Determinants Influencing the Adoption of New Information Technology Supporting Healthy Life Style: The Example of Wearable Self-Tracking Devices

DOI: 10.12776/QIP.V26I1.1612

Stanislava Grosová, Olga Kutnohorská, Marek Botek

Received: 2021-09-26 Accepted: 2022-02-08 Published: 2022-03-31

ABSTRACT

Purpose: The presented study aims to identify key factors affecting the adoption of wearable electronics in Czech women. The results of the study can give insight on how to design an optimized wearable self-tracking device.

Methodology/Approach: The well-established Unified Theory of Acceptance and Use of Technology (UTAUT) framework served as a baseline for research on key determinants of behavioral intention to use wearable self-tracking devices.

Findings: The strongest factor was identified as the habit. The second strongest predictor affecting behavioral intention and use was the construct of performance expectancy. Personal health motivation, as a factor reflecting the nature of the subject examined, was the third strongest factor. The determinants of price value, effort expectancy, and social impact influence the adoption and use of these products. Facilitating conditions, personal inovativeness, personal control over diet and hedonic motivations did not play a significant role.

Research Limitation/Implication: The tested sample included 808 interviewed women, but only from the Czech Republic. Scale already defined Eating control behavior as a measure of healthy lifestyle in terms of eating was the first usage in UTAUT 2 model.

Originality/Value of paper: The study aims primarily to uncover the determinants of the usage of wearable electronics. Secondarily, it extends the theoretical framework of UTAUT2 by testing personal factors such as personal inovativeness, personal motivation to health, and personal control of eating as variables explaining behavioral intention and usage.

Category: Research paper

Keywords: wearable self-tracking devices; UTAUT 2; healthy lifestyle

1 INTRODUCTION

According to the Czech Statistical Office, searches for the word health on the Internet increased by more than 33% between 2007 and 2017 (CZSO, 2018b). At the same time, the Czech Statistical Office states that in April 2018 47% of men and 33% of women suffered from being slightly overweight; obesity then affected almost 20% of men and 18% of women and is still growing (CZSO, 2018a). Generally, people are clearly increasingly interested in their health, but their interest in itself does not bring the desired results, rather the contrary. These two contradictory information points to considerable market potential for companies developing new innovations in the industry. However, it will be important for their success to uncover the determinants that will make potential customers use the new healthy lifestyle-oriented information technology.

In the area of a healthy lifestyle, modern information technologies are increasingly being used to monitor diet, exercise, and personal well-being. They are most often of two types, wearable electronics (wearable self-tracking devices, WSTD) and smart phone applications. There are a number of healthy lifestyle-oriented applications, primarily nutritional applications, weight diary, various fitness applications, or applications that promote relaxation, good sleep, and mental hygiene.

In general, the acceptance of innovative tools has been subjected to intensive research in the last three decades. Several theories have been created to study the reasons for accepting or rejecting innovation. The most recent is "The Unified Theory of Acceptance and Use of Technology" (UTAUT2) introduced by (Venkatesh et al., 2003) can be currently considered as a well-established validated model originally created to study acceptance of new technologies.

Although UTAUT2 was originally designed to study the acceptance of technological innovations in companies, the authors recommend that further research should focus on testing the constructs of UTAUT2 within different contexts, technologies, ages, and geographic locations. A large number of applications and replications of the entire model or its part should contribute to the universal applicability of the model (Venkatesh, Thong and Xu, 2012).

2 METHODOLOGY

The presented research aims to identify what determinants would be considered the most important in relation to the intention to use wearable self-tracking devices. Therefore, an adapted research model based on UTAUT2 was designed to reflect the specific characteristics of these products.

2.1 Research Model

An application of all independent determinants of UTAUT2 in terms of applicability and appropriateness in the context of WSTD has been reviewed.

