

Awareness and Adoption of Wearable Technology Amongst Gen-Z in Selected Fitness Centers in Lagos State, Nigeria

Nduneche Ezurike

Department of Marketing

LIGS University, Honolulu, Hawaii, United States of America

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ABSTRACT: *In healthcare and fitness, wearable technologies have made a significant amount of contribution in ensuring consumer well-being. This has been done through the provision of accurate and real time physiological measurements such as heart rate, temperature, running pace and other parameters, vital in enabling users track their health conditions. Hence, this study investigates the awareness and adoption of wearable technology amongst Gen-Z in selected fitness centers in Lagos, State. This study was anchored on the Generational Cohort Theory and the Technology Acceptance Model. The Focus Group research method was adopted and the researcher used the purposive sampling technique to select the fitness centers chosen for this study. The purposive sampling technique was also adopted to select a total number of 32 Gen-Z participants sampled for this study. Findings from this study revealed that although a significant proportion of the Gen-Z population are aware of wearable technology, there is a minimal adoption of these wearable technologies amongst Gen-Z subscribers in fitness centers in Lagos State, Nigeria. Findings also revealed that perceived usefulness, lack of advertisements and consumer innovativeness are factors responsible for the adoption and non-adoption of wearable technologies amongst Gen-Z in Lagos State, Nigeria. The paper recommends consistent adoption of wearable technologies amongst Gen-Z because of its health and fitness benefits. The researcher also recommends that producers and marketers of wearable technologies should tailor their advertisements to communicate the health and fitness benefits of wearable technologies as this would encourage adoption.*

KEYWORDS: Gen-Z, wearable technology, generational cohort theory.

INTRODUCTION

The advancement and exponential development of Information and Communication Technology in today's world, has enabled different mechanisms for individuals to monitor their health

conditions, fitness level, calories burned and heart rate. Among these mechanisms, is the emergence of wearable technologies, which has been regarded by Marakhimov and Joo (2017), and Odubogun (2014) as an offshoot and one of the promising areas in the Internet of Things (IoT).

According to Wright and Keith (2014) as cited in Kalantari (2017), wearable technologies are smart electronics which can be integrated into different types of accessories or gadgets worn or attached to the body. Similarly, Dehghani et.al (2018) avers that wearable technologies constitute advanced electronics which is worn on the body to enable interactions between users and a smart environment. Explicating further, Idoga and Adamu (2020) purports that wearable technologies can be used by attaching on clothes, skins, wristwatches and wearable glasses. The above positions implies that wearable technologies are electronic devices which can be worn on a user(s) body to access a range of features and services. Some of these devices are smart watches, smart wrist bands, ear buds, biopic sensors, amongst others. Their features include, fitness tracking, health monitoring, fashion, entertainment and gaming.

In healthcare and fitness, wearable technologies have made a significant amount of contribution in ensuring consumer well-being. This has been done through the provision of accurate and real time physiological measurements such as heart rate, temperature, running pace and other parameters, vital in enabling users track their health conditions. (Duking et.al., 2018; Zhang et.al, 2017). Supporting this assertion Wu and Luo (2019) as cited in Azharshaheen et.al (2020) posits that calorie intake, blood pressure, cholesterol level and pulse rate are some of the information one can access using wearable technologies. The foregoing implies that, over the years, wearable devices have enabled individuals in the society to make better and informed decision to improve health behaviour, which in turn leads to a drastic reduction in healthcare costs.

In the sporting industry, where fitness is of utmost importance, the importance of wearable technology cannot be overemphasized. This perhaps accounts for the reason why, Wilson (2013) as cited in Kalantari (2017) connotes that in sports, wearable technology is evident through the linkage of wearable devices with data analysis to provide quantitative feedback, vital in improving sports performance. Still explicating on the utilization of wearable technology in the sporting context, Cheung et.al (2019) asserts that through the adoption of wearable fitness technology, athletes can improve their performance by checking physiological data, such as their heart rate, running pace and temperature. The foregoing implies that wearable healthcare technologies has provided insurmountable value to the sporting industry by providing a mechanism through which key personnel in the sporting industry can get real life data on athletes fitness and other information which can lead to improved sporting performance.

