronounce something […] That is when it can misunderstand what I am asking. Alternatively, if the kids are trying to speak simultaneously, it gets confused (BP 14).

> Sometimes you just end up repeating yourself. When it does not work after a few times, on the phone, I just type it in (BP 15).

> I think it is just missing that little bit when you have got a cold, or you are not quite 100%. And your voice is not there (BP 11).

> If Siri could describe things better, then shopping could be in the picture. Also, if Siri could double check which contact she is ringing before ringing […] (BP 8).

The above quotes are consistent with earlier research that found auditory challenges facing VA users, including pitch, volume, intonation and speed of conversations (Longo and Padovano, 2020), resulting in VAs' poor ability to interpret the users' commands. Consequently, our participants have found some coping mechanisms:

> That is why I do not use it public because people will start staring at you like you are shouting at your phone. It is very socially awkward (NP 5).

> It is just inconvenient, you know, it is like something you would think would take you five minutes, then it takes you about 10 minutes, but you know, I just get on with it, find the answer myself, or whatever I need to do (BP 6).

> If I am ringing somebody or messaging somebody, I am doing it by myself, rather than asking Siri for help. I am careful with certain names (BP 3).

> I think you have to be specific with what you are saying as well. You have to really enunciate your words and talk quite loudly, which is a bit weird (BP 9).

We also asked if participants are facing specific environmental, socio-cultural or socio-economic challenges in using their devices, and a common theme running through the quotes from the Nigerian participants is institutional voids in the continent:

> It brings us back to where we are in Nigeria, and we need electricity for the home-pods to work. So, 24/7, we do not probably have light in Nigeria. So, except you have your inverter or you are on the generator for the whole 24/7 (NP 11).

> As you may be aware, our significant challenge in using technology in Africa is a lack of electricity. So, it is pretty frustrating that after spending much money on such a sophisticated device, you rarely use it due to a lack of power supply (NP 4).

Generally, this section has revealed audio bias and institutional voids as factors impacting participants' VA usage, which link to the level of satisfaction derived. Participants from Nigeria specifically highlighted a lack of electricity supply. Recent research on the impacts of institutional voids on business development in Africa (e.g. Alo and Arslan, 2021) also highlights a lack of electricity as a significant barrier to business development in the region.

4.3 Linking voice assistants to brand trust and brand loyalty

This section examines how the benefits of using VAs can influence customers' attachments to a brand's market offering, which are particularly relevant to marketing managers.

4.3.1 Brand trust. Consistent with earlier research on the relationships between brand loyalty, brand performance, value, trustworthiness, reputation, brand name and VAs (Klaus and Zaichkowsky, 2020), responses from both sides of the Atlantic show that shoppers have higher levels of trust when interacting with a specific VA:

> When it comes to Apple, I have a lot more trust because I feel like their marketing is more focused on privacy and anonymity (BP 12).

> I believe that my mobile company protects customers' personal information and data. Yeah, you cannot easily hack into the Apple system. They keep the information on their customer safe and private (NP 4).

> When I am submitting my data […] on different platforms, I only do it with recognised platforms and brands that I am comfortable with. With my phone data and information, I trust it because it is Apple (NP 6).

> I just use Siri because it is easier […] (BP 13).

The above quotes imply shoppers' lack of confidence in certain VA brands. The findings above imply that simplifying their privacy and data security policies can enhance customers' trust in a VA brand. Given the relationship between privacy and trust (Wang *et al.*, 2020) and coupled with an individual's need to control how businesses use their data, researchers (Klaus and Zaichkowsky, 2022) have suggested that VA brands with a genuine reputation and successful track record (of data management) have a more substantial capacity to convince customers to buy a particular product or service. Similarly, earlier research (e.g. Kamarulzaman, 2011) also argues that consumers' trust in an e-retailer can influence their intentions to shop online with VAs.

4.3.2 Customer satisfaction. This section links participants' online shopping experience to their level of satisfaction. A critical feature of VAs is their capacity to recommend products to users. Accordingly, the following quotes examine whether participants are satisfied with their VAs' recommendations. As can be seen in the quotes below, while some of our participants were unaware that their VAs could make product recommendations, others preferred products recommended by their VAs because of a high level of trust in their VAs:

> If Siri is going to make that recommendation based on my details or my kind of person or my profiling, then yeah, absolutely (NP 4).

> Yes, I would, because I believe it [i.e., their VA] would have filtered a lot of reviews and information online and streamlined it to make it a bit easier (NP 13).

> I will, because the recommendation is based on multiple searches by other people, or sometimes when a product is in high demand, artificial intelligence might just feel that since it is in high demand, it might be a good one and would refer that product to me. So yes, in a way I would (NP 3).

