**FACTORS AFFECTING CONSUMERS' ATTITUDES TO WEARABLE TECHNOLOGY: A SMARTWATCH REVIEW**[[1]](#footnote-1)

Çağrı Sucu[[2]](#footnote-2)1, Saadet Sağtaş[[3]](#footnote-3)2, Yonca Bir[[4]](#footnote-4)3, Murat Koç[[5]](#footnote-5)4

**Abstract**

The world, is in the process of a great digital transformation, where technological systems are being integrated into all areas of life. Digital systems are the result of the fourth industrial revolution. Digital developments affect many sectors and transform the production process of organizations through artificial intelligence and autonomous robots, cloud technology, augmented reality, simulation, system integration, big data, internet of things, 3D printers, cyberspace. These technologies are the building blocks of industry 4.0. Although the internet of things is one of the building blocks of Industry 4.0,, it is a new concept, and it has become more and more in use on a daily basis. It is affecting nations, organizations and industries. One of the sectors affected by all these new developments has been the marketing activities. IoT technologies have brought a new breath to marketing by integrating objects with each other over a wireless network and created a new sector, wearable technologies. Wearable technologies are technological products that can be integrated with the clothes or accessories people wear and can transfer data to integrated devices via sensors in their internal systems. Smart watches are one of the most widely used and well-known products of wearable technologies, which include products such as smart glasses, smart contact lenses, hearing aids, smart earrings, smart headphones, smart watches, smart bracelets, fitness trackers, smart bracelets. With their computer circuit and existing processors, they can be integrated with smart phones as well as being used alone. If smart watches are integrated with the mobile phone, they can perform almost all the operations of the phone. Considering all these features, smart watches are developing day by day and taking place more and more in human life in an increasing rate. Furthermore, these technologies have started to attract the attention of the scientific world. Therefore, this study was conducted with the aim of examining the factors that affect consumers' wearable technology acceptance in a smart watch-specific manner. As a result of the literature review conducted for this purpose, the Technology Acceptance Model is used in this study. The study aims to examine the factors affecting the attitude and intention of smart watch users. Smart watches are considered a good representation of the wearable technology products. In order to examine the effects, this study was conducted with 390 participants using the online survey method. The obtained data were analyzed with SPSS 25 and AMOS 26 programs. As a result of the analysis, it was determined that the perceived usefulness, perceived ease of use and social influence had a positive effect on the attitude. It has been determined that there is a negative effect between the perceived privacy risk and the attitude. It has been determined that attitude has a positive effect on intention. The results of the research are aimed to provide useful information for researchers and application developers interested in wearable technology products.

Keywords: smart watch, wearable technology, technology acceptance model, attitude, intention

**Özet**

Teknolojik sistemlerin hayatın her alanına entegre edilmeye başlandığı, büyük bir dijital dönüşüm sürecinde olan dünya, dördüncü sanayi devriminin getirisi olan dijital sistemleri hem gündelik hayatın hem iş hayıtının her alanında derinlemesine hissetmektedir. Birçok sektörü etkileyerek organizasyonların üretim sürecini de dönüştüren dijital gelişmeler endüstri 4.0’ın yapı taşlarını oluşturan yapay zekâ ve otonom robotlar, bulut teknolojisi, arttırılmış gerçeklik, simülasyon, sistem entegrasyonu, sistem entegrasyonu, sistem entegrasyonu, büyük veri, nesnelerin interneti, 3D yazıcılar, siber güvenlik gibi sistemler ile yepyeni bir boyut kazanmıştır. Endüstri 4.0’ın yapıtaşlarından olan nesnelerin interneti her ne kadar yeni bir kavram olsa da ulusları, organizasyonları ve endüstriyi etkileyerek her geçen gün daha fazla kullanılır hale gelmiştir. Yaşanan tüm bu gelişmelerden etkilenen sektörlerden biri de pazarlama olmuştur. Nesnelerin interneti teknolojileri nesnelerin birbiriyle kablosuz ağ üzerinden entegrasyonunu sağlayarak pazarlamaya yeni bir soluk getirmiş ve yeni bir sektör olan giyilebilir teknolojileri yaratmıştır. Giyilebilir teknolojiler insanların üzerlerine giydikleri kıyafetler ya da aksesuarları ile entegre olabilen ve dahili sistemlerinde yer alan algılayıcılar yolu ile entegre cihazlara veri aktarabilen teknolojik ürünlerdir. Akıllı gözlükler, akıllı kontak lensler, işitme cihazları, akıllı küpeler, akıllı kulaklıklar, akıllı saatler, akıllı bileklikler, fitness takip cihazları, akıllı bilezikler gibi ürünleri bünyesinde barındıran giyilebilir teknolojilerin en sık kullanılan ve en bilinir olan ürünlerinden birisi akıllı saatlerdir. İçlerinde bulunan bilgisayar devresi ve mevcut işlemcileri ile akıllı telefonlarla entegre edilebildiği gibi yalnız başına da kullanılabilen akıllı saatler cep telefonu ile entegre edildiği takdirde telefona ait neredeyse tüm işlemleri yapabilmektedirler. Tüm bu özellikleri göz önünde bulundurulduğunda akıllı saatler her geçen gün gelişerek insan hayatında gün geçtikçe daha fazla yer alırken bilim dünyasının da dikkatini çekmeye başlamıştır. Bu sebeple bu çalışma tüketicilerin giyilebilir teknoloji kabulünü etkileyen faktörlerin akıllı saat özelinde incelenmesi amacı ile yapılmıştır. Bu amaç doğrultusunda yapılan literatür taraması sonucunda bu konuda sıklıkla kullanılan Teknoloji Kabul Modeli’nden yararlanılmaktadır. Çalışmada giyilebilir teknoloji ürünlerinden akıllı saatlerin tutum ve niyete etki eden faktörlerinin incelenmesi amaçlanmıştır. Bahsedilen etkilerin incelenmesi amacıyla çevrimiçi anket yöntemi kullanılarak 390 katılımcıyla çalışma yürütülmüştür. Elde edilen veriler SPSS 25 ve AMOS 26 programları ile incelenmiştir. Analizler sonucunda algılanan fayda, algılanan kullanım kolaylığı ve sosyal etkinin tutum üzerinde olumlu etkisi olduğu belirlenmiştir. Algılanan mahremiyet riski ile tutum arasında olumsuz bir etki olduğu belirlenmiştir. Tutumun niyet üzerinde pozitif etkisi olduğu tespit edilmiştir. Araştırmanın sonuçlarının giyilebilir teknoloji ürünleriyle ilgilenen araştırmacılar ve uygulama geliştiriciler açısından faydalı bilgiler sağlaması hedeflenmiştir.

