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Dr. Nadiminti Rajesh Kumar
Assistant Professor, Department of Pharmaceutical Management, NIPER-Ahmedabad, Gujarat, India

Sakshi Madhusudan Mantri
Student, Department of Pharmaceutical Management, NIPER-Ahmedabad, Gujarat, India

Diksha Nirwan
Student, Department of Pharmaceutical Management, NIPER-Ahmedabad, Gujarat, India

Rushikesh Toshniwal Student,
Department of Pharmaceutical Management, NIPER-Ahmedabad, Gujarat, India

Himanshu
Student, Department of Pharmaceutical Management, NIPER-Ahmedabad, Gujarat, India

Awdhesh Kumar Shukla
Student, Department of Pharmaceutical Management, NIPER-Ahmedabad, Gujarat, India

Corresponding Author:
Sakshi Madhusudan Mantri
Student, Department of Pharmaceutical Management, NIPER-Ahmedabad, Gujarat, India

A study on the perception of the population towards fitness bands as a self-healthcare management tool

Dr. Nadiminti Rajesh Kumar, Sakshi Madhusudan Mantri, Diksha Nirwan, Rushikesh Toshniwal, Himanshu and Awdhesh Kumar Shukla

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Abstract
Digitalization in health is a new trend in the healthcare industry. New innovations are at their peak that assist health diagnosis, treatment and overall healthcare routine. Fit bands are one such tech-assisted healthcare management tool been accepted not only by health-conscious ones but also by others. The purpose of our study was to know the population's perception of the fit band technology, its utility, and the reason for acceptance or non-acceptance. With the use of demographic information of age, profession, income, gender, location and health status, we tried to find the out significance of fit band use and end up concluding that there is no effect of fit band acceptance on these parameters. Hence it is acceptable by all. Though untouched by large population yet. The responses were looked at using confirmatory factor analysis and structural equation modelling. By use of TAM factors, we drew out conclusion by framing variables and relevant questions that address answers of reliability, motivation, privacy, trust, etc.

Keywords: Fit band, digital health, TAM, technology, health

Introduction
Health is a broad term which implied the mental, physical, and social well-being of an individual. With ever-increasing rates of disease and disorders, maintaining one's health is everyone's concern. Changed habits concerning diet, working patterns, and environment have contributed to deteriorating health among individuals. However, advancements in technology have made it easy for health professionals and doctors to keep track of the vital parameters that govern individuals' health parameters like ECG, Pulse oximeters, digital thermometers, advanced eye check-ups tools, etc.

Digital health is a wide phrase that encompasses digital care programmes and technologies that support health and healthcare at the individual and societal level to increase the effectiveness of healthcare delivery and to make medicine more specific and individualised. Wearable technology, tele health and telemedicine, personalised medicine, wearable devices, and mobile health (health) are only a few of the sub-divisions under the broad umbrella of digital health.

Clinical choices made by clinicians are supported by software and mobile medical applications. A revolution in health care has been fuelled by artificial intelligence and machine learning on the back of digital technologies. Digital health tools have the potential to significantly improve individual patient care as well as our ability to precisely detect and cure disease.

For healthcare and associated purposes, digital health technologies use computing platforms, networking, software, and sensors. They consist of innovations developed as medical products, companion diagnostics, or contribute to currently available medical items (devices, drugs, and biologics). They could also be used to research or develop medicinal items. Devices that have already received FDA authorisation, clearance, or approval now include digital characteristics. These characteristics are being researched for new gadget types.

Patients, healthcare professionals, researchers, traditional medical device sector companies, and companies that are new to the FDA regulatory standards, including mobile application developers, are just a few of the stakeholders involved in digital health activities.

The majority of wearable technology is used to monitor workouts and health-related activities. Modern smartphones include sophisticated sensors and processors that can track motions and take medical readings like blood pressure, cholesterol, blood sugar, and heart rate. Users can gather, save, and share nearly any type of health information using mobile health and fitness applications on their smartphones with wearable technology. Users and their doctors can track real-time health and fitness data using wearable devices like smart watches, fitness bracelets, and mobile health and fitness applications. Additionally, doctors use the data they've obtained for follow-up and therapy purposes.

An activity tracker called a Fit band is worn on the wrist much like a watch. It automatically monitors your daily activity when you engage in a variety of exercises, such as walking, running, swimming, cycling, or working out in the gym, and then stores this data in an accessible app on your phone. They also have many more features that measure vital body parameters like- heart rate and pulse rate sensors, Blood oxygen level detectors, sleep cycle trackers, menstrual cycle features, etc. Features like calories burnt and steps counter help an individual to have a healthy lifestyle by taking care of their diet and regular exercise.