The Nigerian fitness industry has recorded unprecedented growth in the last decade. This is due to the increased awareness of the importance of exercise and role which fitness centers plays in promoting good health and physical fitness (Adeogun and Adeyeye, 2019). As opposed to before where Nigerians had lackadaisical attitudes towards keeping fit, there has been a proliferation of

fitness centers all over Nigeria, with these fitness centers recording a significant amount of patronage. Corporate bodies, religious organizations, NGOs and all tiers of government in Nigeria have taken it with utmost importance, the need to communicate to its members, the benefits of keeping fit and living a healthy lifestyle. A popular example is the *Lagos City Marathon*, an annual event organized by Access Bank in collaboration with the Lagos state government to encourage healthy lifestyle by encouraging people to engage in physical exercise. On the flip side, a number of casualties has been recorded in Nigerians quest to keep fit, as some individuals have suffered heart attacks, elevated blood pressure and hemiplegic stroke (Emeahara et.al, 2013). One of the reasons that can be alluded for these unfortunate incidents is the absence of healthcare wearable technology which could have signaled users to ease up on their exercise to prevent casualties.

It is of great pertinence to note that, a significant factor responsible for the booming fitness industry in Nigeria today, is the patronage recorded by Generation Z popularly known as (Gen-Z). Compared to other generations such as the Baby Boomers, Generation X and Millennials, Gen-Z's are health conscious and willing to spend substantial amount of their time in keeping fit (Ding et.al 2017). This is evident in fitness centers in Nigeria where significant amount of subscribers are Gen Z's.

Over the years, empirical studies have been carried out by researchers to investigate Gen-Z adoption of technology. The researchers include Puiu et.al (2022) who assessed the adoption of mobile technology for commerce by Generation Z, Meet et.al (2022) who explored factors affecting the adoption of massive open online course in Gen-Z using extended UTAUT2 model, amongst others. However, since the advent of wearable fitness technology, there has been a sparse of empirical literatures carried out to investigate the awareness and adoption of wearable fitness technology amongst Gen-Z, this is a lacuna which this research seek to fill. Hence, this study seeks to investigate the awareness and adoption of wearable fitness technology among Gen-Z, in selected fitness centers in Lagos State.

Objectives of the Study

The aim of this study was to examine the awareness and adoption of wearable fitness technology amongst Gen-Z in Lagos State, Nigeria. However, the specific objectives of this study are to:

1. Discover the extent to which Gen-Z in Lagos State, Nigeria, are aware of wearable fitness technology.
2. Evaluate the extent of adoption of wearable fitness technology amongst Gen-Z in Lagos State, Nigeria.
3. Investigate factors responsible for the adoption and non-adoption of wearable fitness technology amongst Gen-Z in Lagos State, Nigeria.

LITERATURE REVIEW

Wearable Technology

The concept of wearable technology has been defined by different scholars. Sergueeva et.al (2020) opines that wearables devices are accessories, embedded with advanced computational capabilities which can provided insightful health information to its users. In the same vein, Gopinath et.al (2022) purports that wearable technologies perform advanced analytics and provide useful information for users to maintain a healthy lifestyle. The position of these scholars, clearly implies that wearable technologies are veritable instruments which can enable individuals to monitor their health conditions.

According to Beh et.al (2021), the primary application of wearable technology is in fitness. This perhaps accounts for the reason why there has been a proliferation of wearable fitness devices on the market. These fitness devices are specifically designed to monitor and record an individual physical activity and other health indices during the day. (Michaelis et.al, 2016). In 2019, the wearable fitness technology market around the world was valued at over 32 billion dollars (Mallik et.al, 2020). The exponential growth in the wearable technology market can be alluded to the fact that people are becoming more health conscious and are consistently seeking for fitness services and technologies which would be instrumental in their overall health wellness. Also, the utility value in which wearable fitness devices provides such as, body monitoring and activity tracking amongst people suffering with obesity and chronic diseases has been instrumental in the adoption of these technologies. Supporting this assertion, Adeogun and Adeyeye (2019) avers that about 60 percent in South Africa's population is overweight and this has led a significant amount of the country's population to seek fitness services and technologies which would be vital in weight reduction and leading a healthy life style. The foregoing, clearly explains why products such as smart watches, fitness bands and smart clothing has recorded an exponential increment in adoption.

