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ANALYZING PERCEPTIONS TOWARD SMART HOME DEVICES THROUGH THE UTAUT MODEL: A STUDY ON ROBOT VACUUM USERS

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ABSTRACT

This study aims to investigate how users view smart home technology using the Unified Technology Acceptance and Usage Theory (UTAUT) model. In this context, a survey was conducted with 288 robot vacuum cleaner users. In the study, the effects of performance expectancy, effort expectancy, social influence and facilitating conditions on behavioral intention and usage behavior were analyzed. SPSS 25 and AMOS 26 software were used to analyze the data. The research model was tested and validated using structural equation modeling. The results showed that while facilitating factors and behavioral intention influence usage behavior, performance expectancy, effort expectancy, and social influence affect behavioral intention. The study's conclusion included recommendations and theoretical and practical implications.

Keywords: UTAUT Model, Technology Acceptance, Smart Home Appliances, Usage Behavior, Robot Vacuum Cleaners, User Perception

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AKILLI EV ALETLERİNE YÖNELİK ALGILAMALARIN UTAUT MODELİ İLE ANALİZ EDİLMESİ: ROBOT SÜPÜRGE KULLANICILARI ÜZERİNE BİR ARAŞTIRMA

Bulut DÜLEK¹, Hamza KOÇAK², Mehmet Emin YAŞAR³,

ÖZ

Bu çalışma akıllı ev teknolojilerine yönelik kullanıcı algılarını Birleşik Teknoloji Kabul ve Kullanım Teorisi (UTAUT) modeli çerçevesinde incelemeyi amaçlamaktadır. Bu bağlamda robot süpürge kullanıcıları 288 kişi ile anket uygulaması gerçekleştirilmiştir. Araştırmada performans beklentisi, çaba beklentisi, sosyal etki ve kolaylaştırıcı şartların davranışsal niyet ve kullanım davranışı üzerindeki etkisi analiz edilmiştir. Verilerin analiz edilmesinde SPSS 25 ve AMOS 26 yazılımları kullanılmıştır. Araştırma modelinin doğrulanması ve test edilmesinde yapısal eşitlik modellemesi kullanılmıştır. Elde edilen bulgular performans beklentisi, çaba beklentisi ve sosyal etkinin davranışsal niyet üzerinde, kolaylaştırıcı şartlar ve davranışsal niyetin de kullanım davranışı üzerinde etkisi olduğunu ortaya koymuştur. Çalışma teorik ve pratik çıkarımlar ve önerilere yer verilerek nihayete erdirilmiştir.

Anahtar Kelimeler: UTAUT Modeli, Teknoloji Kabulü, Akıllı Ev Aletleri, Kullanım Davranışı, Robot Süpürgeler, Kullanıcı Algısı

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1. INTRODUCTION

The integration of robotic technologies into everyday environments—ranging from domestic cleaning assistants to elderly care robots—has reshaped how individuals interact with machines in routine life. Unlike traditional information technologies that primarily support communication or data processing, social and assistive robots now engage directly with users in physical, emotional, and decision-making domains. Despite this growing presence, the adoption of robotics in personal contexts remains inconsistent, influenced by factors such as perceived usefulness, ease of use, and social encouragement (Christensen et al., 2021). Understanding these dynamics is crucial for designing systems that meet user needs and gain social acceptance. Tor-Kadioğlu (2020) conducted an empirical study specifically examining the usage patterns and user experiences related to robotic vacuum cleaners. This qualitative research provided valuable insights into user profiles, adoption motivations, and perceived advantages and disadvantages of robot vacuums, revealing that autonomous cleaning and time saving were key factors influencing consumer preference. In a study conducted by Vishnupriya and Lilly (2022) in the city of Coimbatore, the level of consumer awareness and preferences regarding robotic vacuum cleaners was investigated. The findings revealed that user experience is shaped not only by the cleaning functionality of the devices but also by their design and technical features. Karamete (2023) approached robotic and traditional vacuum cleaners from a sociological perspective, analyzing their connection to modernism and postmodernism and emphasizing their integration into daily life. From a technological standpoint, Özmen et al. (2024) examined the implementation of artificial intelligence-based image processing techniques in robotic vacuum cleaners for hazard and obstacle detection. Their study highlighted that AI models significantly improve the devices' ability to avoid obstacles and detect environmental threats. Hertzum (2024) found that although robotic vacuum cleaners may underperform in terms of pragmatic quality when compared to traditional manual devices, their autonomous functionality can foster changes in cleaning habits and lead to the formation of emotional bonds between users and machines. Similarly, the study by Avci et al. (2024) explored user satisfaction and continued usage intention of smart robotic vacuums. Despite some dissatisfaction related to battery life, the results indicated that perceived usefulness and overall satisfaction play a key role in users' continued use and willingness to recommend the product to others. Yu et al. (2024) identified key factors contributing to user satisfaction through an analysis of Amazon user reviews, including functionality, smart features, and enhanced capabilities such as mopping. On the contrary, dissatisfaction was primarily driven by insufficient smartness, poor customer service, and connectivity issues. Finally, Bilici (2025) examined the role of individual optimism and innovativeness in shaping consumers' future intention to use smart robotic vacuum cleaners, concluding that both factors have a significant and positive effect.