Literature Review

A wearable device is a novel type of technology that consists of a small piece of hardware with an application for tracking and monitoring fitness data, such as the distance travelled on walk or while running, the number of calories burned, and, in some models, heart rate and sleep tracking. The word is most typically used today to describe specialised electronic monitoring equipment that are synchronised, frequently wirelessly, to a computer or smartphone for long-term data tracking. Due to its ability to provide real-time information, wearable technology has becoming more and more popular. One or more of the many multipurpose features that each one has included are step counter, calorie counter, distance counter, and sleep tracker [1].

In the near future, "Dr. Google" is anticipated to be replaced by consumer-level health devices. At the moment, those who live healthy lives and want to monitor their progress are more inclined to buy wearables.

Most wearables manufacturers, like Fitbit, Jawbone, and Nike, emphasize how their products could eventually become an "all-in-one" platform for improving physical performance and developing good habits [2].

Fitness trackers are often placed on the wrist or hip and are more especially made for PA track. Fitness trackers often cost less than smart watches because of less expensive hardware and frequently fewer sensors. This results in a generally longer battery life and a more user-friendly tracking information display interface.

We categorized wearable's into three groups while gathering data on them:

1. **Smart watches:** A device was classified as a smart watch if it met one of the following criteria:
   - It had a touch screen and the manufacturer did not designate it as a fitness tracker
   - It supported mobile phone notifications.
2. **Fitness trackers:** We categorised a device as a fitness tracker if it satisfied one of the following criteria: it was primarily used to track PA, the vendor described to it as a fitness tracker, or it did not support notifications from the mobile phone it was linked to (eg, incoming calls or texts).
3. **Watches that are hybrids:** A hybrid watch must contain both an analogue clockwork and an incorporated digital accelerometer [3].

The healthcare sector has observed a shift from treatment-focused services to prevention and management-focused services thanks to patient self-control and the use of cutting-edge medical technologies. Users of wearable devices should find these tools easy to use, claim health-related organizations and legislators. Producers of wearable technology ought to make their goods more affordable so that everybody can afford and use them for better health [4]. In the age of technology, people are becoming less physically active. Due to their lack of physical activity, people in this day and age are dealing with a number of health issues. Increased stress, poor sleep, and obesity are a few effects of our mechanized environment [5].

The World Health Assembly in 2018 approved a global target to reduce physical inactivity by 15% by 2030, which is aligned with the Sustainable Development Goals [21]. Currently, the fourth-most significant risk factor for death in the globe is low Physical Activity [3].

Your smartphone and wearable trackers can help you stay motivated while exercising and collect data about your daily activities or fitness without requiring you to complete laborious manual computations or maintain records. These devices are getting more and more popular in the personal healthcare industry since they motivate people to exercise more throughout the day without changing their lifestyles [1].

For the convenience of users, user interfaces (UI) for wearable technology should be straightforward, quick, and simple. Because wristband-style wearable devices are so small, this can be challenging. Users place high importance on the smartphone app that connects to the wearable device. It must be simple to download the companion app for a wearable device onto a smartphone. By paying attention to customer comments and opinions from this study, businesses that have launched fitness trackers or wearable technologies into this fiercely competitive market can continuously produce unique, eye-catching products and minimize mistakes in order to reach a broader market. It is necessary to strike a balance between technology and aesthetics, and modern, lightweight, discrete, and waterproof designs are also essential [1].

Regarding user safety, wearables are in a "grey area." When patients without medical knowledge seek to correlate symptoms with a specific stream of data from devices that can be faulty on their own, there is a considerable danger of error.

The TAM theory is employed for this study's objectives, to organise the research procedure, and to improve knowledge of fit bands' acceptance and use in the healthcare sector and among the general public. In order to understand how new technology is embraced in the workplace, the technology acceptance model (TAM) was first developed [4].

The TAM contends that attitude, perceived utility, and perceived usability all have a direct impact on one's intention to accept technology. Individuals' intent to utilise technology impacts whether they really do so, and their attitudes toward it have an impact on that intent, according to TAM [6].

Perceived usefulness (PU) is defined as the extent to which a person thinks that utilising a specific system will improve work performance. Customers who believe that wearing a fitness band can help them complete a task more quickly or effectively are at the perception of utility (PU) stage. PEOU is defined as the extent to which a person thinks that utilising a certain system requires no physical or mental effort. External variables in the study include personal characteristics including age, gender, and technological aptitude [7].

According to TAM, if technology is simple to use, users will view it favourably [8]. The degree to which a person thinks utilising a specific system would be effortless is what is meant by perceived ease of use in TAM, another consideration. The degree to which a person believes that using a specific system requires no physical or mental effort is known as PEOU. (Davis n.d.)

A fitness tracker's perceived simplicity of use also relates to its user-friendly interface and straightforward functions. Despite their extensive multitasking capabilities, fitness trackers can easily be attached to or bound to each user. The more users will believe that a fitness tracker is easy to use, which will increase their attitudes and views of its worth. The easier it is to use, comprehend, and learn how to utilise a fitness tracker [9].