Types of Wearable Technologies in Healthcare and Fitness

Wearable technology in healthcare and fitness consists of devices, specifically designed to collect relevant data of users personal health and exercise. Some of these devices, includes;

Smart Watch: Smart watches are one of the most popular wearable technologies adopted in health and fitness. They are digital devices, usually worn on an individual wrist, capable of storing data using sensor technology (Rubin and Ophoff, 2018). Underscoring the importance of smart watches in health and fitness, Miller (2019) posits that smart wrist watches are embedded with several sensors which can keep track of a user's fitness and health metrics bordering on blood pressure, blood glucose, heart rate, numbers of steps taken and sleep quality. These devices allows users to perform task which they do on their phone. Some of these tasks includes, sending messages, reading notifications, make phone calls and also offers exercise and health tracking benefits.

Smart Wristbands: Smart wristbands are one of the most original forms of wearable technologies. Usually, attached to the wrists, smart wristbands are equipped with sensors and integrated with smartphone apps to keep track of users physical activities and provide invaluable recommendation for users health and fitness. According to Nelson et.al (2016), smart wristbands display the user current activity and compares with daily goals to create a more enjoyable experience and to increase the physical activity of the users. Examples of smart wristbands in the market consists of a range of Fitbit products such as Fitbit Flex and Fitbit sense 2.

Smart Sleep Trackers: These devices are worn during sleep to monitor sleep quality, patterns and provide insights for optimizing rest. They can be in the form of wristbands, rings, or sleep masks, equipped with sensors to track sleep stages, breathing patterns and movement.

Virtual Reality (VR) Headsets: Virtual reality headsets are wearable devices that immerse the user in a virtual reality environment. They typically consist of a head mounted display (HMD), built-in sensors for tracking head movements, and sometimes handheld controllers for interaction within the virtual world.

Smart Jewelry: Smart jewelry combines fashion with technology by embedding sensors and connectivity features into accessories like rings, bracelets and necklaces. These devices can track fitness metrics, send notifications and even function as mobile payment tools.

Blood Pressure Monitors: Wearable blood pressure monitors allows users to track and share their data with their physicians. These devices provide vital information and enables users to gain insights on how their activities and habits affects their blood pressure. They also provide information on number of steps taken, calories burned and distance travelled.

Currently, there are other wearable fitness technologies which are still in their development phases and have not penetrated the consumer market. Some of these devices are smart rings, smart shoes and wearable garments. When these new technologies are well ingrained into the consumer market, unprecedented growth and advancements in the health and fitness industry is imminent.

Generation Z and Technology Adoption

Generation Z popularly referred to as Gen-Z are young adults or teenagers born between 1995 and 2010 (Hysa et.al, 2022). Generation Z is a generation very open to technology and innovations, little wonder did Csobonka (2016) infer that they are also called “Digital natives” or the “iGeneration”. According to Levickaite as cited in Puiu et.al (2022) Gen-Z does not know any other way of living beyond the digital age, this perhaps explain why the main form of communication for them is social media. Compared to other generations (Baby Boomers, Gen-X and Gen-Y), Gen-Z have spearheaded technological shifts and utilized digital technology to solve problems. This is because during their formative years, there was an unprecedent growth and advancement in Information and Communication Technology.

It is pertinent to note that the Gen-Z demographic are health conscious and thus inclined to participate in sports and regular exercises in order to maintain good health condition. Their tech savviness and love for technology, therefore heightens their propensity to adopt wearable fitness technology to collect relevant health data. The frequency of sharing health and fitness information among like minded peers through pictures, videos and reviews via social media platforms notably identified amongst Gen-Z consumers, has enabled them to be more conversant with wearable fitness technologies.

Over the years, there has been a consistent dissemination of information bordering on promoting healthy living through the utilization of technology. Generation Z love for digitalization and smart technology makes them a very important segment and catalyst for the growth of healthcare wearable devices (Cheung et.al., 2021).

