IMPACT: International Journal of Research in Humanities, Arts and Literature (IMPACT: IJRHAL)
ISSN (P): 2347-4564; ISSN (E): 2321-8878
Vol. 7, Issue 4, Apr 2019, 391-402

FACTORS DRIVING CONSUMERS PERCEPTION TOWARDS FITNESS BANDS

P Sudhakar, R Soundary & K Sudarshan

Reserch Scholar, Xavier Institute of Management and Entrepreneurship, Bangalore, Karnataka, India

Received: 09 Apr 2019 **Accepted:** 20 Apr 2019 **Published:** 27 Apr 2019

ABSTRACT

A movement tracker, otherwise called a wellness tracker, is a gadget or application for observing and following wellness related measurements. For example, measuring heartbeat rate, a number of hours of a deep sleep, calories burnt, etc. It is a kind of wearable PC. The term is currently principally utilized for smart watches that are synchronized, most of the time remotely, to a PC or cell phone for long haul information following.

KEYWORDS: *Measuring Heartbeat Rate, A Number of Hours, A Deep Sleep, Calories Burnt*

INTRODUCTION

A movement tracker, otherwise called a wellness tracker, is a gadget or application for observing and following wellness related measurements. For example, measuring heartbeat rate, a number of hours of a deep sleep, calories burnt, etc. It is a kind of wearable PC. The term is currently principally utilized for smart watches that are synchronized, most of the time remotely, to a PC or cell phone for long haul information following.

Electronic movement trackers are on very basic level updated forms of pedometers; not withstanding checking advances, they use accelerometers and altimeters to ascertain mileage, measure general physical action, compute calorie use, etc. A significant part of the intrigue of movement trackers that makes them powerful instruments in expanding individual wellness originates from their creation of it into the recreational device and from the social element of sharing the results and fitness targets with peers. The gadget can fill in as a method for recognizable proof with a network, which reaches out to a more extensive network of interconnected devices making use on the Internet of Things concept.

GLOBAL MARKET OVERVIEW

The Global Fitness Trackers Market measure was estimated at $17,907 million out of 2016 and is relied upon to reach $62,128 million by 2023, enlisting a CAGR of 19.6% amid the conjecture time frame.

The development of the wellness trackers advertise is driven by an increment in the pattern of wearable innovation among the adolescent. In addition, the inclination for these gadgets by the old populace has expanded, attributable to a higher inclination towards fitness in this age group. What's more, these gadgets incorporate top of the line movement following highlights and intuitive working frameworks, which support the interest for these gadgets. In any case, mind-boggling expense and danger of information robbery by altering the association of these gadgets limit the wellness tracker showcase development.

Despite what might be expected, an ascent in the pattern of Internet of Things, biological system and increasing wellbeing awareness among shoppers are foreseen to give development chance to the wellness tracker showcase sooner rather than later.

In view of gadget type, the market is sorted into wellness groups, smartwatches, and others. By presentation type, it is arranged into a monochrome showcase and hued show. Contingent upon similarity, it is divided into iOS, android, windows, tizen, and others. iOS was the most elevated contributing similarity mode in 2016 and is relied upon to stay prevailing.

Figure 1

The Global Fitness Band Market Classified By Geography

Figure 2

Different Brands in the Market

Following are the different brands in the fitness band market differentiated by market share.

Company	1Q18 Shipment Volume	1Q18 Market Share
1. Apple	4.0	16.1%
2. Xiaomi	3.7	14.8%
3. Fitbit	2.2	8.7%
4. Huawei	1.3	5.2%
5. Garmin	1.3	5.0%
Others	12.6	50.3%
Total	**25.1**	**100.0%**

Figure 3

REVIEW OF LITERATURE

WHO (2017) recommends that 150 min of moderate intensity physical activity (PA) each week for adults and 60 min for children and adolescents. However, 25% of adults and more than 80% of adolescents do not achieve the recommended PA targets (WHO, 2017).