Smart home technology uses the concept of the Internet of Things (IoT) to connect and share data among devices inside the houses over a Wi-Fi-based wireless network (Morita et al., 2023). Technologies that offer users some level of automated, advanced, or digitally connected services are referred as smart home technology (Sovacool & Del Rio, 2020). Smart home appliances are getting more popular, particularly because of their ability to simplify cleaning, conserve energy, and improve user comfort. With the spread of smart home appliances, it has become more important to understand users' perceptions of these technologies. Users' attitudes and acceptance levels towards technology play a critical role in the success and diffusion of such innovations. Therefore, determining the factors affecting the possession of smart home appliances is of great importance both in academic field and in industrial applications.

Various theoretical models have been developed to explain technology acceptance and use (Davis, 1989; Ajzen, 1991; Rogers, 2003). One of these models is the UTAUT (Unified Technology Acceptance and Use Theory) model. This model offers an integrated framework for presenting the key variables influencing consumers' behavior and intention to adopt new technologies. The model, which includes the dimensions of performance expectation, effort expectation, social influence and facilitating conditions, offers the opportunity to analyze technology acceptance processes comprehensively. The model emphasizes the central role of behavioral intention on usage and the impact of facilitating conditions on both intention and direct usage (Venkatesh et al., 2003). While the Unified Theory of Acceptance and Use of Technology (UTAUT) is widely used to explain technology adoption, extended versions such as TAM2 (Venkatesh & Davis, 2000) and UTAUT2 (Venkatesh et al., 2012) offer additional constructs—such as hedonic motivation and price value—that may enhance explanatory power, especially in consumer contexts. Moreover, its core constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) are particularly relevant for understanding consumer behavior regarding robotic home appliances. This study aims to identify the primary factors influencing user behavior and, to explore how robot vacuum cleaner users perceive this technology in relation to the variables of the UTAUT model. In this context, the findings obtained will both contribute to the field of consumer behavior and form the basis for strategies for marketing smart home technologies.

2. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

UTAUT Model

In order to produce a widely recognized model for technology use, the UTAUT model was first created by integrating eight major technology theories, which are the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), Technology Acceptance Model (TAM), Motivational Model, Theory of Planned Behavior (TPB), a combination of TBP/TAM, PC Usage Model, Diffusion Innovation Theory (IDT), and Social Cognitive Theory (SCT) (Williams et al., 2015). The theoretical model of UTAUT suggests that the actual use of technology is determined by behavioral intention. Technology adoption depends on the direct influence of four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. The term "performance expectancy" describes how much a person thinks that utilizing the system would improve his or her ability to perform at work. A person's perception of how much their significant others think they should utilize the new method is known as social influence. The level of ease of use of the system is referred to as effort expectancy. Facilitating conditions are the degree to which an individual thinks that there is a technical and organizational infrastructure in place that can help users of the system (Venkatesh et al., 2003). The UTAUT model has generally been successfully used and expanded to examine the adoption of numerous information systems and technologies (Al-Qaysi et al. 2020).