Review of Empirical Studies

Cheung et.al (2021) examined the major factors driving adoption the adoption of healthcare wearable technology amongst Gen-Z consumers. The study was anchored on the Generation Cohort Theory and the Technology acceptance model. The researchers adopted the survey research as method as a self-administered questionnaire was used to collect data from Gen-Z consumers in Hong Kong with experience in using healthcare wearable technology. Findings from this study revealed that consumer innovativeness, perceived usefulness, perceived credibility and perceived ease of use are significant factors driving awareness and adoption of healthcare wearable technology. Based on the findings from this study, the researchers recommends that marketers of healthcare wearable technology should strike a balance between novelty and credibility in their promotional campaigns as perceived credibility is a predominant factor driving Gen-Z consumers adoption of healthcare wearable technologies. This study is related to the current research as it provides a framework to investigate the awareness and adoption of wearable technologies amongst Gen-Z consumers in Lagos State, Nigeria.

Barua and Barua (2021) investigated the factors responsible for the adoption of wearable fitness technologies in developing countries. The study used the extended Unified Theory of Acceptance and Use of Technology (UTAUT2) model to explain the crux of the study. The survey research method was adopted as the researchers used a self-administered questionnaire data to elicit responses from 260 Bangladeshi respondents. Findings from this study revealed that facilitating conditions, habit and performance expectancy are the major factors facilitating the adoption of wearable fitness technologies. The study recommends that marketers of wearable fitness technology products should educate communicate the benefits of using wearable devices as this would help in alleviating perceived risks of adopting wearable devices.

Azharshaheen et.al (2020) assessed the intention to use wearable technology and factors affecting influencing adoption. The survey research method was adopted and the simple random sampling method was used to select respondents sampled for this study. To achieve the research objectives, correlational and regression analysis was used to analyze relevant data. Findings from the study

revealed that perceived usefulness and ease of technology use are the predominant factors responsible for the adoption of wearable technologies.

Rubin and Ophoff (2018) investigated the adoption factors of wearable technology in health and fitness. The researchers study used the second generation of the Unified Theory of Acceptance and Use of Technology (UTAUT2) model to examine the factors of adoption which would influence an individual's behavioural intention towards using a wearable device, focusing on health and fitness purposes. The survey research method was adopted and the stratified sampling method was used to select respondents who participated in the study. The study revealed that performance expectancy and habit are important factors responsible for the adoption of wearable technologies for health and fitness purposes.

Grosova et.al (2022) examine the key factors affecting the adoption of wearable electronics amongst women in Czech Republic. The survey was conducted on 808 women living in Czech Republic who are interested in a healthy lifestyle, be it exercise, sporting activities or mental hygiene. Using the well-established Unified Theory of Acceptance and Use of Technology, the researchers discovered that habit, performance expectancy and personal motivation are the most significant factor driving the adoption of wearable fitness technologies amongst women in Czech Republic. The study also discovered that Facilitating conditions, personal innovativeness, personal control over diet and hedonic motivations did not play a significant role in enabling adoption of wearable technology amongst women in Czech Republic.

Theoretical Underpinning

This study was anchored on the Generational Cohort Theory and the Technology Acceptance Model. The motive behind the adoption of these theories is their relevance to this study.

Generational Cohort Theory

A cohort can be defined as a group of people that have experienced the same significant life event at the same time or a particular group with a certain trait (Ogunsanya et.al., 2019). According to Sessa et.al (2007) as cited in Padayachee (2018) the generational cohort theory is based on the premise that individuals in the same age group will be limited to a specific range of potential experience which predisposes them to a characteristic mode of thought and action. In the same vein, Fernandez-Duran (2016) posits that the generational cohort theory suggests that individuals who experienced the same social, economic and cultural events during early adulthood would share similar values throughout their lives. The foregoing implies that behaviours of a consumer in a generation cohort are predominantly shaped by occurrences and experiences that happened during their formative years. The generational cohort theory has been used for segmentation purposes in marketing by identifying values, purchasing behaviours, expectations and beliefs amongst different consumer cohorts such as baby boomers, generation x, generation y, millennials and generation Z.

It is noteworthy to say that Gen-Z consumers are highly involved in digital technology, this is because their formative years was characterized by advancements in information communication technology. Growing up in the digital era, Gen-Z otherwise called the digital natives are heavy users of smart wearable technologies to actualize goals and objectives. Generation Z are health conscious and because of their susceptibility to use technology to monitor their fitness levels, the Gen-Z consumers are the most veritable generational cohort to investigate the adoption of wearable fitness technologies.

This theory is of great relevance to this study because it provides a framework to explain different generational cohorts and investigate Gen-Z adoption of wearable fitness technologies.