Emaus et al (2010) quote the results from the Troms Study the longest running population study in Norway, according to which, only 30.4% of women and 22.0% of men reach the recommended target. **Tanguy Coenen and Lynn Coorevits (UGent(2016)**presented that the estimated size of the fitness trackers' market will reach 30 billion USD in 2020, representing a variety of products made by different companies. But one of the current issues is the huge attrition rate of consumers who are no longer wearing their device. Current business models are based on technology push and therefore do not succeed in matching the technology with the needs of the consumers. Previous studies have focused either on the technological features or the potential adoption of wearables. But still, little is known about the elements that lead to attrition. Thus, the purpose of this paper is to identify the key factors from the perspective of a consumer, leading to dissatisfaction and eventually stoppage of usage of the devices. **WenDong, ZhangXingting, and LeiJianbo (2017)**argued that the interest of the Capital and consumer markets in wearable devices has increased multi-fold in recent years, but, their general acceptance in the field of health monitoring is somewhat not as expected by experts. The aim of this study is to understand the perceptions of general consumers towards wearable devices, analyze the user reviews of the devices by customers, and find existing problems, if any, associated with current wearable fitness devices.

Consumers are actually quite optimistic about the prospects of wearable devices; but there is still a large gap between the reliability of the data obtained through the devices, the functionality, and the interpretation of this measurement data from current wearable products and consumer expectations.

Research Design

The global wearables market is set to treble in size in the next five years and become worth over $25 billion. Consumers are becoming increasingly more aware of the importance of keeping fitness goals and tracking them accurately. The time is right to do a comprehensive study on this high growth market to see what drives this growth. The study basically seeks answers to basic research questions such as

- Is the type of exercise related to a higher preference for usage of fitness bands?
- What is the people's perception of fitness bands in general?
- What factors drive people's perception & subsequent adoption of fitness bands?

Objectives

- To give an overview of the fitness wearables market from global and Indian perspective
- To understand the factors that drive consumers to purchase fitness bands
- To find the level of association between respondents' attributes and their preferences towards fitness devices
- To draw meaningful inferences and offer constructive suggestions

The research project covers respondents over different age groups and genders, having different fitness goals and lifestyles in Bangalore city and attempts to draw a connection between these factors and their perceptions of an ideal fitness band.

Since the study is carried out in a limited geographical area involving a limited sample size of 166 respondents, findings can be generalized with some degree of caution. However, best efforts have been put in to come out with quality data and findings useful for the industry.

Both primary and secondary sources of data were tapped for the current study. While secondary data were collected from peer-reviewed journals, published company, and industry reports, textbooks, wen sources, while primary data were gathered administering a structured questionnaire to target respondents, conducting personal interviews and interactions with peers, industry experts, and academic mentors.

Completed responses were collected from 166 respondents, aged between 18-50 years, out of 200 people approached for data collection. Convenience sampling techniques were used for the study. Statistical tools such as MS Excel and SPSS were used for data analysis.

Data Analysis and Interpretation

- About 55 percent of respondents are males and the rest are females.
- 74 percent of respondents say that staying healthy is very important.

- 47 percent believe that the bet fit makes them feel more confident
- About 1/4ths of respondents felt that proper body shape is very important
- About 35 percent believe that being fit helps in keeping the body more flexible and agile.