Perceived ease of use (PEU) is secondary to perceived usefulness in TAM, which influences intentions to use even as perceived usefulness predicts those intentions. What's more intriguing is that some research doesn’t utilise the ease of use as a factor in predicting projected future usen [10].

Even if prospective users think a particular application is helpful, they could also think that the system is too complicated to operate and that the performance advantages of utilising it are overshadowed by the effort. Meaning that perceived ease of use is thought to influence utilisation in addition to usefulness [6].

The term "Degree to which a person believes that utilising a certain system would be devoid of effort" is used to describe perceived ease of use. We assert that, other things being equal, a user is more likely to adopt an application that they view as being simpler to use than another [10].

The subjective likelihood that a potential user would perform better after utilising a particular application system is how perceived usefulness is defined. Consumers' perceptions of a product's utility represent their expectations for increased performance through the use of technology. It has been determined that the most effective factor for predicting technology usage intention and acceptance is perceived utility. Major research findings show that perceived utility influences attitudes toward utilising technology and behavioural intentions to utilise it in a favourable way. Four factors are frequently used to gauge the perceived utility of new technology: productivity, efficacy, performance, and overall usefulness [10].

The term "Degree to which a person believes that utilising a certain technology would boost his or her job performance" is used to define perceived usefulness in this context. A system with high perceived usefulness is one for which the user thinks there will be a benefit. -performance connection [6].

Education level and gender are only two examples of the many external factors that have an impact on perceived usefulness and ease [11, 12].

Cost mainly refers to the amount of money or other stuff that a person must pay to get fitness trackers. A price that is excessively expensive in relation to the value of the goods can lower the likelihood that a customer will make a purchase [7]. Previous studies have shown that users' purchasing intentions are constrained by how much they perceive the cost to be. As a result, the relationship between price and intention to buy is inverse. To put it another way, value is what buyers will get as opposed to price, which is what they spend. Users are likely to put off making a purchase altogether when the value and price are not balanced or fair in their eyes. The price, however, does not always adversely connect with a consumer's propensity to buy a good or service [9].

The components of attitude (A) are knowledge, emotion, and action. It takes knowledge to progressively create emotions toward something, whether they are favourable or bad, and then those emotions will result in actions toward specific goods or services. As a result, it is a useful method for gathering information that enables us to forecast consumer behaviour. To put it simply, an attitude refers to how positively or negatively a user understands or perceives the use of technology. The likelihood that people will buy fitness trackers will rise with a more favourable view toward them [9].

The desire to live a healthy lifestyle can also affect one's mood. For instance, a person living a healthy lifestyle wouldn't smoke because smoking might lead to several health issues. In other words, altering one's mind-set is necessary in order to modify one's conduct in order to accomplish a goal. One's attitude can be positively changed by thinking that using health apps or devices will benefit their health. According to TAM, a user's attitude and behaviour toward a system are positively impacted by how easy and useful they perceive it to be.

Individuals' willingness to attempt new things rose as a result of the knowledge and attitudes they acquired in healthcare settings. Similar to early adopters, these people frequently intend to use new healthcare applications positively. A person's internal factors will lead to proactive and positive attitudes that lead to the use intention of health-related gadgets and apps when they believe that using new technology is simple and useful [4].

Behavioural Intention refers to a person's conscious plans to engage in or refrain from engaging in a specific future behaviour, whereas attitude refers to the person's positive or negative feelings toward using the new technology. In other words, a user's mind-set determines whether they think using new technology is worthwhile. To measure the impact of behavioural beliefs on technology use, such as perceived usefulness and ease of use, researchers look at users' attitudes about technology, their intention to use it, and their actual use of it [10].

Exercise routine: One of the major measures to keeping a healthy lifestyle has been to engage in daily physical activity. It safeguards a person's general mental and emotional well-being in addition to their physical health. Depending on a person's needs, several exercise regimens are recommended. Some people become accustomed to running and walking, while others prefer to visit the gym. With the development of technology, individuals are becoming increasingly accustomed to tracking their daily activities with devices [13].

Calorie count track: Everybody who cares about their health has always been quite concerned about their calorie consumption. Increased rise in obesity, diabetes incidence, etc. people are becoming more conscious about how much they eat and are keeping track of their caloric consumption.

They always have to rely on their dietician to keep track of this, but thanks to technological advancements and the availability of different tracking devices in the market that made keeping track of calories are now simpler and faster. This saves people time and allows them to check their records on a regular basis [13].

Sleep tracker: Sleep is a crucial physiological process for survival. Its standard is highly connected with various well-being metrics, including mental and physical health. Not only have sleep issues and the symptoms they produce been ignored, but their causes have also received less attention. Many adults say they have trouble falling asleep. People are turning to modern technology, such as sleep-tracking devices, to get around this and keep their sleeping patterns in check [13].