Following literature review, five in-depth individual interviews with WSTD users were conducted for this work to determine, which variables will affect the WSTD usage and to ensure the questionnaire intelligibility to Czech users. The first two independent variables of the model include expected performance and expected effort. The authors (Venkatesh et al., 2003) identified that the particularly expected performance construct, which is defined as a measure of the belief that the use of technology will help the user achieve improved performance, is the strongest determinant affecting behavioral intent. This is confirmed by studies by Okumus, Bilgihan, and Ozturk (2016), Yuan et al. (2015), which have already explored healthy lifestyle technologies. The construct of the expected effort, described as the degree of simplicity associated with the user's use of the technology, should also be preserved in this work. As a healthy lifestyle is currently a major trend, it is expected that social impact will significantly influence behavior intent. Many WSTDs also allow users to share their activities and progress. All of five in-depth individual respondents confirmed that society, whether friends, family, doctors, or health professionals, has had a major impact on its use. Four of the respondents even share their values with their loved ones or with social networks.

The construct of conditions facilitating the use of technology describes the degree of the user's conviction that the necessary resources and technical support for the use of technology exist. It can be assumed that the better the conditions to facilitate the use of fitness watches, the higher the intention to use them. Under these terms we mean compatibility with another device with which the watch is connected (mobile, tablet, or computer), expertise for their use (orientation in terms that evaluate the watch), and also the possibility to contact someone if they would had any problems.

As already mentioned, the price is expected to have a significant impact on the consumer's intention to use WSTD. On the other hand, there are many models that range from 30 to more than 770 EUR, so it is up to the consumer which features she or he is willing to invest. The study (Gao, Li and Luo, 2015) points out that the price/performance ratio is not the only thing the consumer deals with when buying wearable electronics. Since the user can wear the watch continuously or wear it with increased activity, much more attention is paid to comfort. At the same time, however, it is also an everyday accessory and, therefore, design is an important factor influencing product purchase.

The construct of hedonic motivation, which is described as a measure of pleasure and enjoyment resulting from the use of technology, is also left in this work. In-depth individual interviews have found that users see fitness watches not only as a technology to help them monitor their activities and meals, but also consider them a "modern toy". Respondents confirmed that they like to earn points to achieve their goals and that they like to compete with their loved ones. Subsequently, individual interviews found that the use and monitoring of their activities and diet became a habit. Habit describes the extent to which the user tends to perform the behavior automatically based on what has been learned.

Three constructs were also added to this work, personal innovativeness, motivation for personal health, and personal control over eating. In accordance with the authors (Agarwal and Prasad, 1997) defined as a user's willingness to try and use innovative information technology. In many studies, the construct of personal innovativeness has been added and has often significantly influenced the intention to use the technology (Escobar-Rodriguez, Carvajal-Trujillo and Monge-Lozano, 2014; Shamim et al., 2018). Personal motivation for health describes how an individual perceives health and what exactly is a fitness watch used for. In this case, it is a tool for reducing weight, monitoring sports activities, and monitoring health conditions. The last construct, personal control of eating, focuses more on a healthy lifestyle in terms of eating. It is based on an already defined scale "Eating Control Behavior" (King and Bruner, 2000).

Based on the facts discussed, a research model has been proposed to determine which independent variables will primarily affect the dependent construct of behavioral intention due to the continuous use of WSTD. The framework of this research model can be found in Fig. 1.