Performance Expectancy and Behavioral Intention

Performance expectancy refers to consumers' beliefs that using a product will provide better comfort, effectiveness and benefits (Kabra et al., 2017). The intention to adopt technology is influenced by user expectations about its performance (Sarfaraz, 2017). Users who experience the benefits they get through technology tend to use technology continuously (Lin vd., 2014). Literature shows that performance expectancy is an important determinant of consumers' behavioral intentions toward technology (Venkatesh et al., 2003; Oktal, 2013; Sumak et al., 2017; Chao, 2019; Ruslim, 2023; Yuliantic, 2024). The following hypothesis has been developed based on this information:

H1: Performance expectancy has a positive effect on behavioral intention.

Effort Expectancy and Behavioral Intention

According to Venkatesh et al. (2003), effort expectancy is the level of system usability. The UTAUT model states that an individual's previous technological experience, perceived technical proficiency, the complexity of the technology, and the availability of assets and help to utilize the technology all influence effort expectation (Muriithi et al., 2016). The belief that consumers will be more likely to continue using specific technologies in the future if they consider them to be easy to use is supported by the majority of academic studies (Chaouali et al., 2016, Martins et al., 2014, Queiroz et al., 2021; Erdoğan, 2023). Similar studies have revealed that effort expectancy is a factor affecting behavioral intention. The following hypothesis has been developed based on this information:

H2: Effort expectancy has a positive effect on behavioral intention.

Social Influence and Behavioral Intention

The term "social influence" describes how someone feels that important people, such friends, family, or coworkers, think they need to utilize a specific technology (Venkatesh et al., 2003). Previous research has highlighted the significant impact of social influence in environments where the immediate social environment, including colleagues, peers, and instructors, shapes users' technology adoption (Fu et al., 2020; Menon & Shilpa, 2023; Bali et al., 2024). Positive social impact may decrease perceived risks and adoption difficulties while raising user perceptions of chatbots' utility and use (Terblanche & Kidd, 2022). The following hypothesis has been developed based on this information:

H3: Social influence has a positive effect on behavioral intention.

Facilitating Conditions and Use Behavior

According to Venkatesh et al. (2003), facilitating conditions focus on removing obstacles to system use and typically pertain to people's perceptions of the availability of organizational and technological resources (i.e., knowledge, resources, and opportunities). People are more likely to accept a technology if there are more factors that encourage its use (Erdoğan, 2023). According to Taylor and Todd (1995), facilitating circumstances are outside variables that affect how simple or complex an activity is for a person to carry out. A significant relationship between facilitating conditions and behavioral intention has been discovered in numerous scientific studies (Rodrigues et al., 2016; Mensah et al., 2020; Fitrianie et al., 2021; Çoban et al., 2024). The following hypothesis has been developed based on this information:

H4: Facilitating conditions have a positive effect on use behavior.

Behavioral Intention and Use Behavior

Venkatesh et al. (2003) define behavioral intention as the degree to which a user expresses their desire (intentions and goals) to employ a technology. Behavioral intention is an individual's desire and effort to engage in the underlying behavior (Upadhyay et al., 2022). One direct influence on people's actual use of a given technology is behavioral intention, which is the primary antecedent of usage behavior in the UTAUT model (Durukal, 2020). Attitudes toward behavior and normative beliefs about future technology usage are the indicators used for assessing behavioral intention (Fridayani & Nurmandi, 2019). Previous studies (Indrawati & Marhaeni, 2015; Vărzaru et al., 2021; Karaoğlu, 2022; Meiranto et al., 2024) also concluded that behavioral intention affects usage behavior. The following hypothesis has been developed based on this information:

H5: Behavioral intention have a positive effect on use behavior.

