"Determinants of health-conscious consumers' intention to adopt fitness apps"

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DETERMINANTS OF HEALTH-CONSCIOUS CONSUMERS' INTENTION TO ADOPT FITNESS APPS

Abstract

This study aims to investigate the factors influencing consumers' intention to adopt health fitness apps. The target population for this study were current users of health fitness apps. The data collection process was completed using a Google e-mail form with a cover letter for the convenience of customers, wherein 308 respondents were the final sample size. Data were collected from current members of health clubs and fitness centers in Dhaka, Bangladesh. Most of the respondents were males (56%, n = 308), whereas females were 44%, n = 134. Five-point Likert scale was used, where '1' means 'Strongly Disagree' and '5' 'Strongly Agree', to clarify the item-wise questionnaire. SPSS data analysis software for research purposes was used to evaluate the hypotheses. Cronbach Alpha (α) value was used to justify the reliability of the variables. Four items measure price value; perceived performance, health consciousness, facilitating condition, hedonic motivation are measured by two items; self-efficacy – by three. The results show that the selected six determinants positively and significantly affect consumers' intention to use health fitness apps. Overall, these variables can explain 55.50% of the variance in predicting behavioral intentions to adopt health fitness apps. Furthermore, this results could provide significant clues to health fitness app developers that can severely influence users to adopt health fitness apps for their wellbeing.

Keywords	price value, perceived performance, health consciousness, self-efficacy, facilitating condition, hedonic motivation
JEL Classification	M31, M21, M30

INTRODUCTION

The advent of fitness apps on cell phones in recent years has changed the environment for wellness and active living. These apps' remarkable growth stems from their capacity to offer users tools for monitoring and recording, calorie analysis, encouragement and support, affordability, and simplicity to aid in fulfilling fitness goals. Fitness apps can provide users with reliable monitoring of regular exercise by employing smartphone sensors like the accelerometer and GPS, which can be used to establish and monitor goals and track progress over time. Fitness apps' encouraging and engaging elements are crucial for maintaining physical exercise and healthy lifestyle practices (Beldad & Hegner, 2018). Cultural influences can improve accountability and create a sense of community around exercise and health. These aspects include the possibility of interacting with friends and family, sharing progress, and competing. Also, some apps provide specialized coaching and counseling, giving individualized fitness routines, dietary recommendations, and inspirational suggestions. Users may rely on such services to offer them the drive and encouragement they need to achieve their fitness objectives (Baer et al., 2022). Fitness applications are also quite important because they are easy and convenient to

use. Without paying for hefty gym memberships or devices, users may work out whenever and wherever they want. Users can alter a wide variety of exercise alternatives, including meditation, progressive muscle relaxation, slightly elevated endurance training, and strength training, to meet their interests and goals. Users can easily include regular exercise and health and fitness practices into their regular routines thanks to such functionalities. By enabling users to track their performance and update their techniques as necessary, fitness applications can help users strengthen their capacity to consciously. Health applications have become critical components for individuals seeking to live a better and more life style (Cho et al., 2020).

The value of fitness apps on cellphones cannot be emphasized in Bangladesh (Yuan et al., 2021; Chen et al., 2022), where regular physical activity and poor diets are common. In Bangladesh, such health fitness apps could provide easy-to-use resources to motivate people to take part in physical exercise and promote healthier lifestyle decisions. Several fitness applications deliver users tailored mentoring and guidance that might give them the enthusiasm and assistance they ought to keep up with current healthy living and physical exercise routines. Smartphone fitness apps can contribute to tackling the nationwide problem of lifestyle factors and help Bangladesh achieve better health results. Several studies in the Bangladeshi context have focused on technology adoption (i.e., Asheq et al., 2022; Rahaman et al., 2022; Akhter et al., 2020; Ali et al., 2022), still studies on fitness apps are scarce in the literature. Therefore, there is a need to explore consumers' intent to use health fitness apps in Bangladesh.

1. LITERATURE REVIEW AND HYPOTHESES

Studies show the usefulness of fitness applications in encouraging daily fitness and healthy living (Brindal et al., 2013). Over the course of 12 weeks, those who used a fitness app reduced much more bodyweight compared to those who did not, and app users significantly enhanced their nutritional and physical exercise habits (Brindal et al., 2013). A similar investigation by Schoeppe et al. (2016) showed that health wellness apps worked successfully in encouraging adults who were inactive to exercise frequently. Individuals who utilized a health app for four weeks found higher physical activity behaviors in comparison to those who did not use the app.