Technology Acceptance Model

This study was also anchored on the Technology Acceptance Model (TAM) developed by Fred Davis in 1989. According to Nordum et.al as cited in Ezurike (2023) The technology acceptance model (TAM) is an information base systems theory that models how users actually come to accept and use a technology due to its perceived usefulness.

Explicating on the relevance of the TAM on technology adoption, Cheung et.al (2021) posits that perceived ease of use and perceived usefulness are significant factors which contributes to consumer intention to adopt technology products such as mobile commerce, social networking platforms and healthcare wearable technologies. perceived ease of use refers to the degree at which an individual believes using a technology would be free from effort while perceived usefulness is the utility values which a particular technology provides (Ezurike, 2023).

The rationale behind adopting the Technology Acceptance Model is because it explains and underscores the importance of perceived usefulness and perceived ease of use as determinants for the adoption of wearable fitness technologies. In the context of this study, perceived usefulness, is the utility value which wearable technologies provides in aiding fitness, while perceived ease of use suggests to ensure successful adoption of wearable technologies amongst Gen-Z consumers, producers of smart wearable fitness technologies must make sure these technologies are easy to use, ensuring the user interface and user experience are not complicated.

METHODOLOGY

This study adopted Focus Group Discussions as the research method. According to Akintorinwa (2022), a focus group is a form of qualitative research in which a group of people are asked about their perceptions, opinions, beliefs and attitudes towards a concept, product, service or an idea. Explicating further, Wimmer and Dominik (2011) connotes that in focus group discussions, about 6-12 people of similar backgrounds are typically interviewed simultaneously with a moderator leading the respondents in a relatively unstructured discussion about the topic. The focus group research method is most suitable for this study because it helps in generating narrative qualitative data and insights from respondents sampled for the study. The study population for this study

comprised of Gen-Z subscribers of fitness services in 4 different fitness centers in Lagos state, Nigeria. The purposive sampling technique was used to select the fitness centers chosen for this study and the researcher also adopted the purposive sampling technique to select Gen-Z respondents to partake in the study. Four focus groups discussions were conducted, one in each of the selected fitness centers chosen for this study. For the purpose of clarity while transcribing and coding, a number was assigned to each focus group ranging from Group 1 to Group 4. Each group had 8 participants and each participant was serially allotted numbers ranging from Participant 1 to Participant 8. Thematic analysis was used to analyze qualitative data gotten from respondents sampled for this study.

Data Presentation and Analysis

The researcher sampled a total of 32 participants to partake in the focus group discussions. Each focus group consisted of eight participants. Their demographic details was collected by the researcher who also served as the moderator, and thematic analysis was used to analyze data gotten from the focus group discussions.

Table 1: Presentation of Demographic Data

Variables	Characteristics	Frequency	Percentage
Gender	Male	24	75%
	Female	8	25%
	Total	32	100%
Age	16-19	8	25%
	20-23	11	34.4%
	24-27	13	40.6%
	Total	32	100.0
Educational Qualification	SSCE	2	6.3%
	NCE	4	12.5%
	OND	5	15.6%
	B.Sc.\HND	18	56.3%
	M.Sc.	3	9.3%
	Ph.D.	0	0%
Total	32	100.0	

Source: Field Work, 2023

Analysis from table 1 shows the demographic characteristics of the respondents. The distribution of the respondents according to their gender showed that 24 participants representing 75 percent are male while the female respondents constitute 25 percent (8 participants). This clearly implies that more male respondents were sampled for this study. The distribution of the respondents according to their age showed that all the age categories in this study are duly represented. Also,

the distribution of the respondents according to educational qualifications showed that majority of the respondents possesses either a HND or B.Sc certificate. This indicates that majority of the respondents are well educated.

Thematic Analysis

The thematic analysis approach was used adopted by the researcher to analyze qualitative data gotten from the selected respondents sampled for this study. As a result of this, four themes were derived from this study. The derived themes are;

- Awareness level of wearable technology amongst Gen-Z
- Gen-Z adoption of wearable technology in fitness
- Factors affecting Gen-Z adoption of wearable technology
- Challenges encountered in the adoption of wearable technologies amongst Gen-Z

Theme 1: Awareness Level of Wearable Technology Amongst Gen-Z

This theme was derived at based on the question regarding their awareness level of wearable fitness technology. Emphatically, respondents from all focus groups disclosed that they are aware of wearable technologies. The following dialogue is a representative sample:

Participant 3 group 2: I am aware of wearable technologies. It is virtually everywhere, especially apple watches.

