

Research Article

Factors Affecting Consumer Resistance toward Smart Voice Assistants Usage For Online Shopping: The Role of Privacy Cynicism And Perceived Creepiness

Akıllı Sesli Asistanların Online Alışverişte Kullanımına Yönelik Tüketici Direncini Etkileyen Faktörler: Gizlilik Sinizmi ve Algılanan Ürkütücülüğün Rolü

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Abstract

As a result of advancements in natural language processing and voice technology, voice assistants have become significant artificial intelligence tools shaping consumer behaviour. However, privacy concerns have been the most important issue that hinders the adoption of Smart Voice Assistants (SVAs). So far, many studies have sought to explain the adoption behaviour patterns of SVAs, and limited research has taken resistance factors in the context of online shopping into consideration. Thus, this study addresses the factors affecting consumer resistance toward SVA usage for online shopping behaviour. Privacy cynicism was used to explain the privacy concerns of consumers and the effects of privacy cynicism and perceived creepiness on resistance intention towards SVAs were examined. A convenience sample method is employed, and the online survey method is used to reach the sample consisting of consumers using SVAs aged 18 and above. A partial least squares structural equation (PLS-SEM) is carried out to process 252 surveys. The results showed that privacy cynicism influences perceived creepiness positively and perceived creepiness has a positive influence on resistance intention. While the direct effect of privacy cynicism on resistance intention is significant, it turns positive and significant through the perceived creepiness. Recommendations were offered to the practitioners and scholars following the findings.

Key Words: Privacy cynicism, Perceived creepiness, Voice assistants, Consumer resistance, Technology adoption

Öz

Doğal dil işleme ve sesli komut teknolojilerindeki gelişmeler sesli asistanları tüketici davranışlarını şekillendiren önemli yapay zekâ araçları haline getirmiştir. Ancak, gizlilik endişeleri akıllı sesli asistanların benimsenmesini engelleyen en önemli sorunlardan biri olmaya devam etmektedir. Bugüne kadar yapılan çalışmalar sesli asistanların benimsenme davranış kalıplarını açıklamaya çalışmış ancak sınırlı sayıda araştırma çevrimiçi alışveriş bağlamında direnç faktörlerini ele almıştır. Bu nedenle, bu çalışma, tüketicilerin sesli asistanları çevrimiçi alışveriş davranışında kullanmaya yönelik dirençlerini etkileyen faktörleri incelemeyi amaçlamaktadır. Gizlilik kaygılarını açıklamak için gizlilik sinizmi kavramı kullanılmış ve gizlilik sinizminin ve algılanan ürkütücülüğün sesli asistanlara karşı direnç niyeti üzerindeki etkileri incelenmiştir. Çalışmada kolayda örnekleme yöntemi kullanılmış ve 18 ve üzeri yaş aralığında sesli asistan kullanan tüketicilerden oluşan örnekleme ulaşmak için çevrimiçi anket yöntemi uygulanmıştır. Toplamda 252 anketin analizi kısmi en küçük kareler yapısal eşitlik modeli (PLS-SEM) ile gerçekleştirilmiştir. Sonuçlar, gizlilik sinizminin algılanan ürkütücülüğü olumlu yönde etkilediğini, algılanan ürkütücülüğün ise direnç niyetini pozitif yönde etkilediğini göstermiştir. Gizlilik sinizminin direnç niyeti üzerindeki doğrudan etkisi anlamlı olmakla birlikte, bu etki algılanan ürkütücülük

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aracılığıyla pozitif ve anlamlı hale geldiği sonucuna ulaşılmıştır. Bulgular doğrultusunda uygulayıcılara ve akademisyenlere öneriler sunulmuştur.

Anahtar Kelimeler: *Gizlilik sinizmi, Algılanan ürkütücülük, Sesli asistanlar, Tüketici direnci, Teknoloji kabulü*

1. Introduction

The rapid advancement of technology and prevalent usage of smart products (e.g. smartwatches, and smart voice assistants) has been amplifying consumers' privacy concerns about violating personal data (Manikonda et al., 2018). Privacy concerns are attributed to individuals' perceptions regarding the risks and possible undesired outcomes linked to collecting and disseminating their personal information (Yousafzai et al., 2005). This concept encompasses the feelings of threat, uncertainty, or discomfort that consumers may experience regarding the misuse of their data, especially in online environments where they perceive less control over their information in comparison to traditional settings (Rajaobelina et al., 2023, p. 2334).

Despite the negative outcomes, technology offers many advantages to consumers. Especially artificial intelligence, a cutting-edge technology, has penetrated all aspects of our daily lives. Smart voice assistants (hereafter referred to as SVA) are the most common AI-based tools that consumers utilize for a wide range of activities including remembering planned meetings, listening to music, controlling smart home devices, shopping online, and providing forecast info (Cao et al., 2019). SVAs offer consumers the convenience of performing different tasks without interrupting their current activities (e.g. receiving traffic updates or organizing playlists while driving) (Fernandes & Oliveira, 2021). AI-based voice assistants play an important role for companies, as well. They enrich the interactions with companies in the field of customer services etc. (Rhee & Choi, 2020). Despite the potential value offered by SVAs in the field of marketing, the expected increase in usage among both consumers and companies has not been achieved, and even a decline in usage rates has been observed (Huang et al., 2024, p. 1). According to PwC, (2018, p. 4) privacy concerns in terms of data collecting and sharing of companies is the crucial factor causing to resistance to smart voice assistant usage. While privacy concerns in the context of SVAs have gathered significant attention in the academic world (Vilkumar et al., 2021; Mau & Mang, 2024; Handrich, 2021), the question of how consumers can effectively cope with these issues remains still unclear.

The concept of privacy cynicism has emerged as a way to understand how users cope with privacy issues (Hoffmann et al., 2016). Instead of attempting to regain control over their privacy, users may develop a cynical attitude towards privacy, accepting that their data will be collected and used, which influences their interaction with technology (Lutz et al., 2020). This concept is still underexplored in the realm of new technology of consumer adoption (Choi, et al., 2018; Lutz et al., 2020) while in the context of SVA is limited despite its relevance (Acıkgöz & Vega, 2020). Therefore, in this study privacy cynicism was examined as a factor affecting resistance to SVAs for online shopping and the effect of privacy cynicism on perceived creepiness was investigated. The concept of creepiness is particularly linked to technologies that harvest personal information from users and violate the ethical norms upheld by them (Wozniak et al., 2021). Therefore, the mediating role of perceived creepiness between privacy cynicism and resistance intentions was investigated. By doing so, we aim to reach a better understanding on the resistance intention to SVA usage for the online shopping context.