Heart sensor: The market for wearable fitness tracking gadgets is worth billions of dollars. Competitive runners are among the endurance athletes who increasingly rely on wrist-worn devices to direct their training. These optically based, commercially available gadgets may track many different elements of physical activity, including distance, pace, performance zones, and heart rate (HR). Many distance runners use the HR feature in particular as a gauge of their fitness development. Competitive runners' training regimens often include long runs, interval sessions, and even hill sprints, therefore the accuracy of HR monitoring is crucial to achieving a balance between these various training loads. The wrist-based gadgets' comfort and convenience have allowed them too largelyb [13].

Experience: The unique user experience and the simplicity of use of the healthcare gadget are completely dependent on each other. People typically utilise an item for longer lengths of time if it is easy to operate. It can provide us with a clearer understanding of the device's functions, revealing which ones are most helpful to users in their daily use and which ones aren't so fantastic. This entirely depends on how long the user uses the equipment or medical technology [7].

Error-prone: We cannot completely rely on technology because it is also a man-made item, hence it too has drawbacks. Even though the chances are slim, they are nonetheless present. Therefore, it is crucial for the medical device's reading and sensing parameters to be error-free in order for it to be sold on the market. It is therefore very helpful to take into account this aspect in our research to gain insight into the issues people are having with the fit bands that are already on the market [6].

Good and fit interface: Human users interact with computers, websites, and applications through user interfaces. Effective user interfaces should be simple and intuitive to use, requiring little effort from the user to achieve the desired results. The user interface is essential for meeting client expectations and supporting your device effective performance. A well-designed user interface enables successful interaction between the user and the program, app, or machine through contrasted images, a straightforward design, and responsiveness [14].

Habit: It is crucial for the user to regularly use the technology or medical equipment in order to have the necessary knowledge and comprehensive insight into the user experience. It is crucial to use the gadget frequently because doing so would enable us to understand all the other features covered in the previous section and make the most of the device [7].

Completeness of information: The intention behind this variable is to ascertain whether fit bands are providing complete information or not. With the completeness of information, we ask the population that weather fit bands provide the necessary required complete information about health status or not [6].

Useful information: Information provided by fit bands is considered to be useful when they induce action. This could be understood by an example that if a person is having a sedentary lifestyle and observes very less step count then if it encourages the user to go out for a walk then the information is said to be used.

Effectiveness: It is measured by the level of benefits users obtain upon the use of fit bands [6].

Job Performance: Fit bands help achieve goals was the question we asked to know about the job performance variable of perceived usefulness [6, 15].

Make the job easier: An effective fit band with good accuracy can eliminate the use of many other diagnostic tools and visits to doctors. Fit bands have the ability to give a quick analysis of many vital parameters [6].

Social influence: Purchase of Fit Band can be influenced by many reasons like a recommendation from professionals, advertisements, and friends and family [14].

Image: Fit bands were innovated as a health management recording and tracking device. When used to the fullest and made with utmost effectiveness can prove to be effective to physicians also to record the vital parameters and draw inferences about patient's health condition. However, it has also been seen that the utility of fit bands has been limited to watch and accessory by many individuals; which is not its actual purpose but is a reason of its sales. (Yau and Hsiao 2022) [7]

Objective

1. To comprehend the factors that drive consumers to purchase fitness bands.
2. To find the impact of fit bands in self- healthcare management of users.

Methodology, Sampling and Sample Characteristics

The data of the study was obtained by means of questionnaire circulation across the country. The questionnaire included all the questions associated with our variables. The questionnaire was divided into 2 main divisions. 1st division consisted if questions for the fit band users and 2nd one was for non-fit band users. The first division was further segmented into 4 segments as per our four factors: attitude, perceived usefulness, perceived ease of use, and behaviour intention. Demographic section was common for all the respondents which included questions as mentioned in Table 1. Three types of Likert scale of 5-pointers were chosen to know the perspective of respondents towards Fit bands. They were:

- Strongly disagree, disagree, neutral, agree, and strongly agree [9, 11, 16]
- Not at all used, slightly used, moderately used, very used, extremely used. [1]
- Never, rarely, sometimes, often, always. [17]

We collected 656 responses across India (27 states/ union territories), out of which 307 were fit band users. Among the 307 respondents, the maximum were urban male students of the age group 16- 25 years.