Participant 7 group 2: Definitely, I am also familiar with wearable technologies. I own an iPhone and a smart watch, anytime I come to the gym, my watch feeds me different data concerning the exercise I am doing.

Participant 6 group 2: Yes, I am aware of it. I mean its quite popular in the market, so one can get them on Jumia or in other gadgets stores in Lagos State.

Other participants in various focus groups also attested that they are very conversant with wearable technology, for example, participant 8 in group 4 said “yes of course, the technology is very common and can be utilized for different purposes” in the same vein, participant 6 in group 1, while nodding his head in affirmation, also said “I am aware of wearable technologies such as headset and smartwatches, there are other ones too”. However, few respondents had contrary views as they opined that they are not aware of wearable technologies. Below are some of their statements suggesting they are not conversant with wearable technologies:

“The name is alien to me, I am not really a gadget person, maybe that’s why I am not aware of it” (participant 5, group 4).

“No, I am not aware of it, this is actually the first time someone is mentioning that to me” (participant 1, group 3). Based on the focus group discussion, the researcher was able to deduce that majority of the respondents are aware of wearable technologies.

Theme 2: Gen-Z Adoption of Wearable Technology in Fitness

This theme was derived as a result of questions regarding if participants adopt wearable technologies in their fitness endeavours. Participants from various focus groups had conflicting answers, while some disclosed that they use wearable technologies in their fitness endeavours, various participants also said they do not adopt wearable technologies in their fitness journey. For instance, participant 4 in group 1 said “whenever I am coming to the gym, I always make sure I come along with my headset and my smart watch. They are very important to me as they help me in staying motivated while working out and my smart watch helps in monitoring my heart rate”. Similarly, participant 8 in group 1 said “I use a smart watch, this is because even when I forget to go to the gym, my smart watch sends me a notification, which in turn serves as a reminder to help me stay on track in my fitness journey”. On the other hand, some participants disclosed that they do not adopt wearable technologies in their quest to exercise and keep fit. Below is a representative dialogue that ensued in the focus group discussion:

Participant 3 group 3: I come to the gym without any wearable gadget because I feel it is not necessary.

Participant 4 group 3: Yeah, me too. A smart watch can distract my workout endeavour as I might be tempted to reply to messages via my device. In order not to get distracted, I just leave my device at home.

Participant 6 group 3: For me, I just come to the gym and workout in line with the directives of the gym instructor. I do not use any wearable technology while in the Gym.

Participants in other groups also affirmed that they do not adopt wearable fitness technologies while in the gym. For example, participant 5 in group 4 said “No, I don’t own any wearable technology, so I don’t use any in the gym”. In the same vein, participant 1 in group 4 also said “I don’t use any wearable technology in the gym, I just use the treadmills and other equipment’s in the gym and go home”. When quizzed on the predominantly adopted wearable technology amongst those participants who disclosed that they use wearable devices in their fitness journey, majority of them affirmed that smart watch was the wearable technology they adopted in their fitness endeavours. Participant 4 in group 1 said “smart watch does it for me, it enables me to get relevant data while working out, it also provides a mechanism for me to attend to other things while exercising”. Similarly, participant 3 in group 4 said “I use my smart watch to monitor the number of steps taken, blood pressure and heart rate. It is a very important gadget I use in the gym and in my daily life”. Some participants preferred wearable devices other than the smart watch. For example, participant 2 in group 4 said “I have a fitness tracker which I wear on my wrists, it enables me to observe my heart rate and also gives me an idea of calories burned”. Discussing her preferred wearable device, Participant 8 group 3 also said “I have a virtual reality headset, which I use to stay motivated during workouts. I prefer it because it provides fun while working out”.

From the focus group discussions, the researcher was able to discover that the adoption of wearable technology amongst Gen-Z in their fitness endeavour was not so high. The researcher also discovered that, smart watch was the predominant wearable technology adopted by Gen-Z participant sampled for this study.