The study contributes to the consumer behaviour literature by introducing and empirically validating the concept of perceived creepiness as a significant predictor of resistance to SVA usage in online shopping contexts. This research is the first to explicitly link privacy cynicism with perceived creepiness and resistance intention, highlighting the mediating role of perceived creepiness. Although there are a few studies (Raff et al., 2024; Mou & Mang, 2023) on the antecedents of perceived creepiness, addressing perceived cynicism emerges as a gap in the literature. By doing so, it extends the understanding of psychological barriers that consumers face when adopting new technologies, especially concerning privacy concerns. Moreover, the current study enriches the SVA literature by exploring how privacy-related factors, often discussed in broader technology acceptance models, specifically impact consumer resistance within the domain of SVAs used for online shopping. While there is extant literature on the adoption of SVA usage from acceptance perspective, approaching from the resistance perspective has been neglected. Thus, this study contributes to the innovation resistance theory literature in the context of SVA. moreover, mediation analyses provide a significant theoretical perspective for understanding the underlying mechanisms in the relationships between variables. These analyses explain why and how a relationship occurs, providing researchers with deeper insights (Hayes, 2013). Therefore, examining mediation role of perceived creepiness provides deeper understanding either theoretically or practically about the resistance process towards the SVA usage of consumers for online

shopping. This offers a nuanced perspective on consumer cynicism and reluctance, providing valuable insights for future research on privacy and technology adoption in digital marketing environments.

This study aims to examine the effect of privacy cynicism and perceived creepiness on resistance intention towards SVA usage for online shopping. Also, the mediation role of perceived creepiness in the relationship between perceived cynicism and resistance intention. In accordance with literature research model was structured and has been tended to address the following questions: What is the effect of privacy cynicism and perceived creepiness on the resistance toward SVA usage for online shopping? How do perceived cynicism lead to the resistance intention toward SVA usage for online shopping. What is the role of perceived creepiness in this relationship?

This study is organized as follows: Section 2 presents a discussion of various theoretical notions and the construction of hypotheses. Section 3 describes the sampling technique and associated measurements. Section 3 clarifies the outcomes of the data analysis. In Section 5 the theoretical contributions and managerial implications are elaborated, and the limitations and future recommendations are discussed.

2. Literature review

2.1. Smart voice assistants

SVAs are AI-based tools that facilitate interaction between users and technology through voice commands and natural language processing (Chattaraman et al., 2019). SVAs can be integrated into a range of consumer devices, including smartphones, speakers, smartwatches, and smart TVs, enabling users to control multiple devices effortlessly from a single interface. Throughout the voice commands they can carry out a variety of functions such as making calls, texting messages or emails, reading text messages, playing music, setting reminders and alarms, and providing information. These features emphasize the convenience and hands-free functionality of AI voice assistants, particularly in scenarios where users are unable to physically interact with their devices, such as while driving or when their hands are busy (Hong & Cho, 2023, p. 2558). By hands-free operation, SVAs can help users perform tasks like making calls or sending messages without taking their attention away from the road, thereby promoting safer driving practices (Larsen et al., 2020). Despite the convenience that SVAs offer and consumer needs for technology, the user rates of SVAs seem low (Voicebot.ai, 2019). Therefore, understanding the factors that contribute to users' reluctance to adopt AI voice assistants is significant.

A large body of literature on SVAs highlights the significance of understanding consumer attitudes, motivations, and concerns to improve the design and adoption of SVAs (Brill et al., 2019; Hong & Cho, 2023). A key focus of the user perspective literature is on privacy and security issues (Vilkumar et al., 2021; Kowalczyk 2018). Consumers frequently have concerns about the intrusive characteristics of SVAs, especially about data collection and the risk of privacy violations. These concerns significantly impact users' trust and their willingness to adopt SVAs (Kowalczyk, 2018; Vilkumar et al., 2021; Singh et al., 2024). A group of studies on SVAs explaining the factors affecting consumer adoption behaviour with the theories of TAM (Davis, 1989), UTAM (Venkatesh & Davis, 2000), SRAM (Wirtz et al., 2018) in the consumer context. Fernandes and Oliveira, (2021) highlight the importance of consumer perceptions of the adoption behaviour. However, motivators of adoption are not enough to explain the non-adoption behaviours (e.g. resistance) of consumers on SVAs (Talwar et al., 2021). So, it is important to examine factors leading to the resistance toward SVAs is important.

A few studies (Handrich, 2021; Jan et al., 2023) examined the resistance factors and addressed the privacy issues leading to resistance behaviour. Also, Rajaobelina et al., (2021) indicated that privacy concerns induce negative feelings such as creepiness that positively affect resistance intention toward SVAs. Raff et al., (2024) introduced perceived creepiness as an antecedent of resistance behaviour. Acıkgöz and Vega, (2022) addressed the privacy cynicism construct that reflects negative feelings and issues related to privacy concerns in SVA usage. Perceived cynicism is a privacy protection strategy to avoid the conflict between privacy issues and technology usage (Hoffmann et al., 2021). Mou and Meng, (2024) suggests privacy-related behaviours (e.g. privacy cynicism) are cognitive responses that need more research to understand. Therefore, we integrated privacy cynicism into our model as an antecedent of perceived creepiness. In this study, perceived creepiness is examined as an antecedent of resistance intention to SVA usage. Also, how privacy cynicism affects creepiness and resistance intention is investigated as a protection strategy.

2.2. Resistance intention

Resistance is defined as “an attitudinal outcome that follows an unfavourable evaluation of a new product (Talke & Heidenreich, 2014, p. 898). Resistance can manifest in three stages: rejection, postponement, and opposition. These stages highlight the varying degrees of resistance ranging from soft to strong that consumers may exhibit toward innovations like AI voice assistants (Kleijnen et al., 2009). According to innovation resistance theory determinants of innovation resistance are categorized into three groups such as innovation characteristics, consumer characteristics, and propagation mechanisms (Ram, 1987). Innovation characteristics are categorized into consumer-dependent and consumer-independent variables. Consumer-dependent variables rely on internal recognition, while consumer-independent variables are influenced by the external environment (Ram, 1987). Research on innovation resistance (Venkatesh & Davis, 2000; Hong & Cho, 2024) has concentrated on the reasons for consumer resistance toward technology in relation to consumer-dependent variables. Consumer characteristics involve both psychological and demographic variables. Psychological variables influence users' willingness to adopt innovations, while demographic variables reflect the capacity to adopt innovations, including factors such as age, education, and income (Ram, 1987). In earlier research, the emphasis was placed on psychological variables and their influencing factors (Mani & Chouk, 2017; Hong & Cho, 2024). The propagation mechanism includes producer-oriented variables, such as marketers, which have often been overlooked (Hong & Cho, 2024). Also, Ram and Sheth (1989) identified various barriers that hinder individuals' willingness to adopt innovations, categorizing them into functional and psychological barriers. Functional barriers are linked to risks associated with product usage, the perceived value of the product, and usage patterns. Psychological barriers stem from users' traditions and norms, as well as their perceptions of the product's image. In this study perceived creepiness was examined as a consumer-related variable and as a psychological barrier that contributes to resistance toward SVA usage for online shopping.