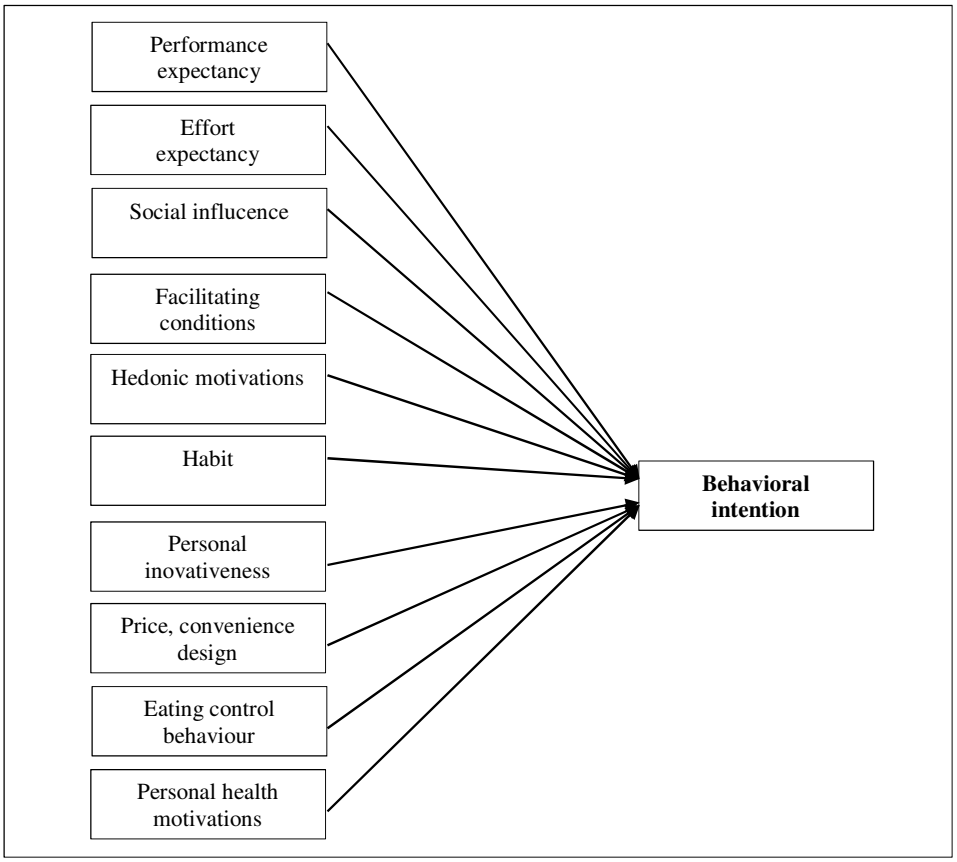

Figure 1 – Research Model

2.2 Research Hypotheses

Based on the facts discussed and on the proposed research model, ten specific hypotheses were determined as follows.

H_{01}: Performance expectation (PE) will positively affect behavioral intentions (BI) to continuous use of WSTD.

H_{02}: Effort expectation (EE) will positively affect behavioural intentions to use WSTD.

H_{03}: Social influence (SI) will positively affect behavioral intentions to use WSTD.

H_{04}: Facilitating conditions (FC) will positively affect the intentions of behavioral use of WSTD.

H_{05}: Hedonic motivations (HM) will positively affect the behavior intentions to use WSTD.

H_{06}: Habit (H) will positively affect the behavioral intentions to use WSTD.

H_{07}: Personal innoveness (PI) will positively affect the behavioral intentions to use WSTD.

H_{08}: The price value ratio (PVL) will positively affect the behavioral intention to use WSTD.

H_{09}: Eating control behavior (ECB) will positively affect the behavior expectation to use WSTD.

H_{10}: Personal motivation to health (PHM) will positively affect the behavioral intentions to use WSTD.

Null hypothesis H_0 was stated for all proposed hypotheses. The null hypothesis assumes that the latent variable does not affect the independent variable (behavioral intention). To decide whether the null hypothesis is supported or not, the relevant null hypothesis needs to be rejected.

2.3 Research Methodology

The methodological approach consisted of several steps following the proposal of the research model, the design of the final questionnaire, the collection of data, and the statistical evaluation. Data for the evaluation of the proposed research model were intended to be collected via an online questionnaire. The final questionnaire included UTAUT2 questions and descriptive questions related to the respondent and its behavior in relation to lifestyle.