Anahtar Kelimeler: akıllı saat, giyilebilir teknoloji, teknoloji kabul modeli, tutum, niyet

**INTRODUCTION**

Digital transformation, which is one of the most distinctive features of the century we live in, necessitates need-based development and time tracking (Kalkan, 2022). Changes in the field of automation, which started with the invention of electricity and steam engine and continued with the transition from agriculture-based production to industrial production, showed themselves as the precursors of a great digital transformation (Budak, 2021). This period, called Industry 4.0, emphasizes a technological revolution process shaped by the integration of artificial intelligence-based virtual and physical systems (Kutlu, 2021) (Sedefçi, 2018). The rapid progress in technology, combined with science, has revealed the concept of the Internet of Things along with Industry 4.0. It is among the expectations that the use of the internet of things technology, which has turned into the internet of everything over time and has become a part of daily life and provides advantages in many areas both in terms of time and money, will reach 75 billion devices by 2025 (Alkan & Kırbaş, 2022). Another development that has started to take place frequently in daily life by being integrated with the internet of things is wearable technologies. Wearable technologies (Toker, 2018), is a system based on the principle that simple objects used in daily life could communicate with each other through a wireless connection (Toker, 2018). These technologies are referred in the literature with different definitions such as "wearable devices", "wearable technological products", in general. Essentially they are technological and mechanical products that can be worn by people. In a study conducted in the USA in 2019, it was determined that almost a quarter of adult individuals used GT products, and more than half of these products were smart watches (Kutlu, 2021). This study has been carried out with the aim of examining the factors affecting the acceptance of wearable technologies, which have recently developed rapidly and managed to attract the attention of the scientific world, in a smart watch. It is aimed that this study will contribute to the gap in the literature by drawing attention to wearable technologies. The study consists of four parts. In the first part, after the introduction, the problem, importance, purpose, hypotheses, assumption- limitations, conceptual framework and related literature review of the research are presented, while in the second part, the universe-sample, data collection process, scale information and research model, which constitute the method part of the research, are clarified. In the third part, the findings of the study are explicated in detail, while in the fourth and last part, the conclusion and discussion part is presented.