2.3. Perceived creepiness

Perceived creepiness is characterized as "a potentially negative and uncomfortable emotional response accompanied by perceptions of ambiguity regarding a person, technology, or a specific situation" (Langer & König, 2018, p. 3). Consumers often report experiencing a sense of creepiness when engaging with human-like machine interfaces, such as SVAs, that induce negative emotions (Rajaobelina et al., 2021). Earlier studies on creepiness were focused on the form of facial features describing creepiness (Watt et al., 2017), and causes of creepiness (Leander et al., 2012) in the field of social psychology. Barnard, (2014) examined creepiness in the online marketing context and revealed that creepiness negatively affects online purchase intentions. Recent studies in consumer research (Handrich, 2021; Acıkgöz & Vega, 2022; Raff et al., 2024) elaborated on creepiness in the context of AI-based smart products. The concept of creepiness has been particularly linked to technologies that harvest personal information from users and violate the ethical norms upheld by consumers (Wozniak et al., 2021). In this study, we examine perceived creepiness as an antecedent of resistance intention in an online shopping context.

Research on perceived creepiness remains in an early stage. Therefore, it needs further studies to enrich the understanding of the concept, antecedents, and consequences (Langer & König, 2018). Rajaobelina et al., (2021) suggested combining perceived creepiness with the technology paradox to understand consumer behaviour toward technological products such as SVAs. Technology paradox highlights that the adoption of new technology is accompanied by both positive and negative outcomes, which evoke emotional responses and coping strategies that vary based on individual traits (Mick & Fournier, 1998). Hoffman et al., (2016) introduced privacy cynicism which is a cognitive response of consumers to the conflict between privacy concerns and engaging in digital environments as a privacy paradox. In this study privacy cynicism is an antecedent of perceived creepiness. It is the first time in the literature to examine privacy cynicism as a predictor of perceived creepiness.

2.4. Perceived cynicism

Hoffmann et al., (2016) developed the concept of privacy cynicism to enhance our understanding of the privacy paradox, especially in the context of institutional privacy threats. Consumers have conflicts between protecting their privacy and engaging in the digital world. Privacy cynicism refers to a cognitive strategy, being developed by consumers against privacy threads, that allows individuals to disregard privacy concerns while still engaging in online activities without expending much effort on privacy protection (Lutz et al., 2020, p.1168). It is a sense of resignation to cope with the inevitable breaches of their privacy, particularly with AI-driven technologies such as SVAs that rely on big data. It arises when consumers feel that they have little control over their personal information and view privacy violations as unavoidable, leading to a cynical attitude toward

privacy protection efforts (Rajaobelina et al., 2021, p.2341). This results in the belief that efforts to protect privacy are often ineffective or futile (Hoffmann et al., 2016, p.5). Privacy cynicism describes a user's attitude characterized by uncertainty, powerlessness, and mistrust regarding the handling of personal data by digital platforms. It results in the belief that efforts to protect privacy are often ineffective or futile (Hoffmann et al., 2016, p. 5), leading individuals to feel disempowered in their ability to manage their personal information online (Lutz et al., 2020, p. 1174). Despite its relevance research on privacy cynicism in the SVA context is limited. Therefore, in this study privacy cynicism is explored in the context of SVA usage for online shopping.

2.5. Theoretical background and hypotheses

The aim of this study is to understand the reasons behind the consumers' resistance to adopting AI-based applications, such as IPAs from online shopping perspective. Thus, our research employed the framework of innovation resistance theory (Ram, 1987, p. 209). Innovation resistance theory explains the reluctance to accept change and adopt new ideas or technologies. It aims to uncover why individuals, organizations, and societies may hesitate to embrace innovations, as well as the factors that shape their willingness to adopt new technologies. The theory highlights several key elements that contribute to this resistance to change such as perceived threat to existing structures and norms, lack of familiarity, perceived risks and uncertainty etc. (Ram & Seth, 1989). In this study we examined perceived creepiness and privacy cynicism as a factor contributing to resistance towards SVA usage for online shopping within the framework of Innovation Resistance Theory. We elaborate privacy cynicism as a consumer-dependent factor that triggers the perceived creepiness as a psychological factor that leads to resistance to SVA usage. According to the literature, the hypotheses are structured as follows:

Privacy cynicism-perceived creepiness

According to Lutz et al., (2020) creepiness can be understood through the lens of cynicism, especially privacy cynicism, as it pertains to users' feelings of uncertainty and helplessness when using new technologies such as chatbots, and SVAs. As consumers interact with these technologies, they often feel diminished control over their personal data, which can result in discomfort or creepiness. The relationship between creepiness and cynicism is based on how users emotionally and cognitively react to the challenges posed by technology and privacy issues. When users engage with chatbots, they often encounter complex situations where their personal data is at risk, leading to feelings of uncertainty and distrust. This emotional response can manifest as creepiness, as users may feel uncomfortable or uneasy about the technology's ability to handle their information (Rajaobelina et al., 2020). Yip et al., (2019) examined perceived creepiness in children sample and indicated that lack of control is the key factor of creepiness. According to Hoffmann et al., (2016) consumers show a cynical attitude when they experience a lack of control. In this context, it is expected that when consumers use SVAs for online shopping they may feel a lack of control over their data resulting in perceived cynicism that leads to perceived creepiness since they must share their personal and financial data to purchase with credit cards. Therefore, we posit that:

H1. Privacy cynicism positively affects perceived creepiness.

Perceived creepiness-Resistance intention

Creepiness reflects the negative senses in a specific situation (Köchling et al., 2023, p. 2112). Negative feelings may lead to resistance behaviour (Sohn & Kwon, 2020). Handrich, (2021) revealed that perceived creepiness has a positive effect on consumer resistance towards intelligent personal assistants. Raff et al. (2024) revealed that perceived creepiness positively affects resistance on smart home devices. According to Mou and Mang, (2024), privacy concerns induce perceived creepiness that positively affects consumer resistance to intelligent voice assistants. According to the evidence in this study it is expected that using SVAs for online purchases will induce perceived creepiness that will cause to resistance intention. Therefore, we posit that:

H2. Perceived creepiness positively affects resistance intention.