The price value (PVAL) refers to the perceived worth or usefulness of a product or service in relation to its price. Besides, the price value is a significant factor for consumers, which derives from a product or service in exchange for the amount of money paid to acquire it (Wang et al., 2009; Ahmed et al., 2023). On the other hand, the price value of adopting fitness apps can vary depending on the specific app and the individual's needs and goals (Zhang & Jin, 2016). Some fitness apps may be completely free, while others may require a one-time or recurring fee for access to certain features

or content that support customers to the adoptiosn of fitness apps regarding health. Moreover, a past study said that price value includes monetary cost when adopting any technological device regarding the benefits of health consciousness (Venkatesh et al., 2012). Therefore, the positive price value actually brings more adoption of new technology as fitness apps for consumers' perspective on health (Chen & Lin, 2018). Prior studies also verified that the price-to-value ratio is a robust influencing factor of psychological motivation of consumers in relation to their acceptance of fitness apps (Yuan, 2015; Peng et al., 2016).

Perceived performance (PERPER) is defined as the user's perception of how fast, efficient, and effective a system or product is in meeting their needs and expectations in executing specific tasks (Venkatesh et al., 2003). Moreover, perceived performance is considered the subjective evaluation of how well a system, product, or service performs from the perspective of a user or customer (Hoque & Sorwar, 2017). The manner in which performance is viewed can be affected by a wide range of factors, including the user's previous experiences, expectations, and preferences, as well as the actual performance of the system or product (Duarte & Pinho, 2019; Cowan et al., 2013). Furthermore, several studies postulate that perceived performance is a significant indicator of the adoption

of new technology that enhances the intention of embracing fitness apps (De Veer et al., 2015; Damberg, 2017).

Health consciousness (HCON) is regarded as an individual's awareness and concern about their health and well-being which assists to conserve their physical and mental health (Damberg, 2022). Besides, it plays a crucial role in advancing the cause of health and warding off illness that can affect an individual's health-related behaviors and decisions (Chen, 2018). Furthermore, health-conscious people are more probable to take part in positive health behaviors and avoid risky health behaviors that assist in the promotion of an effective strategy of creating an intention to adopt fitness apps (Dahl et al., 2021; Quaosar et al., 2018). On the other hand, health consciousness creates an intention among consumers to accept fitness apps regarding sound health and a sound mind (Alalwan et al., 2015). Moreover, previous studies also claim that health consciousness is a crucial determinant that positively and significantly affects consumers' intention to use fitness apps (Wei et al., 2018; Duarte & Pinho, 2019).

Self-efficacy (SELFF) beliefs influence an individual's motivation, behavior, and performance, which helps to benefit from fitness app usage and achieve wellness objectives (Hsia et al., 2014). Besides, self-efficacy is regarded as the belief of an individual in the capacity to perform a specific task or achieve a particular goal successfully within a specified time (Bandura, 1986). On the other hand, Self-efficacy is different from self-esteem or self-confidence, which are broader terms that refer to an individual's overall perception of their worth or competence (Zang & Jin, 2016). Moreover, self-efficacy approaches a positive attitude toward a particular task, which influences consumers' willingness to adopt new fitness apps regarding health consciousness (Al-Somali et al., 2009). Therefore, self-efficacy generates satisfactory outcomes with minimum effort, which directly influences adopting of fitness app (Im et al., 2011; Zhao et al., 2008).

Facilitating condition (FACCON) is considered as the significant factor or circumstances that enable or make it easier for individuals or groups to adopt a certain abilities, resources, and training

in a given activity which helps to promote positive outcomes (Venkatesh et al., 2003). Moreover, this factor is indispensable for consumers to adopt the technology as fitness apps (Yuan et al., 2015). On the other hand, facilitating condition is regarded as a significant source that supports the creation of encouragement of using technologies regarding health consciousness (Alalwan et al., 2017; Dhima et al., 2020). Therefore, integrating the use of fitness apps with other health-related activities, such as tracking food intake or monitoring sleep patterns, can also facilitate the adoption of technologies (Zhou et al., 2010). However, facilitating conditions or resources can assist individuals to adopt a particular behavior or technology, and fitness apps can only be adopted if individuals have access to smartphones or other devices that can run the apps (Chen et al., 2018). Researchers have shown that when people are in a supportive environment, they are more likely to follow through on their plans to use health-oriented fitness apps (Alalwan et al., 2015).

In the context of fitness app usage for health awareness, hedonic motivation (HMOT), defined as the enjoyment or satisfaction from utilizing a technology, is an effective motivator (Lupton, 2023). Besides, according to the research that has previously been done on IT systems when consumers see progress towards their fitness goals or receive positive feedback from the app, they may feel a sense of pleasure and be motivated to be open to new technological developments (Van Der Heijden, 2004; Tavares & Oliveira, 2016). Moreover, hedonic motivation is an intrinsic driver, which includes curiosity, joy, and control strongly influencing technology adoption (Alalwan et al., 2017; Huang et al., 2015). On the other hand, hedonic motivation is a significant factor that can lead to positive emotions such as pride, satisfaction, and accomplishment, when an individual can focus on the interaction of using apps (Moon & Kim, 2001). Previous investigation has indicated that hedonic motivation acts a beneficial and vital part in promoting the adoption of technologies with perceived appealing and artistic features (Dhiman et al., 2020).