1. **Conceptual Framework (Literature Review)**

Advances in information technologies and automation have created a huge transformation for industrialized societies. The effect of this change still continues with the dominance of autonomous systems in today's world (Öztemel, 2018). Internet of Things is defined as objects interacting with each other over the internet network, mostly wirelessly. The Internet of Things provides the opportunity to share all kinds of information with each other in real time and to control these devices remotely (Metin, 2019). As a result of the global competitive environment created by the rapid entry of technology into daily life and its continuous development, and consumer expectations and behaviors changing day by day, consumers have been turned into individuals who not only buy products or services, but also participate in the production process by creating value (Uyak Çelik & Onurlu, 2021). Marketing 1.0 has a product-oriented approach to selling products. Instead of taking into account the wishes and expectations of the target market, the focus is on high quality production that will provide functional benefits to the customer (Büyükkalaycı & Karaca, 2019). Contrary to Marketing 1.0, the participation of customers in production processes increased with the widespread use of web 2.0 technologies in the period of marketing 2.0, which emerged from a customer-oriented approach. Depending on this situation, customer-oriented production was started by understanding the demands and expectations of the customers, who have entered into the expectation of personalized products and special needs in line with their special demands with Marketing 2.0, and it is aimed to ensure customer satisfaction. Depending on this situation, users with special needs and demands began to expect personalized products, and manufacturers started to produce "differentiated products" in line with these demands (Gökdemir Ekici, 2020). With the development of marketing 3.0 internet, smart phones, smart watches, social media and mobile applications, where the consumer has gained a soul, the focus of businesses has shifted towards customer networks. Namely, with Marketing 3.0, almost all of the brands have developed some strategies such as publishing content in online channels and creating a community in order to connect with young consumers and create awareness, enabling consumers to distribute the product and message over their personal networks (Erdem, 2022). With the digitalizing world, the process of deciding to purchase and purchasing has also undergone a transformation. With Marketing 4.0, when purchasing products and services, customers no longer focus on products that will satisfy their basic needs and desires, instead they tend to purchase products and services that they can be a part of in the production process. The purpose of Marketing 4.0; to predict the future developments in the market and to carry out current marketing activities based on these predictions. Consumer insights, advanced data management and advanced analytics are key to achieving this goal (Vassileva, 2017). Aksoy (2017) considers Industry 4.0 as a kind of smart production period where every object can communicate with each other through the internet of things. The wearable technology market has grown considerably in recent years. Wearable technology is the name given to products that include technological devices that can be worn by users and can be integrated into any material they carry. These technological devices are equipped with a technology that collects data by monitoring user movements and can be customized according to the wishes of the users (Deringöz et al., 2021). Mann (1998) defined wearable technology as an always open and accessible computer. Wearable technology emerges as an expanded version of the mobile concept that can appear on any device, in any format and anywhere (Karamehmet, 2019). The most important feature that distinguishes wearable technologies from smartphones and computers is motion detection and user tracking. Wearable technologies, which are connected with smartphones or computers, have the ability to receive instant data flow and store this data thanks to the applications installed by the users (Akıncı, 2021). Wearable technologies, which provide instant data transfer by connecting with applications prepared for smartphones, provide the necessary results, direct information flow to the user through the program, by processing the data received from here by mobile applications. Some wearable technologies provide the convenience of providing direct information to the user through the screens on them (Demirci, 2018). Considered to be the first commercial wearable device for consumers, smart watches are one of the technological devices that provide freedom of movement to their users with their practical use and integration with the body (wrist) (Yıldız and Kütahyalı, 2021). Smart watches, which provide much faster and easier access to information in some cases where the use of smartphones is not practical, is considered one of the best technologies of information technologies in recent years (Açıkgöz, 2019). In addition to fulfilling all the functions of a classic watch, it is necessary to integrate smart watches, which are equipped with many modern systems, with smart phones in order to use them with all their functions. Smart watches, which are integrated via remote connection, can achieve almost all the functions that a mobile phone can see, from gps determination to calendar messages and e-mails to calls, as well as monitoring and storing some daily activity and health data such as running speed, heart rate and number of steps (Yıldız & Kütahyalı, 2021).

1. **Methodology and Method of Research**

In addition to four questions asked to the participants to measure demographic characteristics, a three question perceived usefulness scale (Hong & Tam, 2006), three item scale of perceived ease of use (Gao ve Bai, 2013), three item social influence scale (Hong & Tam, 2006), three item perceived privacy risk scale (Lee, 2009; Yang vd. 2012), two question attitude scale (Chuah vd. 2016) and a two question intention to use scale (Chuah vd., 2016) were used. The Turkish version of the statements of the scales was obtained from the study of Marangoz (2017). The questionnaire consisted of sixteen items in total.

The population of the research consists of users over the age of eighteen using smart watches. The sample consists of three hundred and ninety participants included in the research. In order to represent the universe, data were collected by convenience sampling technique, which is one of the non-probabilistic methods in the research. The survey study of the research was carried out between 21.03.2022 and 06.04.2022. Participants were reached through an online survey via Google form.