Perceived Cynicism- Resistance intention

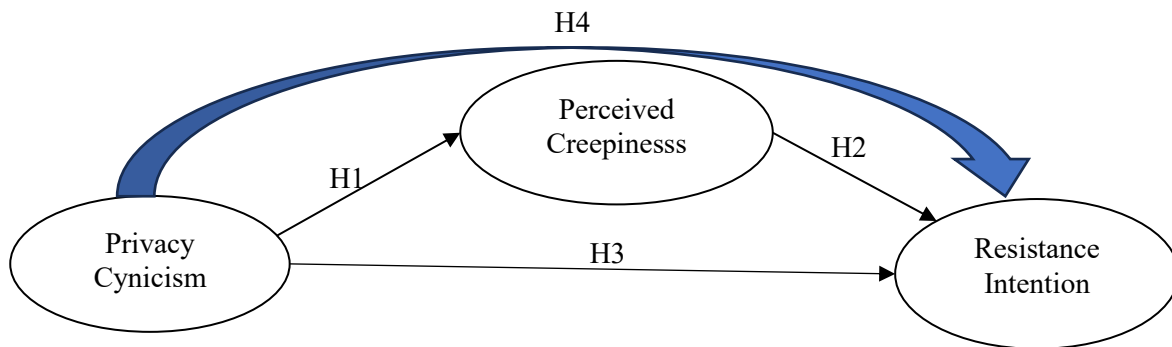
Privacy cynicism has been formed with users' attitudes toward data protection and privacy issues (Hoffmann et al., 2016). According to Lutz and Newlands, (2021) users' expressed behaviours can contradict the concerns. Lutz et al., (2020) show that privacy cynicism negatively affects privacy protection behaviour. Consumers may decline to use technological devices to protect themselves from privacy concerns and anxiety. Thus, in this study, we consider resistance intention as protection behaviour and expect that privacy cynicism will not contribute to resistance intention. We posit that:

H3. Perceived Creepiness negatively affects resistance intention.

According to Mou and Meng (2024), privacy cynicism contributes to a heightened perception of creepiness, which can lead to increased consumer resistance to SVAs, as users become more wary of the potential privacy risks associated with these technologies (H1). Raff et al., (2024) revealed that perceived creepiness positively affects resistance on smart home devices (H2). Lutz et al., (2020) show that privacy cynicism negatively affects privacy protection behaviour (H3). Thus, it is expected that perceived creepiness mediates the relationship between privacy cynicism and resistance intention. Therefore, we posit that:

H4. Perceived creepiness has a mediation role between privacy cynicism and resistance intention toward SVA usage for online shopping. Figure 1 demonstrates the research model of the study.

Figure1: Research model



3. Methodology

3.1. Sample

Firstly, the necessary ethical permissions were obtained from the Ethics Committee of the Hatay Mustafa Kemal University (HMKU-ETK-2024-04) to conduct the research. The sample consists of voice assistant users, aged 18 and above in Turkey. A convenience sampling method was applied to reach the sample units, to represent the general population. Convenience sampling is a non-probability sampling method where participants are selected based on their availability, accessibility, or proximity to the researcher, rather than using random selection. This is an effective and popular method which is often used when time, resources, or accessibility constraints make probability sampling impractical (Etikan et al., 2016, p. 2). Data were collected through an online survey; and delivered to participants via online channels such as WhatsApp, Instagram, and e-mail.

Table 1 shows the demographic characteristics of the sample. According to the results, half of the sample is female, and most of the participants are in the 18–25 age group. The majority of consumers use SVA one or two times a week. Participants commonly use SVAs for setting alarms (29.4%), checking the weather forecast (26.2%), and online shopping (15.9%).

Table 1: Demographic Characteristics of the Sample

Variable	Categories	N	%
Gender	Female	128	50.8
	Male	124	49.2
	Total Sum	252	100
Age	18-25	160	63.5
	26-35	59	23.4
	36-45	28	11.1
	46+	5	2.0
	Total Sum	252	100

Income	-10000	87	34.5
	10001-20000	62	24.6
	20 001-30000	61	24.2
	30 001-50 000	27	10.7
	50001- +	5	2.0
	Total Sum	252	100
SVA usage Purposes	Setting alarm	74	29.4
	Checking weather forecast	66	26.2
	Online Shopping	40	15.9
	Playlist organizing	30	11.9
	Others	147	58,3
SVA Usage Frequency	1-2 times per year	14	5.56
	1-2 times per month	50	19.8
	1-2 times per week	93	36.9
	Non	46	18.3
	Everyday	49	19.4

3.2. Procedure and analysis

The questionnaire includes two parts, with a paragraph providing information about the research. The first part contains questions about the demographic characteristics of the participants. The second part consists of scales measuring perceived creepiness, resistance intention, and behavioural intention constructs. Twelve items were employed to assess all the constructs. Scales that have been validated and found reliable in the literature were used. All items were adapted from the current literature to enhance the validity and reliability of the measurement model. The perceived creepiness scale (Raff et al., 2024), consisting of seven items, was adapted to the context of the current study. Resistance intention was measured using three items modified from the research by Handrich (2021). Perceived cynicism items were adapted from the study by Acikgoz and Vega (2020). A five-point Likert scale (1 = strongly disagree, 5 = strongly agree) was employed. A total of 252 surveys were analysed to test the hypothesis. The hypotheses were tested using partial least squares structural equation modelling (PLS-SEM) with Smart PLS 4 software.

4. Findings

First, the demographic properties of the sample were described. Then, the hypotheses were tested using partial least squares structural equation modelling (PLS-SEM) with Smart PLS 4 software.

4.1. Common method bias

CMB was checked with (VIF) scores which are recommended to be lower than of 3.3 threshold (Kock, 2015). As seen in Table 6 inner VIF values are lower than 3.3 confirming the data were not contaminated with CMB errors (Kock & Lynn, 2012).

4.2. Measurement model assessment

First, CFA was carried out to evaluate the measurement model of research. In this context reliability, convergent validity, and discriminant validity are checked. As seen in Table 4 all factor loadings were greater than 0.70 and AVE exceeded the recommended limit of 0.50 which justified convergent validity (Bagozzi & Yi, 1988).