This paper aims to determine and understand consumers' intent to accept health fitness apps (INTFTAPP) in Bangladesh. This paper identified six antecedents of INTFTAPP using a systemat-

ic review process: (i) price value (PVAL), (ii) perceived performance (PERPER), (iii) health consciousness (HCON), (iv) self-efficacy (SLEFF), (v) facilitating condition (FACCON), and (vi) hedonic motivation (HMOT). This paper formulated the following hypotheses after carefully reviewing the literature.

H1: There has been a positive association between price value (PVAL) and intent to accept health fitness apps (INTFTAPP).

H2: There has been a positive association between perceived performance (PERPER) and intent to accept health fitness apps (INTFTAPP).

H3: There has been a positive association between health consciousness (HCON) and intent to accept health fitness apps (INTFTAPP).

H4: There has been a positive association between self-efficacy (SLEFF) and intent to accept health fitness apps (INTFTAPP).

H5: There has been a positive association between facilitating condition (FACCON) and intent to accept health fitness apps (INTFTAPP).

H6: There has been a positive association between hedonic motivation (HMOT) and intent to accept health fitness apps (INTFTAPP).

2. METHODOLOGY

Investigating the consumers' intention to accept health fitness apps is a significant issue of this study. In this study, the targeted population was the current consumers of health fitness apps. To determine whether customers seek to utilize fitness and wellness applications, 6 (six) determinants have been considered for the research framework, which has been adopted from the previous extensive literature such as (i) price value (PVAL), (ii) perceived performance (PERPER), (iii) health consciousness (HCON), (iv) self-efficacy (SLEFF), (v) facilitating condition (FACCON), and (vi) hedonic motivation (HMOT). For data collection, a survey questionnaire was adopted from past studies where this study is quantitative and exploratory. In this study, there were two parts; the first part consisted of the survey questionnaire, and the second part is generated as demographic information of the respondents. In this study, object non-probability convenience sampling has been used due to unknown customers who use health fitness apps. In Dhaka, Bangladesh, first the owners of health fitness centers were contacted for the email ids of their current members, and it was also confirmed that they were all current users of fitness health apps. For data collection purposes, 350 questionnaires were sent to health fitness app users by using a Google form through e-mail with a cover letter for the convenience of customers. The authors received 320 responses from the respondents, whereas 12 replies had to be cast off because of unacceptable entries. Therefore, a total number of 308 consumers completed the questionnaire in the right manner, whereas the response rate was 88% and the final sample size was 308. To find out the item-wise question calculations, a five-point Likert scale has been used, where 1 stands for 'Strongly Disagree' and '5' stands for 'Strongly Agree'. On the one hand, to justify the reliability of the variables, "Cronbach Alpha (α) value" of 0.70 or more than 0.70 was used as the allowable value in this

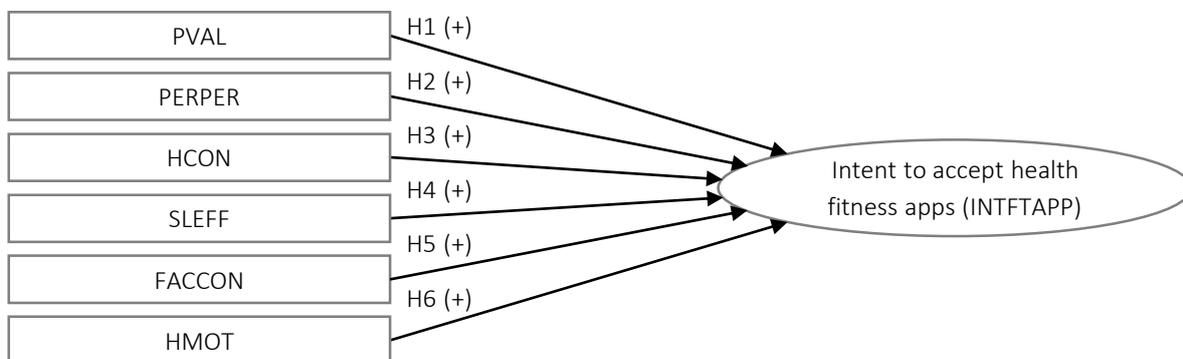**Figure 1.** Study framework

study. The reliability of PVAL (α = 0.758), PERPER (α = 0.891), HCON (α = 0.807), SLEFF (α = 0.902), FACCON (α = 0.920) and HMOT (α = 0.774). To evaluate the hypotheses, a 5% significance threshold was used as an indicator, and the SPSS software was used to analyze the data in this study.