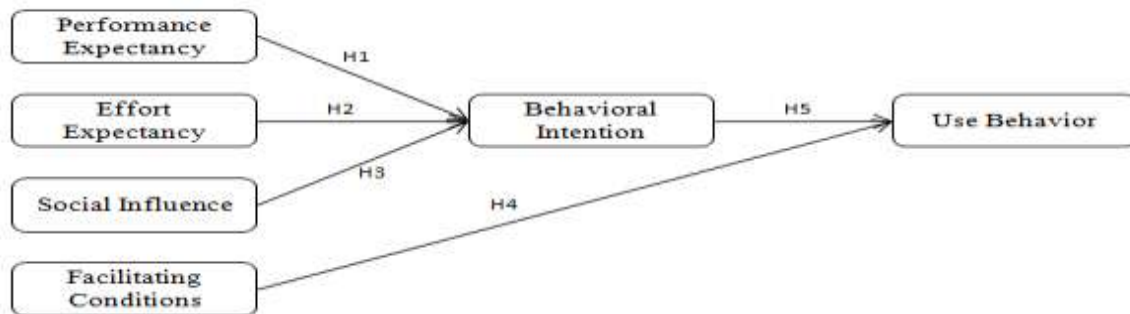


Figure 1. Research Model

3. RESEARCH METHODOLOGY

3.1 Data Collection Process and Sample

The approval of the Ethics Committee for Publications in Social and Human Sciences at Van Yüzüncü Yıl University (Decision No: 29248, Date: 20.03.2025) was obtained. The research was evaluated in accordance with the principles of the ethics committee directive and was deemed ethically appropriate, and permission was granted to conduct the study. Within the context of smart home technology, this research universe comprises people who employ robot vacuum cleaners. Considering that reaching the entire universe was not possible in terms of time and cost, sampling was used. Purposive sampling, a non-probability sampling method, was the sampling methodology employed in the study. Purposive sampling refers to a class of non-probability sampling techniques. Purposive sampling, often referred to as subjective, judgmental, or selective sampling, depends on the researcher's judgment in choosing the units (people, instances, etc.) to be examined (Suwuh et. al, 2022). Accordingly, the study utilized data obtained from 288 robot vacuum cleaner users for the analysis. The selected sample size satisfies the minimum requirements for multivariate analysis, as it exceeds the recommended threshold of at least fifteen participants per independent variable (Stevens, 1996). The sample size used in this study ($n > 200$) is considered adequate and robust for structural equation modeling (SEM) analyses. Previous literature has suggested that a minimum of 200 participants is generally sufficient to obtain stable and reliable parameter estimates in SEM (Siahaan & Thiodore, 2022).

3.2 Research Scales

The UTAUT model developed by Venkatesh et al. (2003) was used in the research. Scale expressions for the dimensions of performance expectation, effort expectation, social influence, facilitating conditions, behavioral intention and usage behavior in the model were also developed by adapting them to robot vacuum cleaner users from the studies of Samartha et al. (2022), Oktal (2013) and Ain et al. (2016).

3.3 Results

3.3.1 Profile of Participants

Table 1.

Profile of Participants

Variables	Groups	f	%
Gender	Female	161	55,9
	Male	127	44,1
	Total	288	100,0
Age	18-25 years old	111	38,5

Occupation	25-33 years old	61	21,2
	34-41 years old	70	24,3
	42-49 years old	36	12,5
	50≥ years old	10	3,5
	Total	288	100,0
	Housewife	28	9,7
	Self-employment	5	1,7
	Private sector	47	16,3
	Public personnel	106	36,8
	Other	102	35,4
	Total	288	100,0

As shown in Table 1, the gender distribution of the participants consists of 55.9% females and 44.1% males. Regarding age and employment status, 38.5% of the participants fall within the 18–25 age group, 24.3% are between the ages of 34 and 41, and 36.8% work in the public sector.

3.3.2 Confirmatory Factor Analysis

The structural validity of the scales employed in this study was examined through confirmatory factor analysis. A good fit is defined as an RMSEA value of less than .08 in the confirmatory factor analysis and reliability analysis procedure, while acceptable fit values are supported by GFI, NFI, RFI, TLI, and CFI values exceeding 0.90 and AGFI values exceeding 0.80 (Schermelleh-Engel et al., 2003). Convergent validity is maintained as the AVE values are below 0.50, the CR values exceed 0.70, and the CR values surpass the AVE values (Fornell & Larcker, 1981). The data support the use of confirmatory factor analysis, given that the fit indices meet the recommended thresholds (Hooper et al., 2008). In addition, the scale demonstrated strong reliability, as evidenced by Cronbach's alpha coefficients above 0.70 across all dimensions (Yaşlıoğlu, 2017).