Reliability is assessed with CR, Cronbach's alpha, and AVE scores. Cronbach's alfa ranged from 0.744 to 0.956, CR values were greater than 0.70, and AVE scores were greater than 0.50 showing that all scales are reliable (Fornell & Larcker, 1981). The results of the measurement model are demonstrated in Table 4.

Discriminant validity is assessed with Fornell and Larcker criteria and HTMT ratios (Henseler et al., 2015). Table 2 shows that the square root of AVE values of all the reflective constructs is higher than the inter-construct correlations which confirm Fornell Larcker criteria have been achieved (Fornell and Larcker, 1981). Henseler et al., (2015) recommend that the HTMT ratios of each construct should be lower than 0.90 to establish discriminant validity. As seen in Table 3 HTMT ratio of all constructs was lower than 0.390 justifying the discriminant validity of the measurement model.

Table 2: Fornell Larcker Criteria Evaluation

Factors	Creepiness	Cynicism	Resistance
Creepiness	0,890		
Cynicism	0,270	0,890	
Resistance	0,350	0,106	0,867

Table 3: Heterotrait-Monotrait Ratio (HTMT)

Factors	Creepiness	Cynicism	Resistance
Creepiness			
Cynicism	0,310		
Resistance	0,389	0,143	

Finally, the fit indices of the measurement model were assessed. As seen in Table 5 shows, the model yielded a good fit ($SRMR < 0.10$, $NFI \geq .80$). Thus, the validity and reliability analyses of the measurement model were completed resulting in construct validity of the measurement model achieved.

Table 4: Results of the Measurement Model

Constructs	Labelled items	Factor Loadings	Cronbach Alfa	CR	AVE
Perceived Creepiness	CRP1. When data privacy, and privacy violations are considered, having this SVAs in my room would creep me out.	0.807	0.956	0.964	0.791
	CRP2. When data privacy, and privacy violations are considered, this SVA is creepy.	0.861			
	CRP3. When data privacy, and privacy violations are considered this SVA makes me feel uncomfortable.	0.922			
	CRP4. When data privacy, and privacy violations are considered this SVA gives me an eerie feeling.	0.913			

	CRP5. When data privacy, and privacy violations are considered this SVA creeps me out.	0.907			
	CRP6. When data privacy, and privacy violations are considered I feel uneasy toward this SVA.	0.909			
	CRP7. When data privacy, and privacy violations are considered I feel insecure around this SVA.	0.903			
Resistance	RESIST1. I will not use voice assistants for shopping purposes.	0.880	0.835	0.884	0.793
	RESIST2. Using voice assistants for online shopping will not be wise.	0.856			
	RESIST3. I will not recommend voice assistants to others for online shopping	0.864			
Cynicism	CYN1. I have become less interested in online privacy issues.	0.855	0.744	0.901	0.752
	CYN2. I have become less enthusiastic in protecting personal information provided to online vendors.	0.925			

Table 5: Model Fit

	Saturated model	Estimated model
SRMR	0,053	0,053
d_ ULS	0,217	0,217
d_ G	0,215	0,215
Chi-square	338,597	338,597
NFI	0,860	0,860

The measurement model was assessed with VIF (multicollinearity), R² (explanatory power), f² (effect size), and Q² (prediction size) coefficients (Table 6). Inner VIF scores of all constructs are below 5 (Hair et al., 2018, p. 194) which indicates there is no multicollinearity problem of constructs. R² scores of the endogenous variables were found as 0.123 and 0,036 respectively for resistance intention and usage intention indicating that %12 of resistance intention and %4 of usage intention is explained by the model. According to Cohen, (1992) the f² value ranged from 0.02 and above indicates a low effect size; 0.15 and above indicates a medium effect size; 0.35 and above indicates a high effect size. In the model, the effect size of perceived creepiness on resistance (f²=0.140, R²=0.123) is at medium level, whereas the effect size of resistance intention on usage intention is low (f²=0.037, R²=0.036). The Q² the coefficient reflects predictive power of dependent variables, A value greater than zero indicates dependent variables of the research model have predictive power (Hair et al., 2018). As seen in Table 6, Q² coefficients are positive indicating dependent constructs of our model have predictive power.

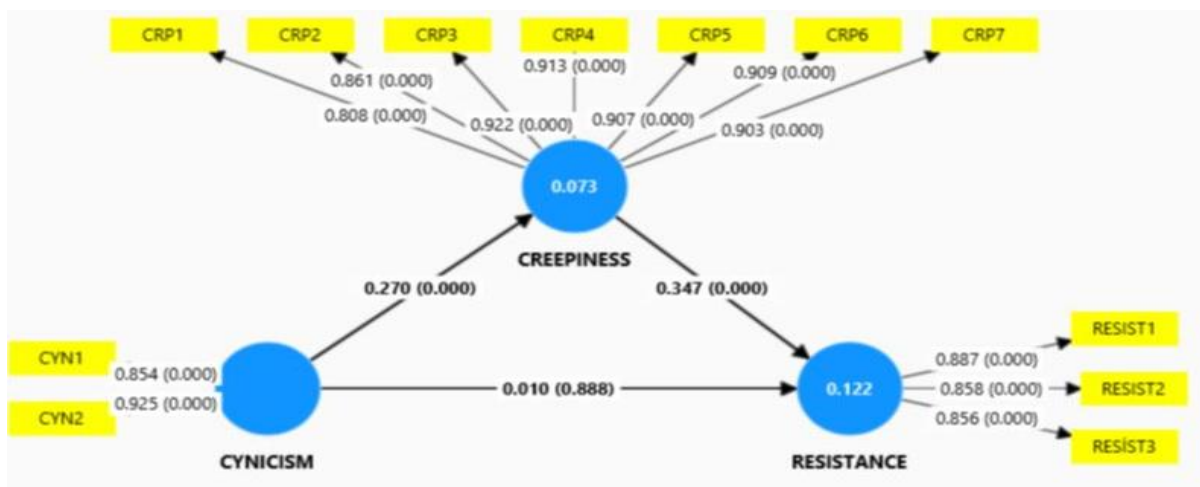
Table 6: Measurement Model Results

Constructs	VIF	f ²	R ²	Q ²
Perceived Creepiness -> Resistance Intention	1,079	0,127	0,001	0,001
Privacy Cynicism -> Resistance Intention	1,079	0,000		
Privacy Cynicism -> Perceived Creepiness	1,000	0,079	0,069	0,062

4.4. Hypotheses testing

The hypotheses of the structural model were tested with Smart PLS 4.1.0.6. Results of structural model analyses are shown in Figure 2 and Table 7.