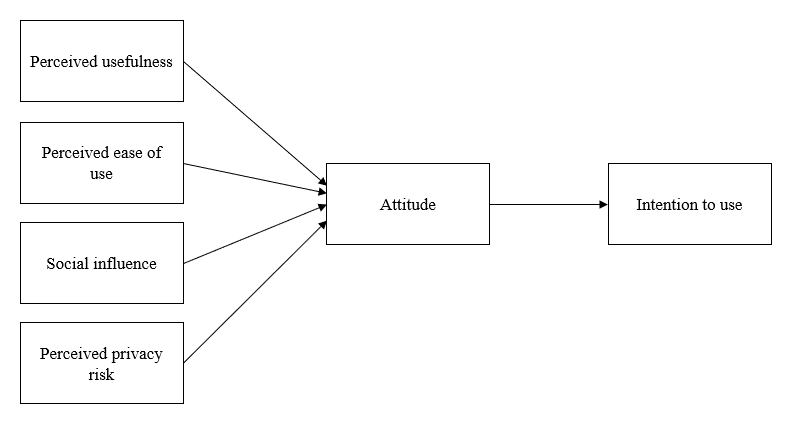
**2.1. Purpose and Importance of the Research**

In the light of developments in information technologies in recent years, smart watches are one of the frequently used products of wearable technological devices. They are integrated with the internet of things technologies and their popularity is on the rise on a daily basis. Additionally these technologies strongly attract the attention of scientific communities world-wide. This study is carried out with the aim of examining the factors that affect consumers' wearable technology acceptance in a smart watch-specific manner. In this direction, it is thought that the subject of the research will contribute to the gap in wearable technology products and related literature. Apart from the researchers who are interested in the subject, it is thought that it may be useful to examine the study for companies and application developers that develop wearable technology products.

**2.2. Model of the Research**

The model of the research consists of the perceived usefulness, perceived ease of use, social impact and perceived privacy risk of smart watch users' attitudes towards the product and the effect of this attitude on the intention to use it.

**Figure 1. Research Model**



**Hypotheses**

H1: Perceived usefulness has a positive effect on the attitude towards smart watches.

H2: Perceived ease of use has a positive effect on attitudes towards smart watches.

H3: Social influence has a positive effect on the attitude towards smart watches.

H4: Perceived privacy risk has a negative effect on the attitude towards smart watches.

H5: Attitudes towards smart watches have a positive effect on smart watch usage intention.

1. **Results**

When the gender distributions are examined according to the answers given by the participants, it is seen that 65.4% are female and 34.6% are male. When the educational status of the participants is examined, it is seen that 52.8% of them are undergraduate, 16.7% are graduate/doctorate, 15.4% are high school graduates, 12.3% are associate degree and 1.3% are primary school graduates. While 50.8% of the participants are married, 49.2% are single. Looking at the age range, it is seen that the participants between the ages of 25-34 constitute the majority with 38.5%, while the least participation is in the 55 and over age group with a rate of 2.1%. Income status of 28.7% of the participants is 7.001 TL and above, while 25.4% of them is 4.500 TL or less.

**Table 1.** **Information on Reliability Analysis of Scales**

|  |  |  |  |
| --- | --- | --- | --- |
| **Dimensions** | **Number of Items** | **Cronbach Alpha Coefficient** | **Reliability Value** |
| Perceived Usefulness | 3 | 0.895 | Highly |
| Perceived Ease of Use | 3 | 0.878 | Highly |
| Social Influence | 3 | 0.942 | Highly |
| Perceived Privacy Risk | 3 | 0.857 | Highly |
| Attitude Towards The Product | 2 | 0.867 | Highly |
| Usage Intent | 2 | 0.830 | Highly |
| Total | 16 | 0.861 | Highly |

When the reliability values ​​are examined, the scale is not reliable when the alpha coefficients are between 0.00 ≤ α˂ 0.40. The reliability of the scale is low when it is between 0.40 ≤α˂ 0.60. The scale is reliable if the alpha coefficients are between 0.60 ≤α˂ 0.80, and highly reliable if it is between 0.80 ≤α˂ 1.00 (Kalaycı, 2010). Considering this situation and examining the alpha values ​​of the scales in Table 1, it is seen that the scales used in the study are among the high reliability values.

Hair et al. (2010) and Byrne (2010) normality values, the data showed normal distribution (skewness -2 to +2, kurtosis -7 to +7) (Doğaner & Özbek, 2019).

**Table 2. CFA Compliance Values ​​of the Technology Acceptance Model**

|  |  |  |  |
| --- | --- | --- | --- |
| **Indicator** | **Good Fit** | **Acceptable Fit** | **Result** |
| X2 / Df | <3 | 3≤( χ2/df) ≤5 | 3.263 |
| GFI | >0.95 | >0.90 | 0.935 |
| AGFI | >0.95 | >0.90 | 0.890 |
| IFI | >0.95 | >0.90 | 0.970 |
| TLI | >0.95 | >0.90 | 0.956 |
| CFI | >0.95 | >0.90 | 0.970 |
| RMSEA | <0.05 | <0.08 | 0.076 |

In Table 2, confirmatory factor analysis (CFA) fit values ​​of the Technology Acceptance Model were examined and when the results were evaluated (X2/Df=3,263, GFI=0,935, IFI=0,970, TLI=0,956, CFI=0,970, RMSEA=0,076) fit indices were found to meet the recommended criteria. X2/Df, GFI, AGFI ve RMSEA values ​​are in the acceptable range of fit values. IFI, TFI ve CFI meets the good fit values.