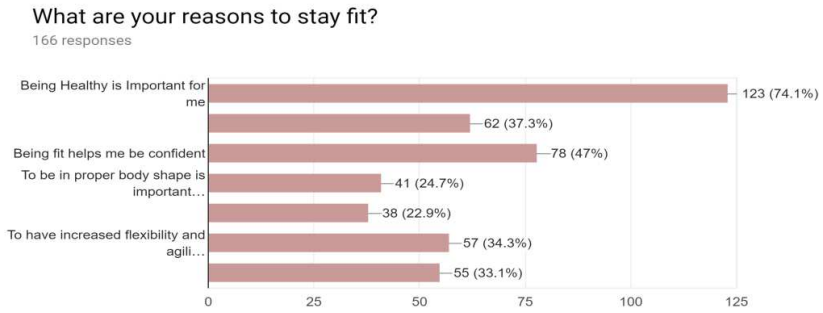

Figure 3

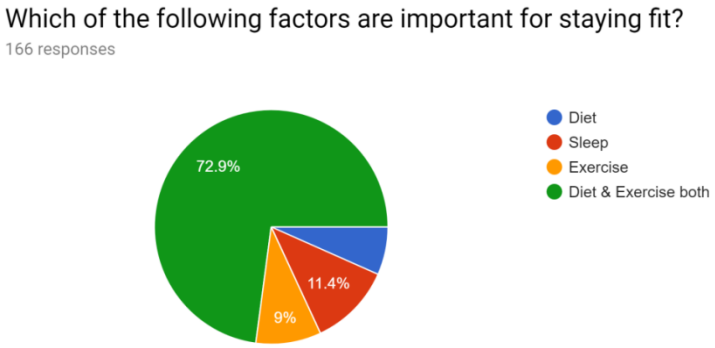

Figure 4: Factors Important to Stay Fit

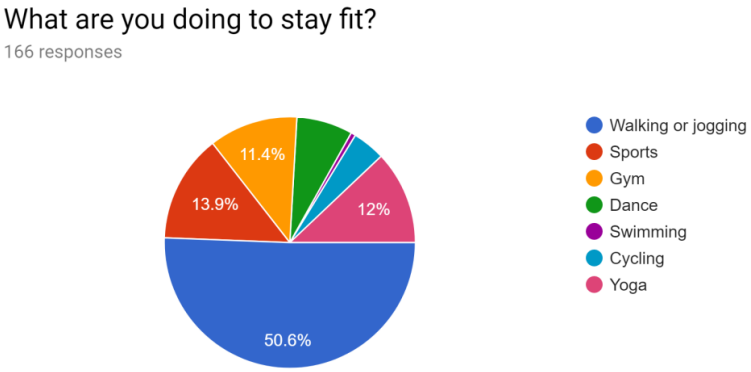

Figure 5: Activities Done To Stay Fit

About half of the respondents take part in low-intensity exercise such as walking or jogging. This shows people indulging in low-intensity exercise prefer to use fitness bands to track their fitness goals.

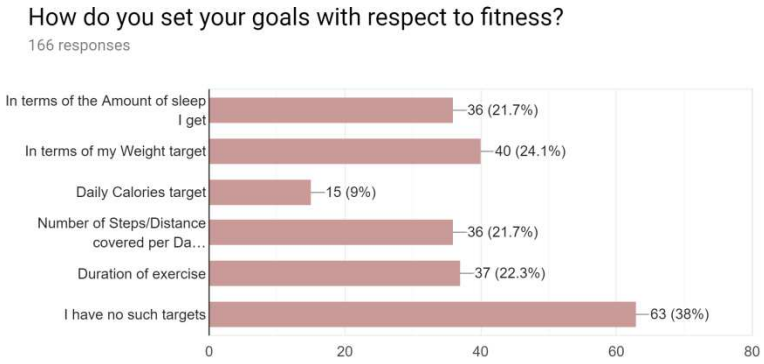

Figure 6: Goals to Achieve Fitness

A significant 38 percent of respondents are not very serious about setting fitness goals. While 24 percent monitor through weight target, 22 percent through the duration of exercise and around 22 percent each through the amount of sleep and number steps/ distance covered per day.

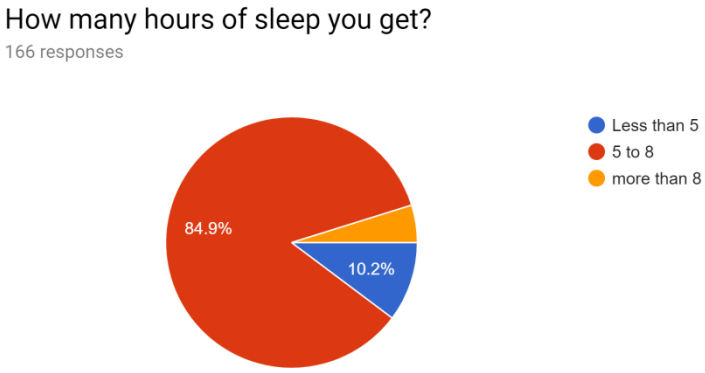

Figure7: Hours of Sleep

About 85 percent of respondents get to sleep between 5 to 8 hours while 10 percent get less than 5 hours sleep a day.