Figure 2: Results of structural model analyses



The results showed that the effect of perceived cynicism on perceived creepiness is positive ($\beta = 0.27$, $p = 0.00$), H1 supported. The effect of perceived creepiness on resistance intention to use SVA is positive ($\beta = 0.347$, $p = 0.00$), that H2 supported. Also, the effect of perceived cynicism on resistance intention is positive but insignificant (H3 unsupported). Mediation effects were tested using confidence intervals (the lowest and highest confidence intervals) of specific indirect effects. As seen in Table 6, the values were different from the zero, within the desired range. According to the mediation analysis result perceived creepiness mediates the relationship between perceived cynicism and resistance intention towards SVA usage for online shopping (H4 supported).

Table 7: Results of The Structural Model

Hypothesis	β	B	Standard Deviation	t statistics	P	Supported/Rejected
H1. Perceived Cynicism->Perceived Creepiness	0,270	0,275	0,064	4,219	0,000	supported

H2. Perceived Creepiness->Resistance Intention	0,347	0,351	0,066	5,248	0,000	supported
H3. Perceived Cynicism->Resistance Intention	0,010	0,008	0,071	0,141	0,888	rejected
Specific Indirect Effects						
Hypothesis	β	BBCI [%2,5; %97,5]	Standard Deviation	T statistics	P	Supported/rejected
H4. Perceived Cynicism->Perceived Creepiness->Resistance Intention	0,094	[0,044; `0,159]	0,029	3,165	0,002	supported

5. Discussion

This study aims to understand the factors affecting consumer resistance towards the SVA usage for online shopping purposes. The effect of privacy cynicism and perceived creepiness on resistance intention is examined. The mediation role of perceived creepiness between the perceived cynicism and resistance intention is examined.

Findings revealed that privacy cynicism positively affects perceived creepiness. Privacy cynicism is a sceptical attitude that encompasses negative emotions such as mistrust, and powerlessness (Hoffmann et al., 2016). According to Rajaobelina et al., (2021) within the framework of privacy cynicism and the privacy concern, consumers are likely to experience feelings of uncertainty, discomfort, and a sense of loss of control. These emotions are associated with the concept of creepiness. Thus, our finding supports the literature.

Another finding indicated that consumers' perception of creepiness positively influences consumer resistance toward SVAs for online shopping. This finding aligns with existing literature (Handrich, 2021; Raff et al., 2024). Handrich, (2021) emphasized the significance of perceived creepiness and privacy concerns in driving resistance behaviour regarding artificial intelligence applications. Sharing personal information, particularly financial data like credit card passwords, through SVAs during online shopping can evoke feelings of creepiness in consumers, ultimately leading to a greater intention to resist their use.

Another finding showed that perceived cynicism positively affects the resistance intention toward SVAs for online shopping through perceived creepiness while the direct effect of privacy cynicism on resistance is insignificant. In other words, perceived creepiness has a full mediation role between perceived cynicism and resistance intention. This finding may stem from the personality traits of the consumers. According to Rajaobelina et al., (2021) individual characteristics of consumers such as technological anxiety effects creepiness. Thus, cynical consumers may not experience creepiness, or anxiety can explain the finding.

This study examined the effect of perceived creepiness and privacy cynicism on the resistance intention towards using SVAs for online shopping. It is concluded that privacy cynicism is not a barrier to adoption of SVAs for Turkish consumers. It becomes a barrier when it arouses creepiness feeling on consumers that lead to resistance intention.

5.1. Managerial implications

This study offers recommendations for marketing managers and companies. Privacy concerns are critical factors contributing to consumer resistance. Therefore, companies must ensure the protection of consumers' data while utilizing this information to deliver more personalized and accurate services through SVAs. Also, companies should be mindful that privacy cynicism, users' scepticism, and negative feelings about how their data is handled, can lead to adverse outcomes. If users develop negative emotions such as creepiness toward SVAs due to privacy concerns, it could hinder future adoption and usage of these technologies. Alternatively, they could leverage privacy cynicism as a competitive advantage. By recognizing and addressing users' privacy concerns, companies can develop strategies that align with user expectations, effectively reducing the privacy paradox that is the phenomenon where users express concern about privacy but continue to use technologies that compromise it. Marketing managers play a crucial role in this context. They need to understand privacy cynicism among SVA users to develop effective marketing strategies that address these concerns and promote the benefits of SVAs. By doing so, they can help eliminate the negative effects associated with privacy cynicism, fostering a more positive relationship between users and voice assistant technologies. Marketing managers must be sensitive to the privacy concerns of the consumers and communicate transparently about how consumer data is used and protected to mitigate feelings of creepiness to promote future adoption of SVAs.

5.2. Limitations and suggestions for future

This study has some limitations. A limitation of this study is the use of convenience sampling, which restricts the ability to generalize the findings. Also, the majority of the sample consists of consumers aged between 18 and 25. Concentrating on a single age group may constrain the generalization of the research results. Hence, future studies are encouraged to enhance sample diversity by incorporating participants from various age groups. Also, we have recommendations for further studies. Further studies can integrate privacy concerns into the model as an antecedent of cynicism. Incorporating Individual differences and trust into the model may enrich the understanding of resistance toward SVA usage for online shopping.

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Arastırma Makalesi

Factors Affecting Consumer Resistance toward Smart Voice Assistants Usage For Online Shopping: The Role of Privacy Cynicism And Perceived Creepiness

Akıllı Sesli Asistanların Online Alışverişte Kullanımına Yönelik Tüketici Direncini Etkileyen Faktörler: Gizlilik Sinizmi ve Algılanan Ürkütücülüğün Rolü

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Genişletilmiş Özet

Doğal dil işleme ve sesli komut teknolojilerindeki gelişmeler sesli asistanları (SA) tüketici davranışlarını şekillendiren önemli yapay zekâ araçları haline getirmiştir. Ancak, gizlilik endişeleri akıllı sesli asistanların benimsenmesini engelleyen en önemli sorunlardan biri olmaya devam etmektedir. Bugüne kadar yapılan çalışmalar sesli asistanların benimsenme davranış kalıplarını açıklamaya çalışmış ancak sınırlı sayıda araştırma çevrimiçi alışveriş bağlamında direnç faktörlerini ele almıştır. Bu nedenle, bu çalışma, tüketicilerin sesli asistanları çevrimiçi alışveriş davranışında kullanmaya yönelik dirençlerini etkileyen faktörleri incelemeyi amaçlamaktadır. Gizlilik kaygılarını açıklamak için gizlilik sinizmi kavramı kullanılmış ve gizlilik sinizminin ve algılanan ürkütücülüğün sesli asistanlara karşı direnç niyeti üzerindeki etkileri incelenmiştir.