Table 1. Reliability and validity analysis

Construct	Items	Loading	Cronbach (α) value
Price Value (PVAL)	PVAL1	0.957	0.758
	PVAL2	0.756	
	PVAL3	0.658	
	PVAL4	0.857	
Perceived Performance (PERPER)	PERPER1	0.748	0.891
	PERPER2	0.844	
Health Consciousness (HCON)	HCON1	0.748	0.807
	HCON2	0.848	
Self-Efficacy (SLEFF)	SLEFF1	0.759	0.902
	SLEFF2	0.758	
	SLEFF3	0.881	
Facilitating Condition (FACCON)	FACCON1	0.859	0.920
	FACCON2	0.857	
Hedonic motivation (HMOT)	HMOT1	0.749	0.774
	HMOT2	0.947	
Intent to use fitness apps (INTFTAPP)	INTFTAPP1	0.858	0.758
	INTFTAPP2	0.893	
	INTFTAPP3	0.706	
	INTFTAPP4	0.928	

Price Value (PVAL) is measured by four items, and PVAL is taken from Dhiman et al. (2020). Two items measure "Perceived Performance" (PERPER), and this variable is taken from Damberg (2022). Health Consciousness (HCON) is measured by two items, and this variable is taken from Dhiman et al. (2020). Three items measure "Self-Efficacy" (SLEFF), and this variable is taken from Wei et al. (2021). Facilitating Condition (FACCON) and hedonic motivation (HMOT) are measured by two items and are taken from Dhiman et al. (2020). Dependent variable, Intent to use fitness apps (INTFTAPP), is measured by four items, and this factor is taken from Wang and Collins (2021). Reliability and validity measures are showed in Table 1.

3. RESULTS AND DISCUSSION

According to demographic information (Table 2), the respondents' age (11%) was in the range of 18-30 years, which corresponds to 33 out of 308 respondents. On the other hand, 60 respondents' age was between 30 to 40, which is mentioned as 19% in this age demographic. The third age group discloses that 34% of respondents' age was between 41 to 50 years, where this number was 104 out of 308 respondents. The next and final stage of the age group was 50 or more than 50 (36%), which encompasses 111 out of 308 respondents in this group.

Table 2. Demographic information

Characteristics	Frequency	Percentage (%)
Age (in years)		
18 to 30	33	11%
30 to 40	60	19%
41 to 50	104	34%
> 50 or more	111	36%
Gender		
Male	174	56%
Female	134	44%
Education		
High school	24	8%
Bachelor Degree	231	75%
Postgraduate Degree	41	13%
Diploma Certificate	12	4%
Smartphone Usage Types		
Android	224	73%
iOS	84	27%
Income per month (in Bangladeshi taka)		
Below 20,000	37	12%
20,001 to 50,000	194	63%
> 50,000 or more	77	25%

Note: ** n = 308.

As for the gender status of respondents, most of the respondents were males (56%, n = 308), whereas females were 44%, n = 134. In terms of educational qualifications, the preponderance of those surveyed are Bachelor's degree holders (75%, n = 231), whereas the number of Postgraduate Degree holders was 41 (13%) out of 308 participants in this demographic information. The next education class is the high school degree, where the number of participants was 24 of the total of 308 participants in this study, and the last educational qualification is a Diploma Certificate, which was highlighted (4%), which means 12 out of 308 participants. Based on the types of smartphone usage, the number of total Android users was 224, which mentions 73% out of 100% regarding this study. On the other hand, 27% of respondents used iOS as a smartphone, which means the number of participants was 84 in this demographic informa-
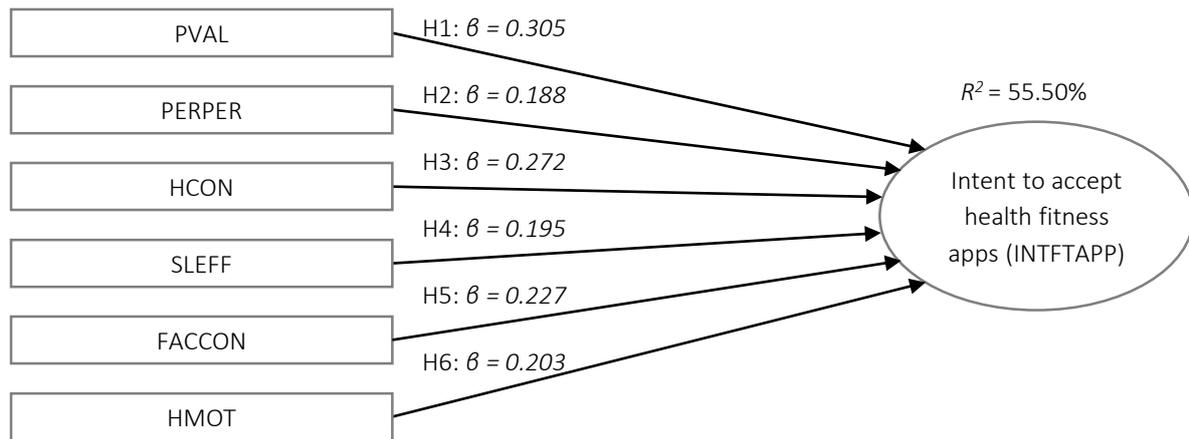
Figure 2. Regression results