Theme 3: Factors Responsible for Adoption and Non-Adoption of Wearable Technology

Participants in various focus groups disclosed various factors responsible for their adoption or non-adoption of wearable technologies. From the discussions, the moderator deduced that perceived usefulness is a major factor affecting adoption of wearable technologies amongst Gen-Z. Indicating perceived usefulness as a major factor responsible for the adoption of wearable devices in fitness, participant 1 in group 3 said “I choose to adopt the smart watch as a wearable device in the gym because it is very useful and gives detailed reports on every exercise I do in the gym. It monitors the number of steps I have taken, my blood pressure and other details. It plays a pivotal role in my fitness journey”. Similarly, participant 2 in group 2 also said “I pay utmost attention to details, whenever I am exercising, I want to ascertain my progress and get a detailed report on what I do in a particular day. In order not to exercise amiss, I use a fitness tracker or a smart watch to track my progress and know the calories I have burned and also notify me when its time to go to the Gym. These devices are very important in my fitness journey”. On the other hand, some participants did not perceive wearable technologies to be a veritable gadget which can aid their fitness journey. The following dialogue is a representative sample:

Participant 5 group 4: I don't see the need to use any wearable device in the Gym or in my quest in trying to keep fit. To me, those things are fashion items not for exercise.

Participant 1 group 4: Same here too, I see them as fashion accessories not for exercise.

Participant 6 group 4: To be honest, I don't see the need. I can exercise and keep fit without them.

Participant 8 group 4: Personally, I feel peer pressure is the sole reason people wear these things to the gym, I have a smart watch and I leave it at home. I don't see its usefulness in the Gym.

Participants also disclosed that lack of advertisements communicating the health and fitness benefits of wearable technologies is the sole reason responsible for their non-adoption of wearable technologies in their fitness endeavours. For instance, participant 7 in group 3 said “I don't see any advert on television communicating the fitness benefits of these devices, although I own a smart watch, I only use it for other purposes asides fitness”. Participant 1 in group 3 also said “I cannot remember seeing adverts of wearable technologies on both social and traditional media channels, so I have little information on which one to buy and how it can aid my fitness journey”.

From the focus group discussions, it was also deduced that consumer innovativeness is a major predictor of adoption intention of wearable technologies. Participants in various focus groups indicated that their propensity and curiosity to try new technology and innovation, is a significant

factor responsible for their adoption of wearable technologies. For example, participant 3 in group 1 said “I always want to try any new technology. Irrespective of the risks attached, I am always inclined to try novel technologies. So, when I got to know that I can utilize some technological devices to get adequate information on my body while exercising, I had no second thought. I immediately bought a fitness tracker and I also started using my smart watch to get relevant data on my body while in the gym”. Participant 6 in group 2 also said “I am an ardent lover of technologies. I strongly hold the opinion that technology has made life easier and every individual in the world should always try to adopt technology to actualize their goals and objectives. For the last three years, I have always used my smartwatch to monitor my activities in the gym, my smart watch also notifies me when it’s my scheduled time to workout”.

From the focus group discussions, the researcher was able to discover that the predominant factors responsible for the adoption and non-adoption of wearable technologies amongst Gen-Z are perceived usefulness, lack of advertisements and consumer innovativeness.

Theme 4: Challenges Encountered in the Adoption of Wearable Technologies

This theme was uncovered as a result of questions regarding the challenges encountered by those participants who adopts wearable technologies in their fitness endeavours. Some of the participants who uses wearable technologies in their fitness endeavours disclosed that data inaccuracy was a major challenge. For Instance, participant 4 in group 1 said “Sometimes, when I use the treadmill in the gym, my Fitbit does not track my progress and I do not know the number of calories I had burnt”. In the same vein, participant 2 in group 2 also said “I tailored my smart watch to monitor the number of steps I took on a particular day, to my surprise, the result I got was totally different from what I expected. Imagine walking a long distance, only for a device to indicate that you only took 37 steps”. From the focus group discussions, it was also discovered that difficulties in operating wearable gadgets is a major challenge facing adopters of wearable technologies. Participants from different groups insinuated that these devices are quite complicated and difficult to operate. Below are some of the statements indicating complicated user experience as a challenge:

“the smart watch is a very small gadget, so accessing all these features to monitor steps taken and others relevant features can prove difficult and discouraging” (Participant 3 group 4).