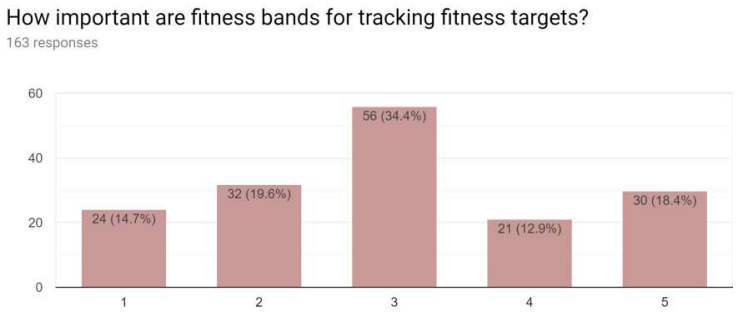

Figure 8: Importance to Track Fitness Targets

We tried to explore how important are fitness bands for tracking fitness targets among the respondents. Surprisingly it was found that 34.4 percent are neutral about the importance of fitness bands, 34 percent consider them to not so important and only 32 percent feel that fitness bands are important. This finding provides valuable insights for marketers.

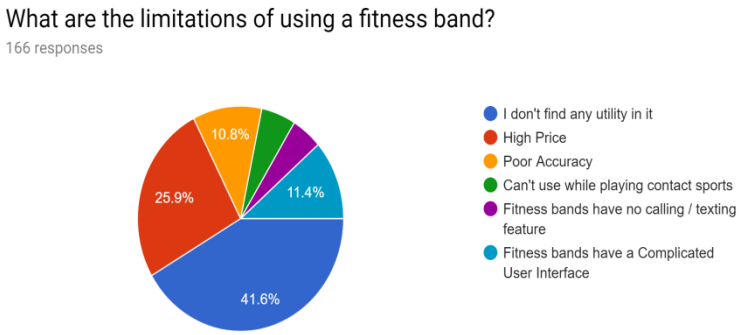

Figure 9: Limitations of Using a Fitness Band

As per the survey results, 41 percent feel that there is no special use of using fitness bands, another important area for the marketers to work upon. A high price is another limiting factor as revealed by about one fourths of respondents. Also, 11.4 percent of respondents feel that the user interface is difficult to handle.

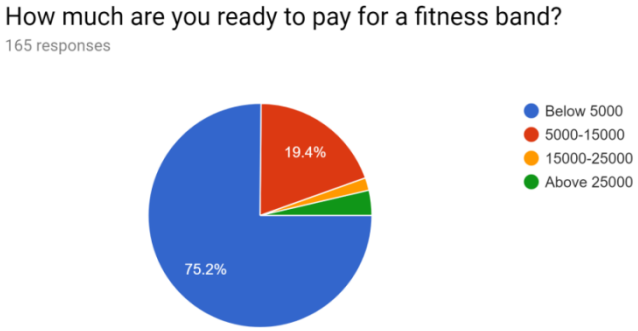

Figure 10: Budget for Fitness Bands

Three-fourths of respondents do not want to dish out more than Rs.5000 for fitness bands. This is a good insight for fitness brands to expand their portfolio into the lower range segment to attract a higher customer base.

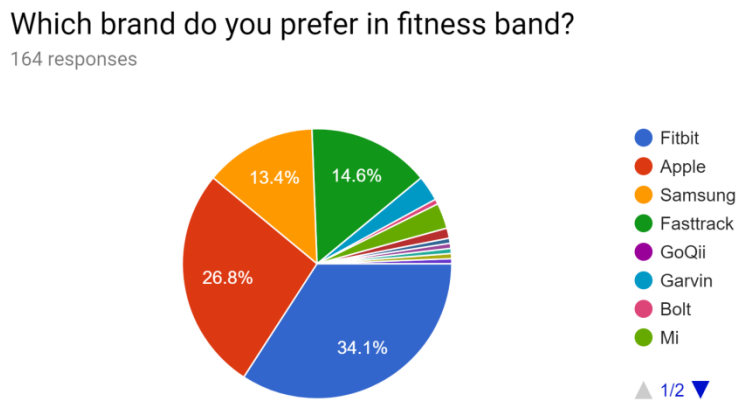

Figure 11: Preference of Fitness Band

Fitbit, being a well-known fitness brand enjoys higher preference (34 percent) amongst the fitness community, followed by Apple, preferred by 27 percent, close to 15 percent prefer Fast track.