tion. Lastly and most importantly is the income per month of the respondents, whereas 37 (12%) participants' income was below 20,000 BD" taka, while 63% of respondents' per month income was "20,001 to 50,000" BD" taka; this corresponds to 194 out of 308 participants in this study. Moreover, the 77 participants' income was above 50,000 BD" taka.

Table 3. Regression coefficient analysis

	β-value	t-value	Sig.	Tolerance	VIF
PVAL	0.305	3.534	0.000**	0.844	1.475
PERPER	0.188	2.884	0.000**	0.819	1.863
HCON	0.272	2.307	0.000**	0.686	1.948
SLEFF	0.195	2.990	0.000**	0.897	1.856
FACCON	0.227	3.047	0.000**	0.694	1.547
HMOT	0.203	3.008	0.000**	0.825	1.183

R^2 = 0.555
Durbin-Watson value = 2.089
Dependent variable: Intent to use fitness apps (INTFTAPP)

Note: * p < 0.10; ** p < 0.05 (n = 308).

Table 3 and Figure 2 represent the test of hypotheses between each factor, and Table 3 also indicates that R^2 = 0.555 or 55.50% determined the variance, which encirclements six (6) variables such as price value (PVAL), perceived performance (PERPER), health consciousness (HCON), self-efficacy (SLEFF), facilitating condition (FACCON), and hedonic motivation (HMOT), where these are accepted at a 5% significance level. In terms of regression analysis, Hypothesis 1 implies there is a causal link in a favorable direction between price value (PVAL) and intent to accept health fitness apps (INTFTAPP) that is accepted at the 5% significance level (β = 0.305, p < 0.05). The past study also supports this result as price value acts as a robust influencing factor of consumers' behavioral

intention in the context of the adoption of fitness apps (Hoque & Sorwar, 2017; Yuan, 2015; Peng et al., 2016). On the other hand, H2 suggests there is a positive and significant relationship between perceived performance (PERPER) and intent to accept health fitness apps (INTFTAPP), which is accepted at the 5% significance level (β = 0.188, p < 0.05). Prior studies also recommend that perceived performance is a significant indicator of the adoption of new technologies that enhance the intention to use fitness apps (Cimperman et al., 2016; De Veer et al., 2015; Damberg, 2017; Hoque & Sorwar, 2017).

According to Hypothesis 3, there is a positive relationship between health consciousness (HCON) and intent to accept health fitness apps (INTFTAPP) that is acknowledged at the rate of the 5% significance level (β = 0.272, p < 0.05). This outcome is supported by the past studies, since consciousness is a crucial determinant that positively and significantly affects the intention of consumers to use fitness apps (Wei et al., 2018; Duarte & Pinho, 2019). According to Hypothesis 4, there is a positive and significant relationship between self-efficacy (SLEFF) and intent to accept health fitness apps (INTFTAPP), which is accepted at the 5% significance level (β = 0.195, p < 0.05) in this study. This feedback is supported by the previous studies, since self-efficacy generates satisfactory outcomes with minimum efforts, which directly influences the adoption of health fitness apps (Im et al., 2011; Zhao et al., 2008). Hypothesis 5 shows that there is a positive and significant relationship between facilitating condition (FACCON) and intent to

Table 4. Hypothesis testing summary

Proposed Hypotheses	Decision
H1: There has been a positive association between price value (PVAL) and intent to accept health fitness apps (INTFTAPP).	Accepted
H2: There has been a positive association between perceived performance (PERPER) and intent to accept health fitness apps (INTFTAPP).	Accepted
H3: There has been a positive association between health consciousness (HCON) and intent to accept health fitness apps (INTFTAPP).	Accepted
H4: There has been a positive association between self-efficacy (SLEFF) and intent to accept health fitness apps (INTFTAPP).	Accepted
H5: There has been a positive association between facilitating condition (FACCON) and intent to accept health fitness apps (INTFTAPP).	Accepted
H6: There has been a positive association between hedonic motivation (HMOT) and intent to accept health fitness apps (INTFTAPP).	Accepted

accept health fitness apps (INTFTAPP). This regression result is accepted at the 5% significance level ($\beta = 0.227$, $p < 0.05$), which is supported by the past studies, since hedonic motivation has a positive and significant effect on the intention to use health fitness apps (Alalwan et al., 2017; Dhiman et al., 2020). According to Hypothesis 6, the regression result is accepted at the 5% significance level ($\beta = 0.203$, $p < 0.05$), and it illustrates that there is a relationship between hedonic motivation (HMOT) and the intent to accept health fitness apps (INTFTAPP). Also, this result is supported by prior studies, hedonistic motivation performs a constructive and essential function in facilitating an increase in the adoption of technology that facilitate the use of fitness and health apps (Alalwan et al., 2017; Dhiman et al., 2020).