**Table 3. DFA Fit Values ​​of the Research Model**

|  |  |  |  |
| --- | --- | --- | --- |
| **Indicator** | **Good Fit** | **Acceptable Fit** | **Result** |
| χ2 / df | <3 | 3≤( χ2/df) ≤5 | 2.783 |
| GFI | >0.95 | >0.90 | 0.922 |
| AGFI | >0.95 | >0.90 | 0,883 |
| IFI | >0.95 | >0.90 | 0.968 |
| TLI | >0.95 | >0.90 | 0.957 |
| CFI | >0.95 | >0.90 | 0.968 |
| RMSEA | <0.05 | <0.08 | 0.068 |

The fit values ​​of the research model are examined in Table 3. When the results obtained are examined (X2/Df=2,783, GFI=0,922, IFI=0,968, TLI=0,957, CFI=0,968, RMSEA=0,068) It is seen that the values ​​are within the recommended criteria range. X2/Df, IFI, TLI ve CFI values ​​are in the good fit range. GFI, AGFI ve RMSEA values ​​meet the acceptable fit values.

**Table 4. Results of the SEM Model**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Factor loads** | **t** | **S.E.** | **P** |
| pu1 | <--- | Perceived Usefulness | 0.921 | - | - | - |
| pu2 | <--- | Perceived Usefulness | 0.892 | 20.87 | 0.04 | \*\*\* |
| pu3 | <--- | Perceived Usefulness | 0.846 | 20.36 | 0.04 | \*\*\* |
| peou1 | <--- | Perceived Ease of Use | 0.798 | - | - | - |
| peou2 | <--- | Perceived Ease of Use | 0.939 | 15.72 | 0.08 | \*\*\* |
| peou3 | <--- | Perceived Ease of Use | 0.888 | 14.85 | 0.08 | \*\*\* |
| si1 | <--- | Social Influence | 0.866 | - | - | - |
| si2 | <--- | Social Influence | 0.948 | 27.97 | 0.04 | \*\*\* |
| si3 | <--- | Social Influence | 0.943 | 27.73 | 0.04 | \*\*\* |
| ppr1 | <--- | Perceived Privacy Risk | 0.809 | - | - | - |
| ppr2 | <--- | Perceived Privacy Risk | 0.863 | 16.82 | 0.06 | \*\*\* |
| ppr3 | <--- | Perceived Privacy Risk | 0.784 | 15.93 | 0.06 | \*\*\* |
| \*\*\*p<.001 |  |  |  |  |  |

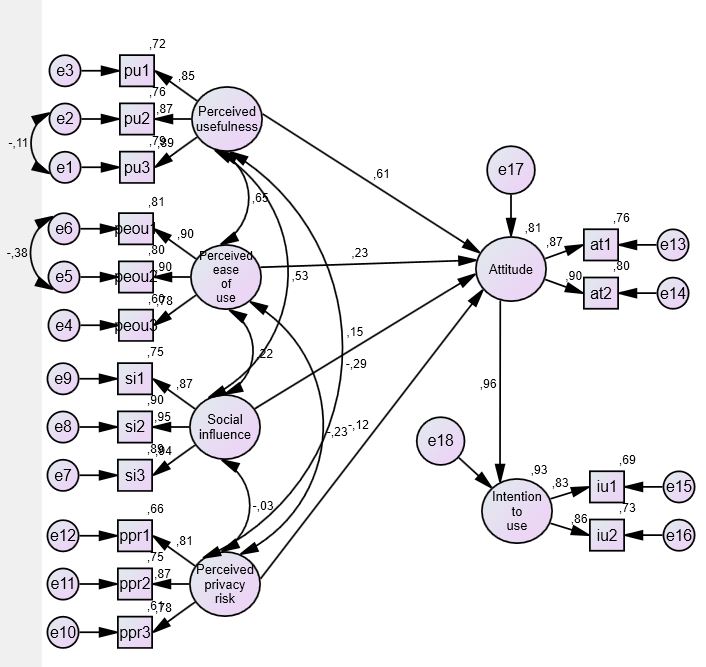
In Table 4, the factor loads ​​of the scale items are examined. In the table, factor loads were acceptable (>.32). When Table 4 is examined, it is seen that the coefficients of the model are significant when the p value is accepted as p<0.001.