Table 1: Demographic Data

Basis	Categories	Sample (N)	Percentage (%)
Age	Under 16 years	19	02.92%
	16- 25 years	574	88.17%
	26-35 years	49	07.53%
	36- 45 years	5	00.77%
	Over 45 years	4	00.61%
Gender	Female	336	51.61%
	Male	315	48.39%
Occupation	Student	542	83.26%
	Unemployed	16	02.26%
	Working Professional	93	14.29%
Locality	Urban	477	73.27%
	Rural	174	26.73%
Family Income	<1 lakh	177	27.19%
	1-3 Lakh	155	23.81%
	3-5 Lakh	135	20.74%
	>5 Lakh	184	28.26%
Health Status	Suffering from any disease/ disorder or any other health condition	54	08.29%
	NOT suffering from any disease/ disorder or any other health condition	597	97.71%

Research Model & hypothesis

The model of our study has 4 main factors: Perceived usefulness, ease of use, attitude towards use and Behaviour intention. The factors are related to each other as shown in Fig.1.

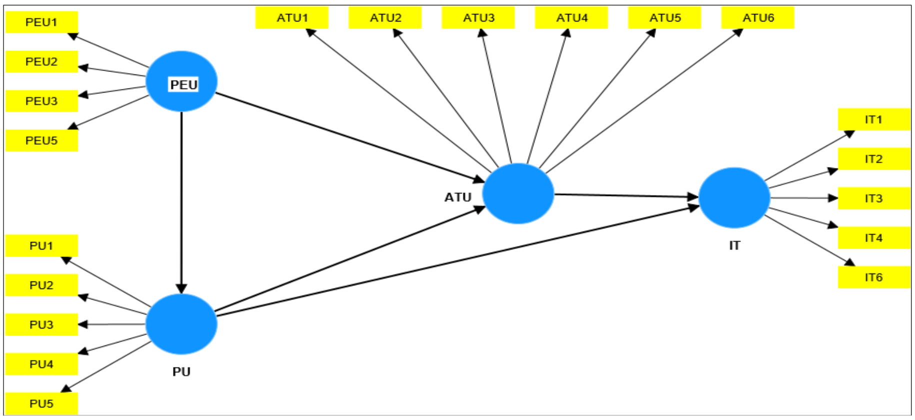

Fig 1: TAM Model [8]

Table 2: The influence of TAM on use of fit bands

Factor	Affected Factor
Attitude (ATU)	Behaviour intention
Perceived ease of use (PEU)	Attitude towards use, perceived usefulness
Perceived usefulness (PU)	Attitude towards use, behaviour intention

Table 3: The influence of variables on the factors with respect to determine TAM model for fit bands acceptance:

Factor	Abbreviation	Sub variable
Attitude towards use (ATU)	ATU1	Exercise [13]
	ATU2	Calory counter motivate [13]
	ATU3	Sleep tracker motivates [13]
	ATU4	Heart sensors reliable [13]
	ATU5	Oxygen [18]
	ATU6	Step count [13]
Perceived usefulness (PU)	PU1	Completeness of information [6]
	PU2	Useful information [6]
	PU3	Effectiveness [6]
	PU4	Job performance [6, 15]
	PU5	Makes the job easier
Perceived ease of use (PEU)	PEU1	Experience [7]
	PEU2	Error-prone [6]
	PEU3	Good and Fit interface [14]
	PEU5	Technical Skills

Behaviour Intention (IT)	IT1	Experience [7]
	IT2	Habit [7]
	IT3	Health conditions [7]
	IT4	Image [7]
	IT6	Social influence [14]

Hypothesis

Table 4: Hypothesis

H1	IT ←ATU	Attitude towards use has positive impact on behaviour intention.
H2	ATU ← PEU	Perceived ease of use has positive impact on attitude towards use.
H3	PU ← PEU	Perceived ease of use has positive impact on perceived usefulness
H4	ATU ← PU	Perceived usefulness has positive impact on attitude towards use
H5	IT ←PU	Perceived usefulness has positive impact on behaviour intention.

Data Analysis

Table 5: Descriptive Analysis based on use of Fitband

Use	Female	Male	Grand Total
Accessory	5.54%	10.10%	15.64%
Health Management and Recording device	14.66%	11.40%	26.06%
Watch	31.92%	26.38%	58.31%
Grand Total	52.12%	47.88%	100.00%

31.92% & 14.66% of female respondents use fit band as watch and Health Management and Recording device respectively.

Table 6: Descriptive Analysis based on Health status, gender and occupation of Respondents

Basis	Not a fit band user	Fit band user	Grand Total
NOT suffering from any disease/ disorder or any other health condition	48.23%	43.47%	91.71%
Female	24.58%	23.35%	47.93%
Student	21.04%	19.97%	41.01%
Unemployed	0.92%	0.77%	1.69%
Working professional	2.61%	2.61%	5.22%
Male	23.66%	20.12%	43.78%
Student	18.89%	16.59%	35.48%
Unemployed	0.46%	0.15%	0.61%
Working professional	4.30%	3.38%	7.68%
Suffering from Disease/ Disorder/ other health condition	4.61%	3.69%	8.29%
Female	2.46%	1.23%	3.69%
Student	2.15%	0.92%	3.07%
Working professional	0.31%	0.31%	0.61%
Male	2.15%	2.46%	4.61%
Student	1.84%	1.84%	3.69%
Unemployed	0.00%	0.15%	0.15%
Working professional	0.31%	0.46%	0.77%
Grand Total	52.84%	47.16%	100%