Henceforth, future research may focus more on other significant factors such as perceived privacy, anxiety to use new technology, perceived credibility, and trust, which might create more intention to use health fitness apps. The study offers insightful information regarding the elements that influence the acceptance intention of fitness apps among customers that are health conscious. The findings may inform the development and marketing strategies of fitness app developers, as well as provide guidance to healthcare professionals on how to promote the use of fitness apps as part of a healthy lifestyle.

CONCLUSION

This study aimed to investigate what factors influence customers' decisions to download health-oriented fitness apps. From the analysis of this study, it can be concluded that health-conscious consumers generally have a positive attitude towards fitness apps and are likely to adopt them in their daily routine. The findings suggest that factors such as price value PVAL ($\beta = 0.305$, $p < 0.05$), perceived performance PERPER ($\beta = 0.188$, $p < 0.05$), health consciousness HCON ($\beta = 0.272$, $p < 0.05$), self-efficacy SLEFF ($\beta = 0.195$, $p < 0.05$), facilitating condition FACCON ($\beta = 0.227$, $p < 0.05$), and hedonic motivation HMOT ($\beta = 0.203$, $p < 0.05$) are critical determinants of acceptance intention among health-conscious consumers. Furthermore, taken together, these constructs can account for 55.50 percent of the variation in explaining why people decide to use fitness apps that emphasize health. Therefore, health conscious fitness app users are shown to be another important issue in predicting future fitness app usage. The study highlights the importance of designing fitness apps that are user-friendly, engaging, and enjoyable to use, as well as promoting social interaction and support. Developers of fitness apps should also focus on providing accurate and reliable information to build trust among users. On the other hand, if the technology is easy to realize and understand to consumers, it might create more intention to use health fitness apps. Furthermore, the study suggests that there is a potential for fitness apps to improve the overall health and well-being of individuals, as well as provide opportunities for self-monitoring and goal-setting. However, it is essential to acknowledge the limitations of technology and the potential negative impacts of excessive reliance on fitness apps, such as the development of unhealthy obsessions

or the neglect of other important aspects of health, such as nutrition and sleep. Consumer intentions to use health and fitness applications are heavily influenced by technological interventions that play a big role in this process.. Besides, marketers need to discover the rules that will entice those who do not already use these applications to start using them so that they may develop a health consciousness among their customers.

AUTHOR CONTRIBUTIONS

Conceptualization: Md. Atikur Rahaman, Rupali Dilip Taru.
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Investigation: Md. Atikur Rahaman, Rupali Dilip Taru.
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Resources: Aman Gupta, Vikash Prajapat.
Software: Rupali Dilip Taru.
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Visualization: Aman Gupta, Vikash Prajapat, Emran Ahmed.
Writing – original draft: Md. Atikur Rahaman, Rupali Dilip Taru.
Writing – review & editing: Md. Atikur Rahaman, Rupali Dilip Taru, Aman Gupta, Vikash Prajapat, Emran Ahmed.

REFERENCES

1. Ahmed, S., Asheq, A. A., Ahmed, E., Chowdhury, U. Y., Sufi, T., & Mostofa, M. G. (2023). The intricate relationships of consumers' loyalty and their perceptions of service quality, price and satisfaction in restaurant service. *The TQM Journal, 35*(2), 519-539. https://doi.org/10.1108/TQM-06-2021-0158

2. Akhter, A., Islam, K. M. A., Karim, M. M., & Latif, W. B. (2022). Examining Determinants of Digital Entrepreneurial Intention: A Case of Graduate Students. *Problems and Perspectives in Management, 20*(3), 153-163. http://dx.doi.org/10.21511/ppm.20(3).2022.13

3. Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management, 37*(3), 99-110. https://doi.org/10.1016/j.ijinfomgt.2017.01.002

4. Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., Lal, B., & Williams, M. D. (2015). Consumer adoption of Internet banking in Jordan: Examining the role of hedonic motivation, habit, self-efficacy and trust. *Journal of Financial Services Marketing, 20*(1), 145-157. https://doi.org/10.1057/fsm.2015.5

5. Ali, M. J., Karim, M. M., Hitoishi, B. I., Wafiq, H. A., & Islam, K. M. A. (2022). Determinants of consumers' purchase intention to buy smartphones online. *Innovative Marketing, 18*(2), 109-119. http://dx.doi.org/10.21511/im.18(2).2022.10