Each construct of the proposed research model was represented by questions related to the specific construct in the UTAUT2 part of the questionnaire, see Appendix A. The list of questions was designed mainly from the original questionaire items of the UTAUT2 study (Venkatesh, Thong and Xu, 2012). The

questions were translated from the English original and adapted to the topic of WSTD (fitness watches). New variable personal innovativeness questions were taken from the study "Impact of Personal Innovativeness" (Tor and Øystein, 2005). Questions related to motivation constructs for personal health and personal control of diet were taken from the Marketing Scales Handbook (Bruner, 2013). Translating UTAUT2 statements from English required several consultations to avoid misinterpretation. Prior to launching the questionnaire, a sample of 10 fitness watches users was piloted. It has been confirmed that the statements are formulated in a clear way. Seven-point Likkert scale was used to measure the questionnaire items. The online survey has been conducted since March 2019 until May 2019. People living in the Czech Republic were addressed, especially those who are interested in a healthy lifestyle (whether about diet, exercise, sports activities, or mental hygiene). All respondents owned fitness watches and used some fitness applications. The online survey reached 909 respondents (808 women, 101 men). No one questionnaire had to be excluded due to invalid answers, so 909 questionnaires should be further evaluated. Only data and a model for women are presented. Of the women who responded, 285 (35.4%) were under 20 years of age, 324 (40%) were between 21 and 30 years of age, and 118 (14.6 %) were between 31 and 40 years of age.

3 DATA ANALYSIS AND RESULTS

Structural evaluation modelling was performed to evaluate the relationship of independent variables towards behavioral intention. According to Hair et.al. (2017) partial least squares structural equation modelling (PLS-SEM) is recommended to test the model with the expected high amount of interactions among factors. As all conditions were fulfilled, SmartPLS 3.0 software was employed to assess the gathered (Ringle, Wende and Becker, 2015). A bootstrapping method was used to evaluate the hypothesized relationships. Factor loading and cross-loading were evaluated primarily in line with recent scientific literature. Factor loadings are supposed to be greater than 0.6-0.7 (Chin, Marcolin and Newsted 2003; Hair et al., 2017). This assumption ensures the reliability of the questionnaire items on each construct. Only one construct item (BI3) had not fulfilled the required condition and it was excluded of the experiment. In order to evaluate impact of BI3 on the construct, Cronbach's Alpha of two constructs (with and without BI3) was compared. The results proved BI3 decreases Cronbach's Alpha, therefore, it was dropped from the construct. Factor cross-loadings and Heterotrait-Monotratit Ratios (HTMT) were used in assesing discriminant validity, which implies that variable (construct) is unique and captures phenomena not represented by other constructs in model (Hair et al., 2017). The cross loadings always did not exceed the loadings in any case and HTMT Ratios were lower than treshhold level 0.85, therefore discriminant validity of the variables can be stated as good.

The adjusted coefficient of determination (adj. R2) reached 0.536, so that the proposed research model explains 53.6% of the variability of the dependent variable "behavioral intention (BI)". The statistical significance of the dependency "behavioral intention BI" on latent variables was evaluated using the p-value (see Tab. 1). For six variables, the p-value is lower than the chosen significance level $\alpha = 0.05$ and their null hypothesis H_0 of independence between variables can be rejected. These are the constructs habits, expected performance, price value, motivations for personal health, expected effort, and social impact.

Table 1 – Overall Results of Hypothesis Testing

Relationship between Variables	**Path values**	***p*-value**	**Results**
H_{01} : PE → BI	0.309	0.000	Supported
H_{02} : EE → BI	0.075	0.008	Supported
H_{03} : SI →BI	-0.075	0.008	Supported
H_{04} : FC → BI	0.035	0.274	Non-supported
H_{05} : PVL → BI	0.111	0.001	Supported
H_{06} : HM → BI	0.006	0.871	Non-supported
H_{07} : H → BI	0.368	0.000	Supported
H_{08} : PI → BI	0.020	0.446	Non-supported
H_{09} : PHM →BI	0.105	0.003	Supported
H_{10} : EBC → BI	-0.046	0.08	Non-supported
$R^2 = 0.548$ adj. $R^2 = 0.536$			

Fig. 2 summarizes the structure of the answers to individual items/questions of statistically significant variables.