Table 2.

Factor Analysis and Reliability Analysis Results

Performance Expectancy (AVE=.67; CR=.89; α=.895)	λ
I find it useful to use this tool	,91
I complete my housework faster by using this tool.	,80
Using this tool makes my work more efficient.	,78
I will spend less time on my routine work by using this tool.	,79
Effort Expectancy (AVE=.79; CR=.93; α=.936)	λ
I am willing to use this tool	,89
I think I am skilled at using this tool	,88
I think this tool is easy to use	,89
It is easy for me to learn how to use this tool	,89
Social Influence (AVE=.61; CR=.82; α=.821)	λ
People who influence my behavior think I should use this device	,77
People who are important to me think I should use this	,87
Business officials have helped me use this system.	,70
Facilitation Conditions (AVE=.79; CR=.92; α=.923)	Λ
I have the resources to use this tool	,89
I have the knowledge to use this tool	,92
This tool is not compatible with other systems I use.	,87
Behavioral Intention (AVE=.67; CR=.86; α=.860)	Λ
I plan to continue using this tool.	,81
I would use this tool for my household chores	,81
I will continue using this tool regularly	,84
Use Behavior (AVE=.75; CR=.90; α=.908)	λ
I use this tool frequently for housework	,91
I use many functions of this tool	,87
I trust this tool	,83
Model fit values: $\chi^2=461,980$ $P=.000$ $\chi^2/df=3,00$ $GFI=.87$ $AGFI=.82$ $NFI=.92$ $TLI=.94$ $CFI=.95$ $RMSEA=.079$ $SRMR=.0618$	
Note: λ = Factor loading; α =Cronbach alpha	

Examining the analytical findings reveals that the model's fit values are acceptable. According to the analysis results, it is seen that the acceptable fit value ($\chi^2 / sd = 3.00$) is less than 5 and has a statistically sufficient value.

Statistically significant values are also found in the estimated path coefficients of the observed variables in the model. Examining the scale's factor structures reveals that each factor's AVE value is higher than 0.5 and that its CR values are higher than its AVE values. Convergent validity is therefore attained.

3.3.3 Normality Test

By analyzing the skewness and kurtosis coefficients, one can determine the scale's normality values. The data set is considered to have a normal distribution when the values of the skewness and kurtosis coefficients are within an acceptable range of ± 1 (Hair et al., 2009).

Table 3.

Normality Test Results

Descriptives	Mean	95% Confidence Interval for Mean		Median	Variance	Std. Deviation	Skewness	Kurtosis
		Lower Bound	Upper Bound					
Performance Expectancy	3,70	3,60	3,81	4,00	,833	,91	-,961	,478
Effort Expectancy	3,87	3,76	3,98	4,00	,885	,94	-,872	,175
Social Influence	3,29	3,17	3,41	3,33	1,00	1,00	-,177	-,810
Facilitation Conditions	3,79	3,69	3,90	4,00	,834	,91	-,686	-,003
Behavioral Intention	3,71	3,61	3,81	4,00	,773	,88	-,733	,203
Use Behavior	3,71	3,59	3,82	4,00	,959	,97	-,595	-,314
Note: Minimum=1; Maximum=5								

The normality test results for the obtained data are shown in Table 3. Both the skewness and kurtosis coefficient values are distributed between -1 and 1. Accordingly, it can be said that the data obtained for the current study are normally distributed.

3.3.4 Correlation Analysis Results

Table 4.