**Table 5. Examination of the Model's Path Coefficients and Hypothesis Analysis**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Factor** | **Direction** | **Factor** | **Hypothesis** | **Estimate** | **S.E.** | **t** | **P** |
| Attitude | <--- | Perceived Usefulness | H1 | 0.503 | 9.527 | 0.053 | \*\*\* |
| Attitude | <--- | Perceived Ease of Use | H2 | 0.266 | 4.787 | 0.056 | \*\*\* |
| Attitude | <--- | Social\_Influence | H3 | 0.138 | 3.925 | 0.035 | \*\*\* |
| Attitude | <--- | Perceived Privacy Risk | H4 | -0.119 | -3.509 | 0.034 | \*\*\* |
| İntention | <--- | Attitude | H5 | 1.045 | 19.785 | 0.053 | \*\*\* |

\*\*\*p<.001

**Figure 2. Path Analysis of the Model**



In Table 5, information about the model path coefficients and hypothesis analysis of the research is presented. In this research, 5 hypotheses were established (H1: Perceived usefulness has a positive effect on the attitude towards smart watches, H2: Perceived ease of use has a positive effect on the attitude towards smart watches, H3: Social influence has a positive effect on the attitude towards smart watches, H4: Perceived privacy risk H5: Attitude towards smart watches has a positive effect on smart watch usage intention). When Table 5 is examined, it was found that the path coefficients of the five hypotheses examined in the study were in the desired value range. [H1 (β=0,503, p=0,001), H2 (β=0,266, p=0,001), H3 (β=0,138, p=0,001), H4 (β=-0,119, p=0,001) and H5 (β=1,045, p=0,001)]. As a result of the analysis, R-square (R 2 ) value of 0.78 for attitude and 0.93 for intention to use were observed.

**Table 6. Examination of Summary States of Hypotheses**

|  |  |
| --- | --- |
| **Hypothesis** | **Situation** |
| H1*:* Perceived usefulness has a positive effect on the attitude towards smart watches. | SUPPORTED |
| H2: Perceived ease of use has a positive effect on the attitude towards smart watches. | SUPPORTED |
| H3: Social influence has a positive effect on the attitude towards smart watches. | SUPPORTED |
| H4: Perceived privacy risk has a negative effect on the attitude towards smart watches. | SUPPORTED |
| H5: Attitudes towards smart watches have a positive effect on smart watch usage intention. | SUPPORTED |

As a result of the examination of the summary of the hypotheses, it is seen that all the hypotheses of this study are supported. Analysis of the summary of the hypotheses is given in Table 6.

**CONCLUSION**

This study was carried out with the aim of examining the factors that affect consumers' wearable technology acceptance in a smart watch-specific manner. As a result of the literature review conducted for this purpose, the Technology Acceptance Model is used. In order to reveal the perceived usefulness, perceived ease of use, social influence, perceived privacy risk, attitude and intention to use smart watches, first of all, the relevant literature was searched and the concepts related to the subject were introduced. The research was conducted with 390 participants using the online survey method. When the demographic findings are examined, it is seen that 65.4% of the participants are female and 34.6% are male. In terms of educational the majority of participants are undergraduates with 52.8%, and when the marital status is evaluated, the majority are married with 50.8%, and when the age range variable is considered, it is seen that the participants between the ages of 25-34 constitute the majority with 38.5%. While 28.7% of the participants have an income of 7.001 TL and above, 25.4% have 4.500 TL or less. When the reliability analyzes of the scales are evaluated, it is seen that the Cronbach alpha coefficients have a high degree of reliability (0.80 ≤α˂ 1.00). When the normality values ​​of the scale and its expressions (kurtosis and skewness) are examined, it is seen that the skewness values ​​of the scale and scale items are between -2 and +2 values, and the kurtosis values ​​are between -4 and +4 values. The data showed a normal distribution. When the structural equation model and CFA fit values ​​were examined and the results obtained were evaluated, it was seen that the fit indices met the recommended criteria. While X2/Df, GFI, AGFI and RMSEA values ​​are in the acceptable range of fit values, IFI, TFI and CFI meet the good fit values. When the results of the CFA fit values ​​of the established model are examined, it is seen that the values ​​are within the range of the recommended criteria. X2/Df, IFI, TLI and CFI values ​​are in the good fit range. GFI, AGFI and RMSEA values ​​meet acceptable compliance values. When the regression values ​​of the scale items are examined, it is seen that the coefficients of the model are found to be significant when the p value is accepted as p<0.001. When the path coefficients and hypothesis results of the model were evaluated, it was seen that all hypotheses were in the significant value range. Perceived usefulness, perceived ease of use, social influence have a positive effect on the attitude towards smart watches, perceived privacy risk has a negative effect on the attitude towards smart watches, and the attitude towards smart watches has a positive effect on the intention to use smart watches. All hypotheses are supported. Kutlu (2021) concluded in her study that perceived usefulness, enjoyment and attractiveness have a positive effect on attitude towards smart watches, while ease of use and privacy risk do not have a positive effect on attitude. In his study, Marangoz (2017) concluded that the perceived usefulness and perceived ease of use of smart watches did not have a significant effect on the attitude towards smart watches, whereas the use of smart watches was found to be fun and the positive thoughts of the social environment on the smart watch had a significant effect on the attitude. Ada (2020) concluded in her study that the risk perceptions of the participants differ according to gender in the social risk dimension, their risk perceptions differ in the dimensions of social risk and financial risk, and as the income increases, the social risk and financial risk decrease in the participants. As a result, with this study, it is aimed to contribute to the literature by understanding the acceptance of new technologies and the perspective of consumers towards these technologies. It is possible that factors such as social impact, perceived usefulness, and perceived ease of use will give different results on attitude and intention, by conducting a new study on the technology acceptance model with different participants and different wearable technology products. This study was made on a smart watch, one of the wearable technology products, and doing the same work with another wearable technology product can contribute to the literature. With the new regulations brought by application developers, the privacy risk can be removed from being a problem for the consumer by increasing the security length. In addition, the visual development of smart watches and making them more of a fashion product can be presented as another suggestion that will increase preferability.