6. Al-Somali, S. A., Gholami, R., & Clegg, B. (2009). An investigation into the acceptance of online banking in Saudi Arabia. *Technovation, 29*(2), 130-141. https://doi.org/10.1016/j.technovation.2008.07.004

7. Asheq, A. A., Tanchi, K. R., Akhter, S., Kamruzzaman, M., & Islam, K. M. A. (2022). Examining university students' behaviors

towards online shopping: an empirical investigation in an emerging market. *Innovative Marketing, 18*(1), 94-103. http://dx.doi.org/10.21511/im.18(1).2022.08

8. Baer, N. R., Vietzke, J., & Schenk, L. (2022). Middle-aged and older adults' acceptance of mobile nutrition and fitness apps: A systematic mixed studies review. *Plos One, 17*(12), e0278879. https://doi.org/10.1371/journal.pone.0278879

9. Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4*(3), 359-373. https://doi.org/10.1521/jscp.1986.4.3.359

10. Beldad, A. D., & Hegner, S. M. (2018). Expanding the technology acceptance model with the inclusion of trust, social influence, and health valuation to determine the predictors of German users' willingness to continue using a fitness app: A structural equation

modeling approach. *International Journal of Human–Computer Interaction, 34*(9), 882-893. https://doi.org/10.1080/10447318.2017.1403220

11. Brindal, E., Hendrie, G., Freyne, J., Coombe, M., Berkovsky, S., & Noakes, M. (2013). Design and pilot results of a mobile phone weight-loss application for women starting a meal replacement programme. *Journal of Telemedicine and Telecare, 19*(3), 166-174. https://doi.org/10.1177/1357633X13479702

12. Chen, M. F., & Lin, N. P. (2018). Incorporation of health consciousness into the technology readiness and acceptance model to predict app download and usage intentions. *Internet Research, 28*(2), 351-373. https://doi.org/10.1108/IntR-03-2017-0099

13. Chen, X., Miraz, M. H., Gazi, M. A. I., Rahaman, M. A., Habib, M. M., & Hossain, A. I. (2022). Factors affecting cryptocurrency adoption in digital business transactions: The mediating role of customer satisfaction. *Technology in Society, 70,* 102059. https://doi.org/10.1016/j.techsoc.2022.102059

14. Cho, H., Chi, C., & Chiu, W. (2020). Understanding sustained usage of health and fitness apps: Incorporating the technology acceptance model with the investment model. *Technology in Society, 63,* 101429. https://doi.org/10.1016/j.techsoc.2020.101429

15. Cimperman, M., Brencic, M. M., & Trkman, P. (2016). Analyzing older users' home telehealth services acceptance behavior – applying an Extended UTAUT model. *International Journal of Medical Informatics, 90,* 22-31. https://doi.org/10.1016/j.ijmedinf.2016.03.002

16. Cowan, L. T., Van Wagenen, S. A., Brown, B. A., Hedin, R. J., Seino-Stephan, Y., Hall, P. C., & West, J. H. (2013). Apps of steel: are exercise apps providing consumers with realistic expectations? A content analysis of exercise apps for presence of

behavior change theory. *Health Education & Behavior, 40*(2), 133-139. https://doi.org/10.1177/1090198112452126

17. Dahl, A. J., Milne, G. R., & Peltier, J. W. (2021). Digital health information seeking in an omni-channel environment: A shared decision-making and service-dominant logic perspective. *Journal of Business Research, 125,* 840-850. https://doi.org/10.1016/j.jbusres.2019.02.025

18. Damberg, S. (2022). Predicting future use intention of fitness apps among fitness app users in the United Kingdom: the role of health consciousness. *International Journal of Sports Marketing and Sponsorship, 23*(2), 369-384. https://doi.org/10.1108/IJSMS-01-2021-0013

19. De Veer, A. J., Peeters, J. M., Brabers, A. E., Schellevis, F. G., Rademakers, J. J., & Francke, A. L. (2015). Determinants of the intention to use e-Health by community-dwelling older people. *BMC Health Services Research, 15*(1), 1-9. https://doi.org/10.1186/s12913-015-0765-8

20. Dhiman, N., Arora, N., Dogra, N., & Gupta, A. (2020). Consumer adoption of smartphone fitness apps: an extended UTAUT2 perspective. *Journal of Indian Business Research, 12*(3), 363-388. https://doi.org/10.1108/JIBR-05-2018-0158

21. Duarte, P., & Pinho, J. C. (2019). A mixed methods UTAUT2-based approach to assess mobile health adoption. *Journal of Business Research, 102,* 140-150. https://doi.org/10.1016/j.jbusres.2019.05.022

22. Hoque, R., & Sorwar, G. (2017). Understanding factors influencing the adoption of mHealth by the elderly: An extension of the UTAUT model. *International Journal of Medical Informatics, 101,* 75-84. https://doi.org/10.1016/j.ijmedinf.2017.02.002