Table 7: Descriptive Analysis based on Income of Population

Basis	Not a fit band user	Fit band user	Grand Total
NOT suffering from any disease/ disorder or any other health condition	48.23%	43.47%	91.71%
1-3 Lakhs	11.83%	10.29%	22.12%
Between 3-5 Lakhs	10.60%	9.22%	19.82%
Less than 1 Lakh	13.21%	11.37%	24.58%
More than 5 lakhs	12.60%	12.60%	25.19%
Suffering from Disease/ Disorder/ other health condition	4.61%	3.69%	8.29%
1-3 Lakhs	1.08%	0.61%	1.69%
Between 3-5 Lakhs	0.46%	0.46%	0.92%
Less than 1 Lakh	1.23%	1.38%	2.61%
More than 5 lakhs	1.84%	1.23%	3.07%
Grand Total	52.84%	47.16%	100.00%

Table 8: Descriptive Analysis based on Source of Information to Respondents

Source of Information	Female	Male	Grand Total
Health professionals (doctors)	4.23%	6.19%	10.42%
Newspaper	0.33%	0.65%	0.98%
Shopping apps	9.45%	5.21%	14.66%
Social Media	28.01%	23.78%	51.79%
TV	1.63%	2.93%	4.56%
Word of Mouth	8.47%	9.12%	17.59%
Grand Total	52.12%	47.88%	100.00%

Majority of respondents (51.79%) got to know about fit band from social media.

Table 9: Descriptive Analysis based on Location and Age group of Respondents

Basis	Not a Fit band user	Fit band user	Grand Total
Rural	13.98%	12.75%	26.73%
16-25 Years	12.60%	11.52%	24.12%
26- 35 years	1.08%	0.77%	1.84%
36-45 years	0.15%	0.15%	0.31%
Under 16 years	0.15%	0.31%	0.46%
Urban	38.86%	34.41%	73.27%
16-25 Years	33.79%	30.26%	64.06%
26- 35 years	2.76%	2.92%	5.68%
36-45 years	0.31%	0.15%	0.46%
over 45 years	0.46%	0.15%	0.61%
Under 16 years	1.54%	0.92%	2.46%
Grand Total	52.84%	47.16%	100.00%

Out of 26.73% of rural respondents, 11.52% were fit band users of age group 16-25 years. Table 6 & 7 compares respondents' health condition with gender, profession & income status on being or being not a fit band user [19].

Confirmatory Factorial Analysis (CFA)

The gathered data were analysed using MS Excel, SPSS, and Smart PLS 3.3.2.8 software. A multivariate non-parametric method that has become very popular in academics is PLS-SEM. Smart PLS measures both the measurement model and the structural model, in contrast to AMOS, which measures only the measurement model. All the figures and results for measurement and structural model were calculated using Smart PLS 3.2.8 and were formatted according to the reporting style in Microsoft Word.

Reliability Test

The data indicates that the measures are robust in terms of their internal consistency reliability as indexed by the composite reliability. Cronbach's alpha is the lower bound, and the composite reliability rhoc is the upper bound for internal consistency reliability. All indicators had loadings over 0.7, indicating acceptable and strong convergent validity, with the exception of the IT5 & PEU4 indication, which was eliminated [16]. This suggests that the indicator dependability was met.

The reliability coefficient rho. A usually lies between these bounds and may serve as a good representation of a construct's internal consistency reliability; Minimum 0.70 (or 0.60 in exploratory research), Maximum of 0.95 to avoid indicator redundancy, which would compromise content validity. Recommended 0.80 to 0.90. The composite reliabilities of the different measures range from 0.809 to 0.911, which exceed the recommended threshold value of 0.60.

Average variance extracted (AVE)

The construct must explain at least 50% of the variance of the indicators that make up the construct in order for the AVE to be considered acceptable, which must be at least 0.50. The average extracted variance (AVE) for each measurement was greater than 0.50. [16]

Factor loading

Each item's factor loading on its respective construct was highly significant ($p < 0.0001$) as indicated by the T-statistics of the outer model loadings in the PLS Graph output.

Table 10: Data Analysis: Factor Loading, Cronbach's alpha, Reliability

Factor	Abbreviation	Loadings	(AVE)	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)
Attitude towards us (ATU)	ATU1	0.687	0.501	0.803	0.816	0.857
	ATU2	0.800				
	ATU3	0.634				
	ATU4	0.715				
	ATU5	0.639				
	ATU6	0.756				
Behaviour Intention (IT)	IT1	0.816	0.662	0.871	0.887	0.907
	IT2	0.846				

	IT3	0.889				
	IT4	0.821				
	IT6	0.682				
Perceived Ease of Us (PEU)	PEU1	0.632	0.568	0.736	0.809	0.834
	PEU2	0.885				
	PEU3	0.889				
	PEU5	0.547				
Perceived Usefulness (sPU)	PU1	0.747	0.724	0.904	0.911	0.929
	PU2	0.887				
	PU3	0.899				
	PU4	0.871				
	PU5	0.842				

The structural model

All beta path coefficients are positive (i.e., in the expected direction) and statistically significant (at $p < 0.05$).