**REFERENCES**

Ada, A., & Aksoy, R. (2020). Giyilebilir teknolojik ürünlerde tüketicilerin algıladıkları risklerin farklılaşması: Akıllı saat kullanıcılarına dönük bir araştırma. Herkes Için Spor ve Rekreasyon Dergisi, 2(1), 50–61.

Açıkgöz, O. E. (2019). Yenilikçi Tüketime Etki Eden Faktörler: Giyilebilir Teknoloji Üzerine Bir Araştırma.

Akıncı, B., Danışan, T. & Eren, T. (2021). Obezite Hastaları İçin Giyilebilir Teknolojilerin ÇKKV Yöntemleri ile Seçimi, Politeknik Dergisi,

Aksoy, S. (2017). Değişen teknolojiler ve endüstri 4.0: Endüstri 4.0’ı anlamaya dair bir giriş. SAV Katkı, 4, 34–44.

Alkan, A., & Kırbaş, İ. (2022). Türkiye’de Nesnelerı̇n İnternetı̇ (IOT) Alanında Yazılmış Yüksek Lisans Tezlerı̇nı̇n İncelenmesi̇- Bir Meta Analiz Çalışması. Mühendislik Bilimleri ve Tasarım Dergisi, 10(1), 318–327. <https://doi.org/10.21923/jesd.955660>

Budak, N. (2021). Geleceğin Meslekleri̇ ve Dı̇jı̇tal Beceriler. Çalışma Ekonomisi ve Endüstri İlişkileri Seçme Yazılar, 283–312.

Büyükkalaycı, G., & Karaca, H. M. (2019). Pazarlama 4.0: Nesnelerı̇n İnternetı̇. Üçüncü Sektör Sosyal Ekonomi Dergisi̇, 54(1), 463–477. <https://doi.org/10.15659/3.sektorsosyal-ekonomi.19.03.1105>

Chuah, S. H. W., Rauschnabel, P. A., Krey, N., Nguyen, B., Ramayah, T., & Lade, S. (2016). Wearable Technologies: The Role Of Usefulness and Visibility in Smartwatch Adoption. Computers in Human Behavior, 65, 276–284. https://doi.org/10.1016/j.chb.2016.07.047

Demirci, Ş. (2018). Giyilebilir Teknolojilerin Sağlık Hizmetlerine ve Sağlık Hizmet Kullanıcılarına Etkileri. Anemon Muş Alparslan Üniversitesi Sosyal Bilimler Dergisi, 6(6), 985–992.

Deringöz, A., Danışan, T., & Eren, T. (2021). Endüstriyel Gi̇yi̇lebi̇li̇r Teknolojilerin ÇKKV Yöntemleri ile Değerlendirilmesi ve Seçimi̇. Ergonomi, 4(1), 10–21. <https://doi.org/10.33439/ergonomi.882303>

Doğaner, S., & Özbek, O. (2019). Beden Eğitimi̇ Öğretmeni̇ Adaylarının Mesleki̇ Etik İlkelere ve Öğretmenliğe Yönelik Tutumlarına İlişkin görüşleri̇. SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi, 17(1), 197–208. <https://doi.org/10.33689/spormetre.526089>

Erdem, B. (2022). Pazarlamanın Evrimi̇ ve Pazarlama 5.0’a Doğru. Farabi Anısına Türk ve Türk Dünyası II, June 2020.