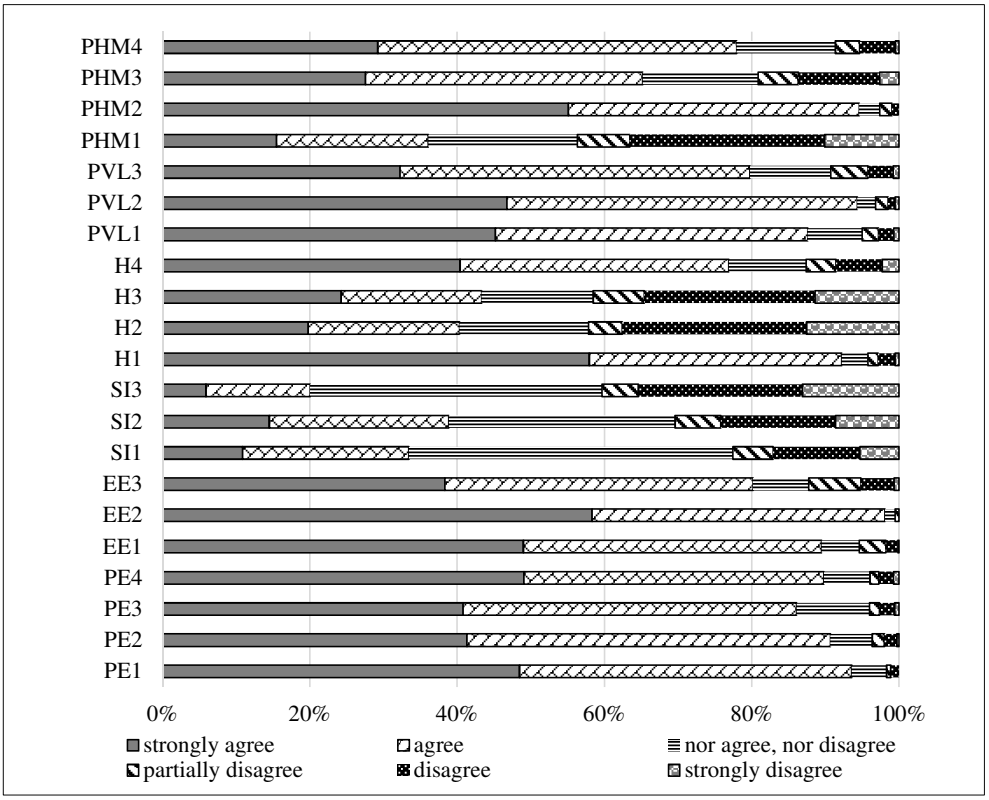

Figure 2 – Structure of Responses of Statistically Significant Variables

4 DISCUSSION

The main aim of our research was the identification of key factors that affect the adoption of wearable electronics among Czech women. The results of our study show that about 55.3% of the variance in the perception of WSTD can be explained by six factors. The most significant factor according to the p-value and the path value is the habit. Respondents strongly agreed with the statement that the use of fitness watches has become a habit and they use it without thinking; see Fig. 2, items H_{01}, H_{04}. The second strongest factor that affects behavioral intention in our study is the construct of performance expectancy. The answers indicate daily use in connection with physical activity. Cost value, convenience, and design factor is the third most influential predictor in our model. From the proportion of agreement with statements, we conclude that users appreciate convenience and design for the price, see Fig. 2, item PVL 2. There is some possibility to modify the price/value ratio. Personal health motivation was newly introduced in the research model. Firstly, the theoretical assumption that the addition of this construct reflecting the nature of the examined subject was confirmed. Second, it was the fourth strongest factor. More than 80% of respondents agree (strongly agree and agree) with statements about the use of