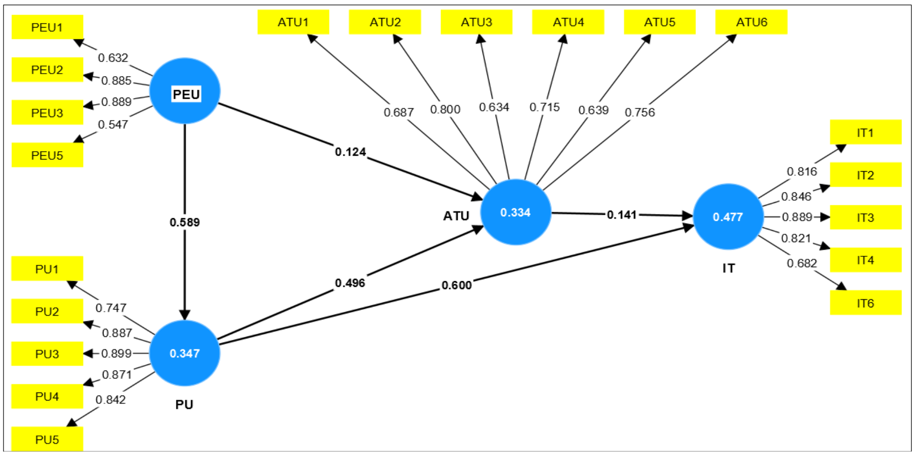

Fig 2: SEM

Table 11: Data Analysis: Sample Mean, Standard Deviation, T Statistics, P value

	Original sample (O)	Sample mean (M)	Standard deviation	T statistics (|O/STDEV|)	P values	Decision
ATU1 <- ATU	0.687	0.687	0.039	17.575	0.00	Supported
IT1 <- IT	0.816	0.815	0.031	26.359	0.00	Supported
IT2 <- IT	0.846	0.845	0.022	38.659	0.00	Supported
IT3 <- IT	0.889	0.889	0.014	65.652	0.00	Supported
IT4 <- IT	0.821	0.821	0.025	33.43	0.00	Supported
IT6 <- IT	0.682	0.681	0.044	15.346	0.00	Supported
PEU1 <- PEU	0.632	0.627	0.066	9.594	0.00	Supported
PEU2 <- PEU	0.885	0.884	0.017	52.821	0.00	Supported
PEU3 <- PEU	0.889	0.889	0.013	66.089	0.00	Supported
PEU5 <- PEU	0.547	0.546	0.064	8.588	0.00	Supported
PU1 <- PU	0.747	0.746	0.037	20.1	0.00	Supported
PU2 <- PU	0.887	0.887	0.017	51.819	0.00	Supported
PU3 <- PU	0.899	0.899	0.014	66.076	0.00	Supported
PU4 <- PU	0.871	0.872	0.022	40.053	0.00	Supported
PU5 <- PU	0.842	0.842	0.023	35.952	0.00	Supported
ATU2<- ATU	0.8	0.8	0.025	31.736	0.00	Supported
ATU3<- ATU	0.634	0.632	0.049	12.907	0.00	Supported
ATU4<- ATU	0.715	0.714	0.036	20.106	0.00	Supported
ATU5<- ATU	0.639	0.637	0.047	13.723	0.00	Supported
ATU6<- ATU	0.756	0.756	0.031	24.449	0.00	Supported
ATU-> IT	0.141	0.145	0.059	2.386	0.017	Supported
PEU-> ATU	0.124	0.128	0.052	2.402	0.016	Supported
PEU->PU	0.589	0.59	0.049	12.037	0.00	Supported
PU -> ATU	0.496	0.496	0.057	8.76	0.00	Supported
PU -> IT	0.6	0.597	0.055	10.855	0.00	Supported
Indirect Effects						
PEU -> ATU	0.292	0.293	0.04	7.296	0.00	Supported
PEU -> IT	0.412	0.415	0.046	8.975	0.00	Supported
PU -> IT	0.07	0.072	0.031	2.288	0.022	Supported
PU -> ATU -> IT	0.07	0.072	0.031	2.288	0.022	Supported
PEU->PU-> ATU	0.292	0.293	0.04	7.296	0.00	Supported

PEU -> ATU-> IT	0.018	0.019	0.012	1.438	0.15	Not supported
PEU -> PU-> IT	0.353	0.354	0.051	6.889	0.00	Supported
PEU -> PU -> ATU -> IT	0.041	0.042	0.018	2.306	0.021	Supported

T-value > 1.657 is necessary for the hypothesis to meet the 0.05 significance threshold (i.e., p 0.05). The study's findings indicate that all of the variables had a favourable impact on the purchase because the P value was significant.