Association between Type/ Intensity of Exercise and Preference Towards Fitness Bands

Hypothesis

H_0: There is no significant association between inclination towards high-intensity exercise and propensity to use fitness bands.

H_1: There is a significant association between inclination towards high-intensity exercise and propensity to use fitness bands.

Table 1: One Way Anova between Exercise and Consumer Buying Behaviour

ANOVA					
--	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.580	6	1.430	.844	.538
Within Groups	269.323	159	1.694		
Total	277.904	165			

Inference

It is seen that P-Value is 0.538 which is greater than the significance value of 0.05. Therefore, there is no association between high-intensity exercise and the tendency to utilize fitness bands.

Association between Consumer Age and Design Aesthetics of Fitness Bands

H_0: Consumer Age and Design Aesthetics is Independent.

H_1: Consumer Age and Design Aesthetics are not independent.

Table 2: Chi-Square between Consumer Age and Design Aesthetics

Chi-Square Tests			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	13.952[a]	9	.124
Likelihood Ratio	14.096	9	.119
Linear-by-Linear Association	8.616	1	.003
N of Valid Cases	166		

Interpretation

Here we observe that P value (0.124) is greater than the significance level of 0.05, there is not much evidence to reject the null hypothesis.

Thus, we conclude that there is no relationship between Age and Design Aesthetics.

Association between Gender and Need to Stay Fit

H_0: The need to stay fit is independent of Gender.

H_1: The need to stay fit is dependent on Gender.

Table.3: Chi-Square between Gender and Need to Stay Fit

Chi-Square Tests			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	25.345[a]	8	.001
Likelihood Ratio	12.577	8	.127
Linear-by-Linear Association	4.876	1	.027
N of Valid Cases	166		

Interpretation

The P-Value is less than 0.05 thus we need to reject the null hypothesis. This means that the need to stay fit is dependent on Gender.

Association between Consumer Age and Need to Stay Fit

H_0: The need to stay fit is independent of Consumer Age.

H_1: The need to stay fit is dependent on Consumer Age.

Table.4: Chi Square Between Consumer Age and Need to Stay Fit

Chi-Square Tests			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	24.294[a]	12	.019
Likelihood Ratio	28.880	12	.004
Linear-by-Linear Association	11.172	1	.001
N of Valid Cases	166		

Interpretation

From the above table it is evident that the P-Value is lesser than the significance value of 0.05. Hence, we reject the null hypothesis.

Association between Gender and Features of Fitness Bands

H_0: There is no relationship between Gender and features of fitness bands.

H_1: There is a relationship between Gender and features of fitness bands.

Table 5: One Way Anova between Gender and Features of Fitness Bands

		Sum of Squares	df	Mean Square	F	Sig.
How important are fitness bands for tracking fitness targets?	Between Groups	4.444	2	2.222	1.325	.269
	Within Groups	273.459	163	1.678		
	Total	277.904	165			
Level of importance towards tracker	Between Groups	3.495	2	1.748	1.342	.264
	Within Groups	212.198	163	1.302		
	Total	215.693	165			
Level of importance towards Bluetooth and music control	Between Groups	7.428	2	3.714	2.502	.085
	Within Groups	241.975	163	1.485		
	Total	249.404	165			
Level of importance towards notifications	Between Groups	2.525	2	1.263	.858	.426
	Within Groups	239.794	163	1.471		
	Total	242.319	165			
Level of importance for step count sensor	Between Groups	.488	2	.244	.243	.784
	Within Groups	163.542	163	1.003		
	Total	164.030	165			
Level of importance towards battery charging time and battery backup	Between Groups	2.069	2	1.035	1.046	.354
	Within Groups	161.256	163	.989		
	Total	163.325	165			
Level of importance towards display and style of the band	Between Groups	.892	2	.446	.331	.718
	Within Groups	219.445	163	1.346		
	Total	220.337	165			
Level of importance towards Heart Rate sensors	Between Groups	2.451	2	1.225	1.154	.318
	Within Groups	173.025	163	1.062		
	Total	175.476	165			

Interpretation

In the above table, the P-Value for all the features is greater than the significance value of 0.05. This shows that there is not enough evidence to reject the NULL Hypothesis. Thus, we may conclude that there is no correlation between the gender of a person and their preference for any particular feature of fitness bands.