Gao, L., & Bai, X. (2014). A Unified Perspective on the Factors Influencing Consumer Acceptance of Internet of Things Technology. Asia Pacific Journal of Marketing and Logistics, 26(2), 211–231. https://doi.org/10.1108/APJML-06-2013-0061

Gökdemir Ekici, S. (2020). Pazarlama 4.0 ve Deneyim Kavramı Odağında Kavramsal Bir Çalışma. Sosyal, Beşerî ve İdari Bilimler Dergisi, 3(6), 474–481. <https://doi.org/10.26677/TR1010.2020>.

Hong, S.-J., & Tam, K. Y. (2006). Understanding the Adoption of Multipurpose Information Appliances: The Case of Mobile Data Services. Information Systems Research, 17(2), 162–179. https://doi.org/10.1287/isre.1060.0088

Karamehmet, B. (2019). Dijital Pazarlamada Nesnelerin İnterneti: Giyilebilir Teknolojiler. Journal of Turkish Studies, 14(2), 521–537.

Kalkan, U. (2022). 21. Yüzyılda Kişisel Beceriler. <https://books.google.com.tr/> (17.04.2022)

Kalaycı, Ş. (2010), SPSS uygulamalı çok değişkenli istatistik teknikleri, Ankara: Asil Yayın Dağıtım.

Kutlu, Ö. (2021). Giyilebilir Teknoloji: Akıllı Saat Kullanımına Yönelik bir Araştırma.

Lee, M. C. (2009). Factors Influencing the Adoption of Internet Banking: An Integration of TAM and TPB With Perceived risk and Perceived Benefit. Electronic Commerce Research and Applications, 8(3), 130–141. <https://doi.org/10.1016/j.elerap.2008.11.006>

Marangoz, M., & Aydın, A. E. (2018). Tüketicilerin giyilebilir teknoloji ürünlerini benimsemesinde etkili olan faktörler: Akıllı saatler üzerine bir araştırma. Pazarlama Teorisi ve Uygulamaları Dergisi, 4(1), 1–20.

Metin, S. (2019). İşletmelerin Dijital Dönüşüm (Endüstri 4.0) Farkındalık ve Algı Düzeyinin Değerlendirilmesi: Elâzığ OSB Örneği.

Öztemel, E. (2018). Eğitimde Yeni Yönelimlerin Değerlendirilmesi ve Eğitim 4.0. Üniversite Araştırmaları Dergisi, 1(1), 25–30. [https://doi.org/10.1007/978-3-319- 44687-5\_67](https://doi.org/10.1007/978-3-319-%2044687-5_67)

Sedefçi, K. (2018). Endüstri̇ 4.0 Bakış Açısıyla Nesnelerı̇n İnternetı̇ ve Müşteri̇ Deneyimi̇ Açısından İncelenmesi̇.

Toker, K. (2018). Endüstri 4.0 ve Sürdürülebilirliğe Etkileri. İstanbul Management Journal, 29(84), 51–64. <https://doi.org/10.26650/imj.2018.29.84.0003>

Uyak Çelik, S., & Onurlu, Ö. (2021). Pazarlama 4.0 Açısından Doğal Reklamların İncelenmesi ve Marka Farkındalığına Etkisi Üzerine Bir Araştırma. Journal of Business Research - Türk, 4(13), 2927–2944. <https://doi.org/10.20491/isarder.2021.1299>

Vassileva, B. (2017). Marketing 4.0 - How Technologies Transform Marketing Organization. Obuda University E-Bulletin, 7(1), 47–56.

Yıldız, B., & Kütahyalı, D. N. (2021). Tüketici Yenilikçiliğinin Akıllı Saat Kullanmaya Devam Etme Niyeti Üzerindeki Etkisinde Hedonik ve Faydacı Değerin Aracı Rolü. Alanya Akademik Bakış, 5(2), 705–726. https://doi.org/10.29023/alanyaakademik.870648

1. The study was derived from the first author's master's thesis [↑](#footnote-ref-1)
2. 1 Master's student, Çağ University, [cagrimir@gmail.com](mailto:cagrimir@gmail.com), ORCID: 0000-0001-6689-6514 [↑](#footnote-ref-2)
3. 2 Ass.Prof.Dr., Çağ University, [saadetsagas@cag.edu.tr](mailto:saadetsagas@cag.edu.tr) , ORCID: 0000-0003-1834-2132 [↑](#footnote-ref-3)
4. 3 Lect.Dr., Çağ University, [yoncabir@cag.edu.tr](mailto:yoncabir@cag.edu.tr) , ORCID: 0000-0002-4977-4010 [↑](#footnote-ref-4)
5. 4 Prof. Dr., Çağ University, [muratkoc@cag.edu.tr](mailto:muratkoc@cag.edu.tr) , ORCID:0000-0002-3848-3111 [↑](#footnote-ref-5)