Correlation Analysis Results

Correlations	VIF	Performance Expectancy	Effort Expectancy	Social Influence	Facilitation Conditions	Behavioral Intention	Use Behavior
Performance Expectancy	3.33	1	.805**	.438**	.608**	.726**	.659**
Effort Expectancy	3.78	.805**	1	.456**	.722**	.733**	.720**
Social Influence	1.43	.438**	.456**	1	.531**	.461**	.492**
Facilitation Conditions	3.35	.608**	.722**	.531**	1	.791**	.780**
Behavioral Intention	3.60	.726**	.733**	.461**	.791**	1	.833**
Use Behavior		.659**	.720**	.492**	.780**	.833**	1
		.000	.000	.000	.000	.000	.000

Pearson correlation analysis was used to measure the relationship between the variables as the data showed a normal distribution. Table 4 shows the findings of the Pearson correlation analysis. The study shows that there is a significant and positive correlation between the variables. To assess the potential risk of multicollinearity among the independent variables, Variance Inflation Factor (VIF) values were calculated. Although some correlations in the matrix appeared relatively high, all VIF values remained well below the commonly accepted threshold of 5.0 (Hair et al., 2019), indicating that multicollinearity was not a significant concern in this study.

3.3.5 Testing Hypotheses

The hypotheses developed in accordance with the research model were tested using structural equation modeling. All fit indices in the structural equation model of the study were examined and it was seen that all of them had acceptable fit values ($\chi^2/df = 3,176$; GFI = .90; CFI = .93; NFI = .91; TLI = .92; SRMR = .061; RMSEA = .076). These findings show the validity of the theoretical structural equation model (Schermmelleh-Engel et al., 2003).

Table 5.

SEM Results

Paths			β	S.E.	C.R.	P	Support
Performance Expectancy	→	Behavioral Intention	.503	.051	9.860	***	Supported
Effort Expectancy	→	Behavioral Intention	.245	.037	6.539	***	Supported
Social Influence	→	Behavioral Intention	.208	.049	4.225	***	Supported
Facilitation Conditions	→	Use Behavior	.302	.038	7.941	***	Supported
Behavioral Intention	→	Use Behavior	.848	.075	11.241	***	Supported
Model fit values	$\chi^2=492,323$ P=.000 $\chi^2/df=3,176$ GFI=.90 AGFI=.85 NFI=.91 TLI=.92 CFI=.93 RMSEA=.079 SRMR=.061						
Note:	***<0.001						

According to the structural equation modeling results, performance expectancy ($\beta=.503$; $p<.01$), effort expectancy ($\beta=.245$; $p<.01$), and social influence ($\beta=.372$; $p<.05$) have a significant effect on behavioral intention; facilitating conditions ($\beta=.302$; $p<.01$) and behavioral intention ($\beta=.848$; $p<.05$) have a significant effect on usage behavior. It is evident that the model fits the data well when the model fit indices (CFI=.93, TLI=.92, GFI=.90) are examined. RMSEA (.079) and SRMR (.061) values are also within acceptable limits, which shows that the established model is reliable and valid.

4. DISCUSSION AND CONCLUSION

This study used structural equation modeling within the framework of the UTAUT model to investigate the factors influencing the behavioral intents and usage behaviors of robot vacuum cleaner users. The findings reveal that performance expectancy, effort expectancy and social influence have an effect on behavioral intention, while facilitating conditions and behavioral intention have an effect on usage behavior.

First, it was found that performance expectation had a highly significant effect on behavioral intention ($\beta=0.503$). This finding shows that one of the strongest motivations behind individuals' use of smart home technologies is the belief that the system will increase their personal performance. This result supports previous studies (Venkatesh et al., 2003; Sumak et al., 2017; Chao, 2019; Vishnupriya and Lilly, 2022; Ruslim, 2023; Yuliantie, 2024;). It also reveals that behavioral intention is impacted by effort expectation ($\beta=0.245$); therefore, the belief that it will be easy to perform a behavior positively affects the intention to exhibit that behavior (Chaouali et al., 2016, Martins et al., 2014, Queiroz et al., 2021). Perceived benefits may be more significant for influencing behavioral intention than perceived convenience, as shown by the fact that this impact is less pronounced than performance expectation. Among users of robotic vacuum cleaners, dissatisfaction primarily stemmed from insufficient product intelligence, inadequate customer service, and recurring connectivity issues (Yu et al., 2024). It was determined that social influence has a significant and positive effect on behavioral intention ($\beta=0.208$), which is confirmed by above-mentioned studies (Fu et al., 2020; Menon and Shilpa, 2023; Bali et al., 2024). According to this research, users are more likely to adopt an intention that corresponds to the behaviors or expectations of those in their immediate environment.