“I get tired trying operate it. Sometimes, the interface and experience can be quite challenging” (participant 5 group 1).

Participants also indicated that battery life was a major challenge encountered in their adoption of wearable technologies. For instance, participant 1 in group 3 said “the frequent charging can be annoying sometimes, companies should work on the battery life of the smartwatch”. Also, participant 2 in group 2 said “sometimes, the battery goes off in the middle of an exercise. This can be frustrating at times and at the same time it discourages one from recommending the gadget to others”.

From the focus group discussions, it was discovered that the predominant challenges encountered by participants, in their adoption of wearable technologies are data inaccuracy, difficulties in operating wearable gadgets and low battery life.

Discussion of Findings

The first objective of this study was to discover whether Gen-Z in selected fitness centers in Lagos State, Nigeria are aware of wearable technology. The findings in this study revealed that majority of Gen-Z in fitness centers in Lagos State, Nigeria are aware of wearable technologies. This finding tally with presupposition of Cheung et.al (2021) where he stressed that the development of Information and Communication Technology has led to an exponential increment in the awareness of wearable fitness technologies. This implies that as a result of social media and digitalization in all facets of life, the awareness of wearable technologies is increasing.

Objective number two of this study was to evaluate the extent of adoption of wearable fitness technology amongst Gen-Z in Lagos State, Nigeria. Findings revealed that although the adoption of wearable fitness technology is evident, there is still a significant proportion of the Gen-Z population who has not adopted wearable fitness technologies in their fitness endeavours. This was discovered as some participants disclosed that they use wearable fitness gadgets to aid their fitness journey, while a significant amount of the participants sampled for this study also disclosed that they do not adopt wearable technology in their fitness endeavours.

In line with objective number three of this study, findings from this study also revealed that perceived usefulness is a factor responsible for Gen-Z adoption of wearable technology. This is in line with the proposition of the Technology Acceptance Model, which suggests that perceived usefulness is a major determinant responsible for an individual adoption of a particular technology. This is also in line with the scholarly position of Cheung et,al (2021) where he connotes that perceived ease of use and perceived usefulness are significant factors which contributes to consumer intention to adopt technology products such as mobile commerce, social networking platforms and healthcare wearable technologies. The researcher also discovered consumer innovativeness as a significant predictor of an individual's intention to adopt a particular technology. This was evident as some participants opined that their love for new technology and innovation was a major factor responsible for their adoption of wearable fitness technologies. Findings also revealed that lack of advertisements communicating the potentials and benefits of healthcare wearable technologies was a factor responsible to non-adoption of wearable fitness technologies. This was discovered as some participants in the focus group discussion, suggested that lack of wearable technology advertisements on both social and traditional media was a reason for their non-adoption of wearable fitness technologies.

Findings from this study also revealed that data inaccuracy, difficulties in using wearable gadgets due to complicated user interface and user experience and low battery life are significant challenges encountered in the adoption of wearable fitness technologies amongst Gen-Z in Lagos State, Nigeria.

CONCLUSION AND RECOMMENDATIONS

As a result of the findings elicited from participants in various focus group discussions, the researcher concludes that although a significant proportion of the Gen-Z population are aware of wearable technology, there is a minimal adoption of these wearable technologies amongst Gen-Z subscribers in fitness centers in Lagos State, Nigeria. A major reason which can be alluded for this non-adoption is the lack of well-crafted advertising messages solely aimed at communicating the various health and fitness benefits of wearable technologies.

Based on the findings, the following recommendations are hereby given:

- To encourage adoption, producers and marketers of wearable technologies should tailor their advertisements to communicate the health and fitness benefits of wearable technologies. This is because, majority of people perceive some wearable technology such as the smart watch, as a just a fashion accessory with little to no health benefits.
- Companies producing wearable technologies should ensure their products are seamless and easy to operate.
- Organizations involved in the production and manufacturing of wearable technologies should also take with utmost importance, the need to improve the data accuracy and battery life of their respective wearable fitness technologies.
- Gen-Z should consistently adopt wearable technologies in their fitness endeavours. This is because wearable technologies provides an insurmountable value in fitness as it provides a mechanism to monitor steps taken, blood pressure, heart rate and calories burned.

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