fitness watches in monitoring sport activities and with fitness watches and applications as a part of a healthy lifestyle; see Fig. 2, PHM2 and PHM4 items. This finding emphasizes those characteristics that support sport and fitness usage and can also be used in marketing communication. From the answers to the expected effort control, we deduce that there is a possibility to help the users control more fitness help functions. Some results of this research coincide with the study "An Empirical Study of Wearable Technology Acceptance in Health Care" (Gao, Li and Luo, 2015). In their study, the determinants that most influenced wearable fitness electronics were expected performance, expected effort, social impact, and cost value (hence comfort and de sign) and these are the same determinants that were identified in our research. The construct habit, which was the strongest factor in our research, has not been studied in their study. Similarly, personal health motivations and control of eating behavior were not studied in their study.

Surprisingly, the hedonic motivation construct was not proved according to the p-value. According to the answers, users have no fun nor find fitness watches very interesting and trendy. In contrast to our assumption, personal control over eating did not play a significant role yet. We recommend taking into account the possibility of controlling eating behavior even though it is not a key determinant. There are more than 500 thousand Czech users of the Caloric table application who use it to track daily food nutrients and energy intake. Connection of fitness watches with this application can bring additional value through tracking not only energy output but also intake and support the motivation to use it repeatedly.

The construct of the facilitation conditions proved to be insignificant. Studies that examined the determinants of the use of technology based on healthy lifestyle agree that conditions that facilitate the use of technology do not affect the behavioral intention to use the technology (Yuan et al., 2015). We agree with the same explanation that due to the increased use of smartphones and applications within it, users no longer find the use of fitness applications or wearable electronics complicated.

The construct of personal inovativeness was incorporated in our model. Although in the studies Okumus, Bilgihan and Ozturk (2016) and Pfeiffer et al. (2016), which examine wearable self tracking electronics, this construct was statistically significant, in our work it proved to be statistically insignificant. In the opinion of our respondents, they feel they are experimentators rather than inovators in the area of wearable self-tracking devices.

5 CONCLUSION

Innovations in new information technologies and products that support healthy lifestyles require an understanding of the factors that affect their adoption and continued use. The market for wearable self-tracking devices is subjected to this

research. Classic methodology was used to create a structural model for the identification of factors influencing the adoption and use of products, which has not yet been the focus of applied research in the Czech Republic. Due to the specific properties of the products and their use, it was necessary to modify the models used in other areas. Specifically, there are motives related to personal health, which have been shown to be important in the adoption and use of the aforementioned technology. The results of the presented study show that more than 50% of the variance can be explained by six constructs, habit, performance expectancy, price-value-convenience design, personal health motivation, effort expectancy, and social influence. Practical significance lies in pointing out other directions that the creators of these devices could take and the development of software applications with which they are equipped. Regarding the practical results, we highlight that habit and performance expectancy are essential for the adoption and continued use of the WSTD.

Regarding theoretical contributions, confirmation of the statistical significance of the newly added construct "personal health motivation" supported that the proposed research models should include at least one construct reflecting the nature of the subject examined. Further research in the area of wearable self-tracking devices could focus first on researching models with a new variable "Technical quality" which should uncover technical features and second on the adoption and use of those products and applications in the age group older than forty years. Partial results of our research showed that penetration in this age group is relatively low.

REFERENCES

Agarwal, R. and Prasad, J., 1997. The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies. *Decision Sciences*, 28(3), pp.557-582. DOI: 10.1111/j.1540-5915.1997.tb01322.x.

Bruner, G., 2013. *Marketing Scales Handbook: Multi-Item Measures for Consumer Insight Research (Volume 7).* Fort Worth, Texas USA: GCBII Productions, LLC.

Chin, W.W., Marcolin, B.L. and Newsted, P.R., 2003. A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), pp.189-217. DOI: 10.1287/isre.14.2.189.16018.