Level of Association Between Age And Display and Style of Fitness Bands

Table 6

		Sum of Squares	df	Mean Square	F	Sig.
How important are the following features while buying fitness band? [Display and style of the band]	Between Groups	12.862	3	4.287	3.347	.021
	Within Groups	207.476	162	1.281		

Interpretation

In the above table, the P-Value for 'display and style of the band' is greater than the significance value of 0.05. Display and style of the band is an important factor for certain age groups.

Summary of Findings

The Global Fitness-band Market size was valued at $17,907 million in 2016 and is expected to reach $62,128 million by 2023. A fitness band is a device used to record and monitor fitness-related activities such as steps walked, distance walked, duration of sleep and heartbeat monitoring. These devices can be connected to smart phones or computers via wireless connectivity options.

The primary objective of undertaking this research was to study the various factors that might affect consumers' perceptions towards fitness bands and to see how these insights can help drive growth in the fitness wearable's market.

Through our survey, we found that most respondents feel it is highly important to stay fit and a major part of the respondents indulge in either walking or jogging as their preferred form of exercise.

Some respondents felt that the user interfaces on the devices currently in the market are too difficult for them to handle. If manufacturers can produce devices that have more intuitive user interfaces, they can increase their customer base. In addition, a majority of the respondents are not willing to pay more than Rs.5000 for buying fitness bands. This is a golden opportunity for market players to expand their customer base into the lower range segment.

In addition, below insights were also derived:

- There is no significant association between the gender of a person and their preference for any particular feature of fitness bands.
- There is no significant association between the age of a person and their preference for any particular feature of fitness bands.
- However, the display and style of the band is an important factor for certain age groups.

CONCLUSIONS

Consumers are optimistic about the prospects of wearable devices; however, there is a large gap between the reliability of the measurement data, the ease of use, and the interpretation of measurement data of current wearable

products and consumer expectations. Consumer demand for health management functions is higher than that for daily auxiliary-type functions, which is an issue that should be properly addressed and resolved by manufacturers.

The fitness band market is still in the nascent stages and there is huge scope for improvement and expansion into new market segments. Through our research study, we found that most of the respondents look for fitness bands below Rs.5000. However, currently, this part of the market is serviced only by very small players.

If the larger players like Fit bit enter this segment, it will increase the competition and ultimately improve the quality of devices available in this segment which will consequently improve the choice for consumers thus empowering them to make more informed choices. It was also observed that younger respondents give higher weight age to the design and display of the fitness band.

ACKNOWLEDGEMENT

This research project was supported by the Xavier Institute of Management and Entrepreneurship. We would like to thank our guide and mentor Dr. Meena Rani for her support in completing this research project successfully. We would also like to mention our gratitude to all the respondents without whom this project would not have been possible.

REFERENCES

1. *World Health Organization. [2017-09-11].*
2. *Physical activity http://www.who.int/mediacentre/factsheets/fs385/en webcite.*
3. *Emaus A, Degerstrøm J, Wilsgaard T, Hansen BH, Dieli-Conwright CM, Furberg AS, Pettersen SA, Andersen LB, Eggen AE, Bernstein L, Thune I. (2010) Does a variation in self-reported physical activity reflect variation in objectively measured physical activity, resting heart rate, and physical fitness? Results from the Tromso study. Scand J Public Health. 2010 Nov;38(5 Suppl):105–18. doi: 10.1177/1403494810378919*
4. *Kamalaja, T., & Deepika, J. (2015). Assessment of relation between physical stress and physical fitness using treadmill in female adults. International Journal of Agricultural Science and Research (IJASR), 5(3), 219-225.*
5. *Tanguy Coenen and Lynn Coorevits UGent(2016),The rise and fall of wearable fitness trackers, Academy of Management.*
6. *WenDong, Zhang Xingting and LeiJianbo (2017)Consumers' perceived attitudes to wearable devices in health monitoring in China: A survey study, Computer Methods and Programs in Biomedicine, Volume 140, March 2017, Pages 131-137.*