Akıllı sesli asistanlar (SA) kullanıcılar ve teknoloji arasındaki etkileşimi sesli komutlar ve doğal dil işleme yoluyla kolaylaştıran yapay zekâ tabanlı araçlardır (Chattaraman ve diğerleri, 2019). SA, akıllı telefonlar, hoparlörler, akıllı saatler ve akıllı televizyonlar gibi çeşitli tüketici cihazlarına entegre edilebilir ve bu sayede kullanıcıların birden fazla cihazı tek bir arayüz üzerinden zahmetsizce kontrol etmelerini sağlar. Sesli komutlar aracılığıyla arama yapma, mesaj veya e-posta gönderme, mesajları okuma, müzik çalma, hatırlatıcı ve alarm kurma, bilgi sağlama gibi çeşitli işlevleri yerine getirebilirler (Hong & Cho, 2023, p.2558).

SA'nın sunduğu kolaylıklara ve tüketicilerin teknolojiye olan ihtiyacına rağmen, akıllı sesli asistanların kullanıcı oranları düşük görünmektedir (Voicebot.ai, 2019). Bu nedenle, sesli asistanlara karşı tüketici direncini etkileyen anlamak önem arz etmektedir. Bu çalışmanın amacı gizlilik sinizmi ile algılanan ürkütücülüğün sesli asistanlara karşı tüketici direnci üzerindeki etkisi ile birbirleri arasındaki ilişkileri araştırmaktır. Bu bağlamda çalışmanın modeline ilişkin literatür taraması ile hipotezler aşağıdaki gibidir.

Gizlilik Sinizmi- Algılanan Ürkütücülük

Gizlilik sinizmi kullanıcıların akıllı sesli asistanlar (SA) gibi yeni teknolojileri kullanırken hissettikleri belirsizlik ve çaresizlik duygularıyla ilgilidir. Tüketiciler bu teknolojilerle etkileşime girdiklerinde, kişisel verileri üzerindeki kontrollerinin azaldığını hissedebilirler. Bu durum rahatsızlık veya ürkütücülük ile sonuçlanabilir (Lutz ve diğerleri, 2020). Ürkütücülük ve şüphecilik arasındaki ilişki, kullanıcıların teknoloji ve gizlilik sorunları karşısında duygusal ve bilişsel olarak nasıl tepki verdiklerine dayanır. Kullanıcılar Chat botlarla etkileşime girdiklerinde, kişisel verilerinin risk altında olduğu karmaşık durumlarla karşılaşılır ve bu da belirsizlik ve güvensizlik duygularına yol açar. Bu duygusal tepki, kullanıcıların teknolojinin bilgilerini yönetme becerisi konusunda rahatsız veya huzursuz hissetmeleri nedeniyle ürkütücülük olarak kendini gösterebilir (Rajaobelina ve diğerleri, 2020). Yip ve diğerleri (2019), çocuk örneğinde algılanan ürkütücülüğü incelemiş ve kontrol eksikliğinin ürkütücülüğün temel faktörü olduğunu belirtmiştir. Hoffmann ve diğerlerine (2016) göre, tüketiciler kontrol eksikliği yaşadıklarında şüpheli bir tutum sergilerler. Bu bağlamda, çalışmanın hipotezi aşağıdaki gibidir.

H1. Gizlilik sinizmi, algılanan ürkütücülüğü olumlu yönde etkiler.

Algılanan Ürkütücülük- Direnç Niyeti

Ürkütücülük, belirli bir durumda ortaya çıkan olumsuz duyguları yansıtır (Köchling ve diğerleri, 2023, p.2112). Olumsuz duygular, direnç davranışına yol açabilir (Sohn & Kwon, 2020). Handrich (2021), algılanan ürkütücülüğün, akıllı kişisel asistanlara karşı tüketici direncini olumlu yönde etkilediğini ortaya koymuştur. Raff ve diğerleri (2024), algılanan ürkütücülüğün, akıllı ev cihazlarına yönelik direnci olumlu yönde etkilediğini göstermiştir. Mou ve Mang' e (2024) göre gizlilik endişeleri, algılanan ürkütücülüğü artırır ve bu da tüketicilerin akıllı sesli asistanlara karşı dirençlerini olumlu yönde etkiler. Bu kanıtlara dayanarak, çalışmanın hipotezi:

H2. Algılanan ürkütücülük, direnç niyetini olumlu yönde etkiler.

Algılanan Şüphencilik- Direnç Niyeti

Gizlilik sinizmi, kullanıcıların veri koruma ve gizlilik sorunlarına yönelik tutumlarıyla şekillenmiştir (Hoffmann ve diğerleri, 2016). Lutz ve Newlands' e (2021) göre, kullanıcıların sergiledikleri davranışlar, endişeleriyle çelişebilir. Lutz ve diğerleri (2020), gizlilik sinizminin gizlilik koruma davranışını olumsuz etkilediğini göstermiştir. Tüketiciler, gizlilik endişelerinden ve kaygılardan korunmak için teknolojik cihazları kullanmayı reddedebilirler. Bu çalışmada, direnç niyeti bir koruma davranışı olarak ele alınmakta ve gizlilik sinizminin direnç niyetine katkıda bulunmayacağı beklenmektedir. Bu nedenle çalışmanın hipotezi:

H3. Gizlilik sinizmi direnç niyetini olumsuz etkiler.

Mou ve Meng'e (2024) göre gizlilik sinizmi, artan bir ürkütücülük algısına katkıda bulunur ve bu da tüketicilerin akıllı sesli asistanlara karşı direncini artırır, çünkü kullanıcılar bu teknolojilerle ilişkili potansiyel gizlilik risklerine karşı daha temkinli hale gelirler (H1). Raff ve diğerleri (2024), algılanan ürkütücülüğün akıllı ev cihazlarına karşı direnci olumlu yönde etkilediğini göstermiştir (H2). Lutz ve diğerleri (2020), gizlilik sinizminin gizlilik koruma davranışını olumsuz etkilediğini ortaya koymuştur (H3). Bu nedenle, algılanan ürkütücülüğün gizlilik sinizmi ile direnç niyeti arasındaki ilişkiye aracılık edeceği beklenmektedir. Bu nedenle şu hipotezi öne sürüyoruz:

H4. Algılanan ürkütücülük, gizlilik sinizmi ile SA' nın kullanımına yönelik direnç niyeti arasındaki ilişkide aracılık rolüne sahiptir.