CZSO (Czech Statistical Office), 2018a. Household Income and Living Conditions – 2017. *100 Století Statistiky*, [online] Available at: <https://www.czso.cz/csu/stoletistatistiky/jak-jsou-na-tom-cesi-s-chudobou-obezitou-ci-sportovanim> [Accessed 06 February 2020].

CZSO (Czech Statistical Office), 2018b. *Individuals in EU countries searching for health information on the Internet*, *2017.* [Využívání informačních a komunikačních technologií v domácnostech a mezi jednotlivci - 2018 > 8. Používání internetu k činnostem souvisejícím se zdravím] ČSÚ [online] Available at: <https://www.czso.cz/csu/czso/7-vyhledavani-vybranych-informaci-na-internetu-2gm1e9vx8n> [Accessed 06 February 2020].

Escobar-Rodriguez, T., Carvajal-Trujillo, E. and Monge-Lozano, P., 2014. Factors that influence the perceived advantages and relevance of Facebook as a learning tool: An extension of the UTAUT. *Australasian Journal of Educational Technology*, 30(2), pp.136-151. DOI: 10.14742/ajet.585.

Gao, Y., Li, H. and Luo, Y., 2015. An empirical study of wearable technology acceptance in healthcare. *Industrial Management & Data Systems*, 115(9), pp.1704-1723. DOI: 10.1108/imds-03-2015-0087.

Hair, J.F., Hult, G.M.T., Ringle, C.M. and Sarstedt, M., 2017. *A primer on partial least squares structural equation modeling (PLS-SEM).* 2nd ed. Los Angeles: SAGE Publications, Inc.

King, M. F. and Bruner, G.C., 2000. Social desirability bias: A neglected aspect of validity testing. *Psychology & Marketing*, 17(2), pp.79-103. DOI: 10.1002/(sici)1520-6793(200002)17:2<79::Aid-mar2>3.0.Co;2-0.

Okumus, B., Bilgihan, A. and Ozturk, A.B., 2016. Factors Affecting the Acceptance of Smartphone Diet Applications. *Journal of Hospitality Marketing & Management*, 25(6), pp.726-747. DOI: 10.1080/19368623.2016.1082454.

Pfeiffer, J., Entress-Fuersteneck, M.V., Urbach, N. and Buchwald, A., 2016. Quantify-me: Consumer Acceptance of Wearable Self-tracking Devices. In: ECIS, *24th European Conference on Information Systems (ECIS)*. Istanbul, Turkey, 12-15 July 2016. Augsburg: University of Augsburg, Bayreuth: University of Bayreuth.

Ringle, C.M., Wende, S. and Becker, J.M., 2015. *SmartPLS 3.* Boenningstedt: SmartPLS GmbH, [online] Available at: <http://www.smartpls.com> [Accessed 17 January 2020].

Shamim, M., Chiong, R., Bao, Y. and Malik, B., 2018. Acceptance and use predictors of fitness wearable technology and intention to recommend: An empirical study. *Industrial Management & Data Systems*, 119(1), pp.170-188. DOI: 10.1108/IMDS-01-2018-0009.

Tor, J. L. and Øystein, S., 2005. Impact of Personal Innovativeness on the Use of the Internet Among Employees at Work. Jo*urnal of Organizational and End User Computing (JOEUC)*, 17(2), pp.43-63. DOI: 10.4018/joeuc.2005040103.

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D., 2003. User acceptance of information technology: Toward a unified view. *Mis Quarterly*, 27(3), pp.425-478. DOI: 10.2307/30036540.

Venkatesh, V., Thong, J.Y.L. and Xu, X., 2012. Consumer Acceptance and Use of Information Technology: Extending then Unified Theory of Acceptance and Use of Technology. *Mis Quarterly*, 36(1), pp.157-178. DOI: 10.2307/41410412.