Another result of the research is the revealing of the effect of facilitating conditions on usage behavior ($\beta=0.302$). Previous studies (Rodrigues et al., 2016; Mensah et al., 2020; Fitrianie et al., 2021; Avci et al., 2024)) have also revealed the existence of a similar effect. According to this conclusion, the availability of the required resources and support structure has an impact on users' capacity to use technology effectively. Finally, the effect of behavioral intention on usage behavior was found to be quite high ($\beta=0.848$) (Indrawati & Marhaeni, 2015; Vărzaru et al., 2021; Karaoğlu, 2022; Meiranto et al., 2024; Bilici 2025). As a result, it shows that consumers may be more likely to execute on their intention of using a certain technology if they have a strong desire to do so.

Theoretical Implications

The results obtained in the study re-revealed the effect of the UTAUT model on behavioral intention and usage behavior. It is emphasized that the effect of facilitating conditions on usage behavior is not only the intention but also the environmental and technical possibilities. Additionally, the role of behavioral intention in explaining usage behavior supports the power of models developed for technology acceptance.

Practical Implications

Considering the findings of the study, the following recommendations can be made to support technology adoption among individuals:

- Systems should be developed with intuitive, easy-to-use interfaces to minimize complexity and encourage usage.
- Involving peers or influential figures as role models can increase users' motivation and confidence.
- Regular training and accessible technical support services should be provided to ease individuals into technology use.

Limitations and Future Research Directions

The demographic composition of the study sample exhibited certain imbalances. Specifically, some occupational groups—such as self-employed individuals—were notably underrepresented. This limitation should be taken into account when assessing the generalizability and applicability of the study's findings. The fact that the study was conducted only with robot vacuum cleaner users may limit the generalizability of the results obtained. In this respect, it would be useful to test the generalizability of the model with comprehensive studies involving different and large user groups. Variables such as personality traits, previous experiences and cultural factors were not taken into account in the model design. Future research may be advised to include these factors into the model in order to improve its explanatory power. It is also recommended to adopt a more specific and segmented approach to user behavior. For instance, the moderating effects of personality traits such as innovativeness, user typologies in the context of smart home technologies, or demographic variables such as gender and income level could be examined.

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ÇALIŞMANIN ETİK İZNİ

Yapılan bu çalışmada “Yükseköğretim Kurumları Bilimsel Araştırma ve Yayın Etiği Yönergesi” kapsamında uyulması belirtilen tüm kurallara uyulmuştur. Yönergenin ikinci bölümü olan “Bilimsel Araştırma ve Yayın Etiğine Aykırı Eylemler” başlığı altında belirtilen eylemlerden hiçbirisi gerçekleştirilmemiştir.

Etik kurul izin bilgileri

Etik değerlendirmeyi yapan kurul adı: Van Yüzüncü Yıl Üniversitesi Sosyal ve Beşerî Bilimleri Yayın Etik Kurulu

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ARAŞTIRMACILARIN KATKI ORANI

1.yazarın araştırmaya katkı oranı %40, 2. yazarın araştırmaya katkı oranı %30, 3. yazarın araştırmaya katkı oranı %30’dur.

Yazar 1: konunun belirlenmesi ve veri analizi bölümlerinde katkı sağlamıştır

Yazar 2: veri analizi ve raporlamada katkı sağlamıştır

Yazar 3: literatür ve verilerin toplanması aşamalarında katkı sağlamıştır

ÇATIŞMA BEYANI

Araştırmada herhangi bir kişi ya da kurum ile finansal ya da kişisel yönden bağlantı bulunmamaktadır. Araştırmada herhangi bir çıkar çatışması bulunmamaktadır.