Yöntem

Çalışmanın örnekleme 18 yaş ve üzeri sesli asistan kullanıcılarından oluşmaktadır. Genel nüfusu temsil etmek amacıyla kolayda örnekleme yöntemi uygulanmıştır. Veriler, çevrimiçi anket aracılığıyla toplanmış ve katılımcılara WhatsApp, Instagram ve e-posta gibi çevrimiçi kanallar üzerinden ulaştırılmıştır. Toplamda 252 anketin analizi kısmi en küçük kareler yapısal eşitlik modeli (PLS-SEM) ile gerçekleştirilmiştir.

Ölçüm modelinin geçerliliğini ve güvenilirliğini artırmak amacıyla literatürde doğrulanmış ve güvenilir bulunan ölçekler kullanılmıştır. Algılanan ürkütücülük ölçeği (Raff ve diğerleri, 2024), yedi maddeden oluşmakta olup, mevcut çalışmanın bağlamına uyarlanmıştır. Direnç niyeti, Handrich (2021) tarafından yapılan araştırmadan uyarlanan üç madde ile ölçülmüştür. Algılanan şüphencilik maddeleri ise Acıkgöz ve Vega (2020) çalışmasından uyarlanmıştır.

Veri analizi

Örneklemin demografik özellikleri Spss ile belirlenmiş, hipotezler, SmartPLS4 yazılımı ile kısmi en küçük kareler yapısal eşitlik modellemesi (PLS-SEM) kullanılarak test edilmiştir. Ortak yöntem sapması (VIF) puanları ile kontrol edilmiştir (Kock, 2015). VIF değerleri 3.3' ün olup çalışmada ortak yöntem sapması olmadığı doğrulanmaktadır (Kock ve Lynn, 2012). Araştırmanın ölçüm modelini değerlendirmek için Doğrulayıcı Faktör Analizi (CFA) yapılmıştır Tüm faktör yükleri 0.70'in üzerindedir ve AVE önerilen 0.50'nin üzerindedir. Böylece yakınsak geçerlilik sağlanmaktadır (Bagozzi ve Yi, 1988). Güvenilirlik, CR, Cronbach's alfa ve AVE puanları ile değerlendirilmiştir. Cronbach's alfa 0.744 ile 0.956 arasında değişmektedir. CR değerleri 0.50'nin üzerinde ve AVE puanları 0.70'in üzerindedir. Bu bağlamda ölçeklerin güvenilir olduğu söylenebilir (Fornell ve Larcker, 1981).

Ayrışma geçerliliği, Fornell ve Larcker kriterleri ile HTMT oranları kullanılarak değerlendirilmiştir (Henseler ve diğerleri, 2015). Sonuçlar AVE değerlerinin karekökünün, yapıların arasındaki korelasyonlardan daha yüksek olduğunu göstermektedir, bu da Fornell-Larcker kriterlerinin sağlandığını doğrulamaktadır (Fornell ve

Larcker, 1981). HTMT oranları 0.90'ın altında olup ölçüm modelinin ayırışma geçerliliğini doğrulamaktadır (Henseler ve diğerleri ,2015).

Sonuçlar, algılanan şüpheliğin algılanan ürkütücülük üzerindeki etkisinin pozitif olduğunu göstermiştir ($\beta = 0.27$, $p = 0.00$) (H1 kabul). Algılanan ürkütücülüğün, sesli asistan kullanımına yönelik direnç niyeti üzerindeki etkisi de pozitifdir ($\beta = 0.347$, $p = 0.00$) (H2 kabul). Ayrıca, algılanan şüpheliğin direnç niyeti üzerindeki etkisi pozitif ancak anlamsızdır (H3 ret). Aracılık analizi sonucuna göre, algılanan ürkütücülük, algılanan şüpheliçilik ile çevrimiçi alışveriş için sesli asistan kullanımına yönelik direnç niyeti arasındaki ilişkiye aracılık etmektedir (H4 kabul).

Bu çalışma, pazarlama yöneticilerine ve şirketlere bazı öneriler sunmaktadır. Gizlilik endişeleri, tüketici direncine katkıda bulunan önemli faktörlerdir. Bu nedenle, şirketler sesli asistanlar aracılığıyla kişisel verileri korumalı ve bu verileri daha kişiselleştirilmiş hizmetler sunmak için kullanırken dikkatli olmalıdır. Ayrıca, gizlilik sinizmi, kullanıcıların kişisel verilerinin nasıl kullanıldığına dair şüpheleri ve olumsuz duyguları göz ardı edilmemelidir. Alternatif olarak, gizlilik sinizmi, rekabet avantajı olarak kullanılabilir. Kullanıcıların gizlilik endişelerine yönelik farkındalık geliştirerek, şirketler kullanıcı beklentilerine uygun stratejiler geliştirebilir ve gizlilik paradoksunu azaltabilir. Sesli asistan kullanıcıları arasındaki gizlilik sinizmini anlamalı ve bu endişelere yönelik etkili pazarlama stratejileri geliştirerek sesli asistanların faydalarını vurgulamalıdır. Bu şekilde, gizlilik sinizmi ile ilişkili olumsuz etkiler ortadan kaldırılarak, kullanıcılarla sesli asistan teknolojileri arasında daha olumlu bir ilişki kurulabilir. Pazarlama yöneticileri, tüketicilerin gizlilik endişelerine duyarlı olmalı ve tüketici verilerinin nasıl kullanıldığı ve korunduğu konusunda şeffaf iletişim kurarak, ürkütücülük algısını azaltmalı ve sesli asistanların gelecekteki benimsenmesini teşvik etmelidir.

Bu çalışmada kullanılan kolayda örnekleme yöntemi, bulguların genellenebilirliğini kısıtlamaktadır. Ayrıca, örneklemin büyük çoğunluğunu 18-25 yaş arası tüketiciler oluşturmaktadır. Tek bir yaş grubuna odaklanmak, araştırma sonuçlarının genellenebilirliğini sınırlayabilir. Bu nedenle, gelecekteki araştırmaların farklı yaş gruplarını içeren örneklerle çeşitlendirilmesi önerilmektedir. Ayrıca, gelecekteki çalışmaların, sinizmin bir öncülü olarak gizlilik endişelerini modele dahil etmeleri önerilmektedir. Bireysel farklılıklar ve güvenin modele entegrasyonu, çevrimiçi alışveriş için sesli asistan kullanımına karşı direncin anlaşılmasını daha da zenginleştirebilir.