23. Hsia, J. W., Chang, C. C., & Tseng, A. H. (2014). Effects of individuals' locus of control and computer self-efficacy on their e-learning acceptance in high-tech companies. *Behaviour &*

Information Technology, 33(1), 51-64. https://doi.org/10.1080/0144929X.2012.702284

24. Huang, C. Y., & Kao, Y. S. (2015). UTAUT2 based predictions of factors influencing the technology acceptance of phablets by DNP. *Mathematical Problems in Engineering, 2015,* 1-23. https://doi.org/10.1155/2015/603747

25. Im, I., Hong, S., & Kang, M.S. (2011). An international comparison of technology adoption: testing the UTAUT model. *Information and Management, 48*(1), 1-8. https://doi.org/10.1016/j.im.2010.09.001

26. Lupton, D. (2013). Quantifying the body: monitoring and measuring health in the age of mHealth technologies. *Critical Public Health, 23*(4), 393-403. https://doi.org/10.1080/09581596.2013.794931

27. Moon, J. W., & Kim, Y. G. (2001). Extending the TAM for a World-Wide-Web context. *Information & Management, 38*(4), 217-230. https://doi.org/10.1016/S0378-7206(00)00061-6

28. Peng, W., Kanthawala, S., Yuan, S., & Hussain, S. A. (2016). A qualitative study of user perceptions of mobile health apps. *BMC Public Health, 16*(1), 1-11. https://doi.org/10.1186/s12889-016-3808-0

29. Quaosar, G. A. A., Hoque, M. R., & Bao, Y. (2018). Investigating factors affecting elderly's intention to use m-health services: an empirical study. *Telemedicine and e-Health, 24*(4), 309-314. https://doi.org/10.1089/tmj.2017.0111

30. Rahaman, M. A., Hassan, H. K., Asheq, A. A., & Islam, K. A. (2022). The interplay between eWOM information and purchase intention on social media: Through the lens of IAM and TAM theory. *Plos One, 17*(9), e0272926. https://doi.org/10.1371/journal.pone.0272926

31. Schoeppe, S., Alley, S., Van Lippevelde, W., Bray, N. A., Williams, S. L., Duncan, M. J., & Vandelanotte, C. (2016). Efficacy of interventions that use apps to

improve diet, physical activity and sedentary behaviour: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity, 13*(1), 1-26. https://doi.org/10.1186/s12966-016-0454-y

32. Tavares, J., & Oliveira, T. (2016). Electronic health record patient portal adoption by health care consumers: an acceptance model and survey. *Journal of Medical Internet Research, 18*(3), e5069. https://doi.org/10.2196/jmir.5069

33. Van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly, 28*(4), 695-704. https://doi.org/10.2307/25148660

34. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology. Toward a unified view. *MIS Quarterly, 27*(3), 425-478. https://doi.org/10.2307/30036540

35. Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly, 36*(1), 157-178. https://doi.org/10.2307/41410412

36. Wang, Y., & Collins, W. B. (2021). Systematic evaluation of mobile fitness apps: Apps as the Tutor, Recorder, Game Companion, and Cheerleader. *Telematics and Informatics, 59,* 101552. https://doi.org/10.1016/j.tele.2020.101552

37. Wang, Y. S., Wu, M. C., & Wang, H. Y. (2009). Investigating the determinants and age and gender differences in the acceptance of mobile learning. *British Journal of Educational Technology, 40*(1), 92-118. https://doi.org/10.1111/j.1467-8535.2007.00809.x

38. Wei, J., Vinnikova, A., Lu, L., & Xu, J. (2021). Understanding and predicting the adoption of fitness mobile apps: evidence from China. *Health Communication, 36*(8), 950-961. https://doi.org/10.1080/10410236.2020.1724637

39. Yuan, D., Rahman, M. K., Issa Gazi, M. A., Rahaman, M. A., Hossain, M. M., & Akter, S. (2021). Analyzing of user attitudes toward intention to use social media for learning. *Sage Open, 11*(4), 21582440211060784. https://doi.org/10.1177/21582440211060784

40. Yuan, S., Ma, W., Kanthawala, S., & 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), 735-741. https://doi.org/10.1089/tmj.2014.0148

41. Zhang, Y., & Jin, S. (2016). The impact of social support on postpartum depression: The mediator role of self-efficacy. *Journal of Health Psychology, 21*(5), 720-726. https://doi.org/10.1177/1359105314536

42. Zhao, X., Mattila, A. S., & Eva Tao, L. S. (2008). The role of post-training self-efficacy in customers' use of self-service technologies. *International Journal of Service Industry Management, 19*(4), 492-505. https://doi.org/10.1108/09564230810891923

43. Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in Human Behavior, 26*(4), 760-767. https://doi.org/10.1016/j.chb.2010.01.013