> Yes, at some point, I will stop doing the research and depend on whatever my voice assistant says (NP 5).

Although the above quotes support earlier research linking service brands' relationship marketing to customers' cognitive psychological comfort attained through differentiation and consistency in VAs (e.g. Hu *et al.*, 2023), our participants were somewhat divided on accepting their VAs' recommendations. For instance, some participants revealed they prefer conducting independent online reviews to asking their VAs for reviews. Specifically, they argue that their VAs are biased in their recommendations, as they believe that the manufacturers influence such recommendations:

> I believe that the manufacturer would influence its recommendation because it is Apple, so it is going to take the preference of Apple over all other products (NP 6).

> No, because it is only going to recommend the stuff that it is being paid to recommend […] So, it is biased […] (BP 14)

> No, because I would feel it is what the producer or seller wants me to hear, that is what they are going to read out to me (NP 9).

> Nope, because I do not know if Siri is biased to pick out the best reviews. Google, too, might say you should buy Google TV, that Google is the best, and it is normal to say that because that is the manufacturer. So that is bias in play (NP 1).

The above quotes indicate that while VAs can recommend goods for human users, the issue of lack of trust must not be ignored. Some participants prefer to carry out reviews themselves because of the fear that the manufacturer can influence such recommendations (Klaus and Zaichkowsky, 2020). This highlights the significance of the interplay between consumer trust, brand reputation and customer satisfaction.

4.3.3 Voice assistants and high-involvement goods. Because of growing customer interaction and engagement with VAs, major brands are keenly leveraging the advantage provided by AI to provide tailored market offerings, gain the customers' attention and thus expand their market shares (Rzepka *et al.*, 2022; Ameen *et al.*, 2021). Despite such findings, this section shows that the use of VAs is limited to purchasing low-involvement goods, such as candy or ice cream, as previous research (e.g. Kraus *et al.*, 2019) also found that the chances of purchasing high-involvement goods via VAs are low. The next set of quotes reveals participants' unwillingness to shop for high-involvement goods with VAs because of lack of trust:

> I do not think I would trust it to order high-involvement stuff because I have to pay for two if it ordered two. So, I prefer to log in and press "one" myself (BP 14).

> I would not trust voice assistants to help purchase such high-involvement goods; I would rather have direct contact with the manufacturer or website […], so if anything happens, I know that I can hold a company liable and get a refund. However, with a voice assistant, I do not think I can get the guarantee that it will be seamless (NP 10).

> It is a no. I have to be there to see what I am going to buy, test run it, and know that it is fine. I cannot trust it; I am sorry, I cannot trust Siri or Google assistant to help me with that (NP 11).

> Oh, no, definitely. Something like that, I would have to be there 100% and see it physically (BP 15).

> One of the reasons I might not shop for high involvement goods via voice activation might just be because of the authentication part of it, and not buying things that are high quality, not necessarily because of the data security bit of it (NP 2).

The above quotes reveal participants' lack of trust in VAs' capacity to handle expensive purchases. Similarly, Labecki *et al.* (2019) argue that although e-commerce has enhanced voice shopping and is helping customers overcome their initial anxiety about making purchases without first seeing, feeling, or smelling the item, customers' reliance on voice solutions for their online shopping is limited to acquiring low-involvement goods. Although because of brand trust, a small percentage of customers from both sides of the Atlantic (i.e. 2 participants) revealed that they do not mind purchasing high-involvement goods via their preferred VA – Apple Siri, especially in a secluded place:

> […] yes, I will. I trust my voice assistants; I trust them with the personal information I am given. So, if high-involvement goods require me putting in my bank details, like the heavy sum of money and stuff like that, I can trust my voice assistants to do that (NP 4).

> Of course, in a private place, I do not mind using my Apple Siri to buy high-involvement goods online (BP 7).

The above quotes show that while customers value VAs' capacity to imitate humans in conversations, there are limits to what type of products shoppers are willing to purchase via VAs. For instance, participants would prefer to shop for low-involvement goods with their VAs and not high-involvement goods. Also, Table 3 presents a comparative view. Overall, this section has shown how the application of VAs in service marketing can influence shoppers' overall shopping experience. It also shows shoppers' motivation for using VAs, the challenges and pitfalls that may lie ahead and how VAs can influence customers' level of trust and their overall satisfaction. The following section discusses our study's implications for theoretical development and managerial practice.