Yuan, S., Ma, W., Kanthawala, S. and Peng, W., 2015. Keep Using My Health Apps: Discover Users' Perception of Health and Fitness Apps with the UTAUT2 Model. *Telemedicine and E-Health*, 21(9), pp.735-741. DOI: 10.1089/tmj.2014.0148.

ABOUT AUTHORS

Stanislava Grosová[0000-0002-9252-800X] (S.G.) – Assoc. Prof., School of Business, University of Chemistry and Technology, Prague, Czech Republic, e-mail: stanislava.grosova@vscht.cz.

Olga Kutnohorská[0000-0002-5255-8001] (O.K.) – Ph.D., School of Business, University of Chemistry and Technology, Prague, Czech Republic, e-mail: olga.kutnohorska@vscht.cz.

Marek Botek[0000-0002-5941-3040] (M.B.) – Ph.D., School of Business, University of Chemistry and Technology, Prague, Czech Republic, e-mail: marek.botek@vscht.cz.

AUTHOR CONTRIBUTIONS

Conceptualization, S.G. and O.K.; Methodology, S.G.; Software, S.G. and O.K.; Validation, S.G. and O.K.; Formal analysis, S.G.; Investigation, O.K. and M.B.; Resources, S.G.; Data curation, O.K.; Original draft preparation, S.G.; Review and editing, O.K. and M.B.; Visualization, O.K.; Supervision, M.B.

CONFLICTS OF INTEREST

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

APPENDIX

Table A1 – Items/ Survey questions/ for variables measurement

Variable: Item/ Question
PE1: I find the fitness watch useful in my daily life.
PE2: I believe that fitness watches are useful for achieving my fitness.
PE3: I believe that fitness watches motivate me to improve my health.
PE4: I think that fitness watches motivate me to move.
EE1: It was easy for me to put a fitness watch into operation and connect it with other technologies.
EE2: I think that using and handling a fitness watch is easy.
EE3: I think I can control all functions that a fitness watch offers.
SI1: People who are close to me recommend me to use fitness watches.
SI2: People I admire recommend me to use fitness watches (eg. blogger, celebrity).
SI3: Healthy lifestyle experts recommend using a fitness watch (eg doctor, trainer, nutritionist).
FC1: I have the resources necessary to use a fitness watch (financial and technological).
FC2: I have enough expertise to use fitness watches (I know the terms REM, kcal, joul, etc.)
FC3: Fitness watches are compatible with other technologies that I use.
FC4: I know who to address when I have trouble using a fitness watch.
HM1: I will have fun using the fitness watch.
HM2: Using a fitness watch makes my fitness activities more enjoyable.
HM3: I feel good with fitness watches because they are trendy.
H1: Using a fitness watch has become a habit for me.
H2: I am addicted to using a fitness watch.
H3: Without a fitness watch, I feel uncomfortable.
H4: I use fitness watches completely without thinking.
PV1: My fitness watch has a nice design for the price.
PV2: My fitness watch is comfortable for the price.
PV3: I think fitness watches generally have a good price / performance ratio.
BI1: In the future, I plan to continue using fitness watches (to achieve my fitness goals, to monitor my state of health).
BI2: I plan to use fitness watches in my daily life.
BI3: In the future, I would like to use my fitness watch even more.
PHM1: I use fitness watches as a tool to reduce weight.
PHM2: I use fitness watches to monitor my sports activities.

Variable: Item/ Question
PHM3: I use fitness watches to monitor my health.
PHM4: I use fitness watches, a healthy lifestyle is important to me.
PI1: As soon as I hear about a technological innovation, I am looking for a way to try it out.
PI2: Among my friends and colleagues, it is usually me who tries new technologies.
PI3: I like to experiment with new technologies.
ECB1: I watch my total caloric intake on my fitness watch and / or in another mobile application.
ECB2: On my fitness watch and / or in another mobile application, I monitor my total intake of nutrients (carbohydrates, fats, proteins).
ECB3: I regularly check how much I eat.
ECB4: I regularly monitor how much I eat on my fitness watch and / or in another mobile application.