Table 12: Correlation

	Attitude towards use	Behaviour Intention	Ease of Use	Perceived Usefulness
Attitude towards use	1	0.483	0.416	0.569
Behaviour Intentions	0.483	1	0.67	0.68
Ease of Use	0.416	0.67	1	0.589
Perceived Usefulness	0.569	0.68	0.589	1

From the above correlation table and P values obtained, we can say that we reject null hypothesis and all the relations of IT ←ATU, ATU ← PEU, PU ← PEU, ATU ← PU and IT ←PU are positively impacting.

Validity Test:
As per Table 13, Attitude towards use (0.708), Behaviour Intention (0.814), Ease of use (0.754), and Perceived Usefulness (0.851) all show that each category showed good discriminant validity [16].

Discriminant validity - Fornell - Larcker criterion

Table 13: Discriminant validity

	ATU	IT	PEU	PU
ATU	0.708			
IT	0.483	0.814		
PEU	0.416	0.67	0.754	
PU	0.569	0.68	0.589	0.851

Table 14: HTMT

	ATU	IT	PEU	PU
ATU				
IT	0.551			
PEU	0.51	0.813		
PU	0.647	0.757	0.692	

As per table 14, because the values were well below the threshold of 0.85, all the variables have excellent discriminant validity.

R^2 value
To examine the predictive accuracy of the model, we determined R^2 values. From Table7.2.6.1, it shows that R^2 is 0.477 for BI. This indicates that the two exogenous constructs (ATU & PU) explain 47.7% of the variance in IT. The inner model shows that Perceived usefulness is the only strong predictor of IT (β=0.600, t-value=10.855). Test concludes that PEU & PU had a significant relationship with AT. Furthermore, for PU as an endogenous construct with R^2 0.347, indicates that ease of use explains 34.7% of the variance in PU. PU & PEU constructs explain 33.4% of variance of ATU [16].

Table 15: R square

	R-square	R-square adjusted
ATU	0.334	0.329
IT	0.477	0.473
PU	s0.347	0.345

Table 16: Model fit

	Saturated model	Estimated model
SRMR	0.072	0.087
D ULS	1.087	1.576
D G	0.344	0.395
Chi-square	595.442	654.444
NFI	0.83	0.814

The difference between the observed correlation and the model-implied correlation matrix is known as the SRMR. Thus, it enables the evaluation of the model fit criterion's absolute measure, the average magnitude of the differences between observed and expected correlations. One would consider a value of 0.08 or less to be fitting well [20].
The NFI represents an incremental fit measure. Consequently, the NFI results in values between 0 and 1. The closer the NFI to 1, the better the fit.

Limitation
The study was conducted across the country and had 600+ respondents, but some points left untouched. Future study can include an aspect of perceived unhealtiness, as some population are not unhealthy symptomatically but psychologically. Insights were not obtained on reasons for not using fit bands by 349 non-fit band user respondent. Further factors like brand specificity, price, accessibility, trust and privacy issues can be addressed.

Discussion & Conclusion
The cost of healthcare is continually increasing as the global population ages and lifestyle disorders including obesity, diabetes, hypertension, and coronary heart disease become more common.
Wearable technology is anticipated to provide a new means of coping with health problems. Fitness bands are the outcome of research and development in the area of information and technology to the cost of healthcare is continually increasing as the global population ages and lifestyle disorders including obesity, diabetes, hypertension, and coronary heart disease become more common.
It's anticipated that wearable technology will provide a fresh approach to managing health problems and analysing health-related issues. They are technical devices that, with or without the aid of a mobile application, keep a close watch on and record our everyday fitness-related actions in data. Fitness trackers are used for a variety of reasons, including to increase overall fitness, lose weight, monitor heart rate, and more. These figures assist us in understanding our daily physical activity, including how frequently we run or walk, how many calories we burn, what our heart rate is, and a few

other activities that are connected to our health. Fitness bands so aid in raising people's overall level of fitness.

Consumer wearables can give users access to individualised health information, which can help with interventions for behaviour change and self-diagnosis. The use of consumer wearables in healthcare raises a variety of questions regarding their security, dependability, and safety.

For instance, by motivating users to engage in greater physical activity, wearable technology and mobile health applications that track fitness activities might reduce the harmful impacts of a sedentary lifestyle. On the other hand, wearable technology combined with mobile health apps allows clinicians to recognise risk factors, giving users and patients the opportunity to obtain early preventative care and treatment. Users of wearable technologies and mobile health applications may monitor and control their health and wellness.

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