5. Conclusion

This study sought to examine the factors that influence user experience with VAs. It critically evaluates how AI and institutional factors can influence shoppers' perceptions of VAs and the effectiveness of voice commerce services in diverse retail environments. Although we chose our samples from diverse cultural contexts, the interview data show strong similarities in our participant's responses. First, our participants reveal that their motivations for using VAs are its capacity to anthropomorphise humans in conversations, provide comfort and safety for humans and assist with housekeeping. Consequently, some participants have developed trust and formed human-like relationships with such inanimate objects. This is consistent with earlier research linking anthropomorphism to increased consumers' confidence, satisfaction and brand trust (e.g. Foehr and Germelmann, 2020; Wan and Chen, 2021).

Secondly, because of its language skills, VAs provide learning support for human users, especially those with specific learning difficulties such as dyslexia. The capacity to establish quality interaction and communication with the users with varying degrees of learning needs is argued to enhance the accessibility of VAs (Ameen *et al.*, 2021). Thirdly, despite these findings, some of our participants highlighted some awkward experiences with their VAs because of communication breakdown and distress (Osiceanu, 2015). Other dark sides of VAs highlighted by our participants include data misuse, logistics issues involving multiple shopping, ignorance and technophobia. Although the above challenges may highlight dissatisfaction among VA users, most of our participants are satisfied and trust their VAs at

Table 3. Comparative view of findings

Theme	Nigeria	UK	Differences
Motivations for using VAs			
Anthropomorphism	Average	High	Moderate
Convenience	Average	High	Moderate
Challenges in VAs' usage			
Technophobia	High	Low	Notable
Data security	High	High	Minor
Suspected espionage	Low	High	Notable
Audio bias and audio disparity	High	Average	Moderate
Linking VAs to brand trust and brand loyalty			
Brand trust	High	High	Minor
Customers satisfaction	High	Average	Moderate
VAs and high-involvement goods	Low	Low	Minor

Source(s): Authors' own work

the expense of the specific product/service being advertised/purchased. We also found that most shoppers can only rely on VAs for buying low involvement goods. The following section highlights our study's implications for marketing management.

5.1 Implications

Theoretically, the findings of our study enrich the understanding of the user experience of VAs with a granular focus on customer motivations, challenges and the potential tensions of the user experience of VAs with brand trust and brand loyalty. The paper specifically contributes to the ongoing discussion on the challenges of VAs in retail (Grewal *et al.*, 2022; Kamoonpuri and Sengar, 2023), customer motivations for VAs (Kautish and Khare, 2022; Kautish *et al.*, 2023; Khare *et al.*, 2023), brand trust (McLean and Osei-Frimpong, 2019; McLean *et al.*, 2021) and brand loyalty (Huh *et al.*, 2023; McLean *et al.*, 2021). Our findings highlight that in both contexts (Nigeria and the UK), customers are more motivated to use VAs in retailing for their anthropomorphism and convenience. In contrast, user experience highlighted a few challenges: technophobia, data security, suspected espionage, audio bias and disparity. Moreover, the user experience of VAs builds on brand trust and loyalty.

Practically, the findings of our study have important managerial implications for managing VAs in different retailing environments. We discovered that human-like attributes are central to consumer adoption of VAs in retailing contexts (Nigeria and the UK). Additionally, by outlining the flip side of VAs in the retailing contexts, our findings alert retail managers about the potential barriers to enhancing the quality of communication through VAs. Our findings suggest that retail managers should sustain the trust in using VAs while attracting future customers based on the anthropomorphism and convenience attributes of VAs.

5.2 Limitations and further research

Like others, our study also has a few limitations which offer future research directions. First, we explored customer motivations for using VAs in diverse retailing contexts, followed by the challenges of adopting VAs. Finally, we linked the user experience of VAs with brand trust and brand loyalty. However, future research could mainly focus on customer expectations about their experience of VAs. Second, our study focused on retailing in general. However, future research could benefit from the type of products and their value (hedonic vs utilitarian, high vs low involvement products). Third, we stated that the results for both populations were similar, so the data were combined, but we then made a population comparison anyway. We must highlight that this similarity in responses may be because of the selection criteria for participants rather than actual similarities in the broader UK and Nigerian populations. Future research could benefit from doing a broader comparative study of the challenges, outcomes, benefits and prospects of VA usage in two divergent settings. Fourth, we used an exploratory method to explore underlying phenomena. However, future research could use these findings and test the associations using a larger sample and quantitative analyses with various research designs. For example, for customers who are more motivated to shop using VAs, what is the likelihood that they will be satisfied, build trust and remain loyal for a longer period? Finally, our study compared two diverse markets by exploring a cross-market understanding of the user experience of VAs: an emerging market (Nigeria) and a developed market (UK). Future research could bring a more comparative understanding of similarities and differences between such markets with multilevel and multidimensional analysis of user experiences of VAs. In a nutshell, we are confident that our study will motivate future research to develop more generalisable results on user experiences of VAs.

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Further reading

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