

Innovative Exercise in a New Normal

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Abstract. Innovative exercise is an important aspect of a healthy lifestyle. The availability of various resources has made it easier for people to find activities that they enjoy and that meet their fitness goals. In addition to traditional exercises like running, weightlifting, and yoga, there are also new, exciting forms of exercise such as virtual reality fitness, aerial yoga, and trampoline workout classes. Technology has also played a major role in making exercise more accessible and convenient. For example, there are fitness apps that allow users to track their progress, set goals, and participate in virtual workout classes from the comfort of their own homes. Wearable fitness devices, such as fitness trackers and smartwatches, make it easy to monitor physical activity and track progress in real-time. In addition to these technological advancements, there is also an increased focus on making fitness facilities more inclusive and accessible to all. This includes the incorporation of accessible equipment, sensory-friendly environments, and adaptive fitness programs for individuals with disabilities. Overall, the trend towards innovative exercise is not only providing people with new and exciting ways to stay active, but it is also helping to address the challenges posed by the pandemic and other emerging health threats. By continuing to evolve and adapt to changing circumstances, the fitness industry is playing an important role in promoting health and wellness for people around the world.

Key words: innovative exercise, new normal

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INTRODUCTION

Exercise innovation is indeed a way of solving problems and improving the fitness experience for people. The National Innovation Agency's [1] definition of innovation is indeed very relevant to the field of exercise, as new products and techniques are constantly being developed to meet the changing needs and preferences of consumers.

One example of exercise innovation is the growing trend towards wearable technology and smart fitness devices, which allow people to track their physical activity, monitor their heart rate, and set fitness goals in real-time. These devices make it easier for people to stay motivated and engaged in their workout routines, and they provide valuable insights into overall health and wellness.

Another example of exercise innovation is the development of virtual and augmented reality fitness experiences, which allow people to engage in interactive, immersive workouts from the comfort of their own homes. These experiences use cutting-edge technology to create interactive environments that are both fun and challenging, and they are helping to make exercise more accessible and engaging for people of all ages and fitness levels.

Overall, exercise innovation is an important aspect of the fitness industry, as it helps to address the challenges and needs of the current moment, and it provides people with new and exciting ways to stay active and healthy.

Exercise innovations are playing a crucial role in promoting health, especially in times when the risk of viral infection is high and people are encouraged to exercise at home [2]. As you mentioned, the convenience of exercising at home and the reduced cost of travel can be a big motivator for people to get active, and innovative products and services are making it easier than ever to get a high-quality workout at home.

For example, the Zwift group workouts, are a great example of how innovation in exercise can make it more fun and engaging, and help people stay motivated. The virtual environment of Zwift allows users to connect with others who are also working out, which can help to create a sense of community and encourage users to stay committed to their fitness goals [3]. The importance of process innovations and product innovations in exercise can include everything from new manufacturing processes that are more environmentally friendly to new materials and technologies that make fitness equipment lighter and more functional [4]. These innovations can help to make exercise more accessible, affordable, and effective for people around the world.

Overall, exercise innovation is a critical aspect of the fitness industry, and it is helping to improve the health and well-being of people everywhere by making exercise more accessible, enjoyable, and effective.

The dynamics of the world occur all the time. As people become more health and fitness conscious, companies produce products that focus on the cutting-edge advancement of technology. Making the product more efficient can be used for a variety of purposes, is convenient, and conducive to exercise anywhere, anytime, according to the use purpose. There is also a production process that takes into account the environment. As a result, exercise and environmental protection go hand in hand. The author, therefore, collects information about the new exercise innovation. Attract interested parties for interest information and product samples.

Objective

The author has compiled examples of innovations in a new normal situation, including both tangible and intangible exercise innovations, in this article. The author has provided examples to illustrate the fundamental usage, prices, and information sources.

New Normal

The COVID-19 pandemic has indeed caused a significant shift in the way people live their daily lives, and the term "New Normal" [6] is used to describe these changes. People have become more health-conscious and have adapted to new health and hygiene practices to protect themselves from the virus. These changes have become the new norm and are likely to become a permanent part of people's lives. As a result of the outbreak of COVID-19, individuals are more concerned about their daily life, food, and health, and are searching for information on health insurance, eating healthy food, exercising more, and nutritional supplements. Nitayaporn [8] stated that people take care of their health consistently. Additionally, the pandemic has accelerated the adoption of technology, leading to new inventions and new ways of conducting business and communicating online [7].

Product and Process Innovation:

Product innovation refers to the development of new or improved products, while process innovation refers to the change in the way products are produced or services are provided [10]. Tangible products are physical products that can be seen, touched, smelled, tasted, or tested [10], while intangible products are services that may not have physical characteristics but can still provide value to customers (Theodore Levitt, 1981).

The distinction between product and process innovation is important as it helps companies focus their innovation efforts on areas that can have the biggest impact on their business. By innovating their products, companies can differentiate themselves from their competitors and offer customers new and improved products that meet their needs. On the other hand, by innovating their processes, companies can improve their efficiency, reduce costs, and enhance their competitiveness. To promote environmentally friendly values, for instance, the production of goods takes into account the nature of the material to be circulated. It takes advantage of technology and considers usability, as with lighter shoes and clothing. They are motivated to improve their physical fitness, speed, and strength without restricting their natural range of motion. (2022 Trend Report Return of The Roaring Twenties, 2021) [2].

Overall, both product and process innovation are essential for companies to remain relevant and competitive in today's fast-paced business environment.

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Due to the coronavirus pandemic, an increasing number of people work or study from home. Therefore, physical activity and outdoor activities are lacking. In addition, stress levels are rising. This impacts all aspects of the economy, including the fitness and health industries. While the coronavirus epidemic will return to normal, there are guidelines for surviving current and future crises, such as digital fitness. Traditional fitness facilities have struggled in recent years. A growing number of individuals are interested in the convenience and adaptability of digital fitness. There are numerous reasons why consumers elect to exercise at home digitally. Because connecting to the system is economical, convenient, and meets the needs of users. Consumers favor wearable devices for data verification. Such as monitoring heart rate and physical activity or exercise, as has been the case for decades. COVID-19 has however accelerated the trend. Consequently, coaching is available for both live and online-streamed classes. At-home application development that synchronizes with wearable fitness technology or devices. There is also variety because so many individuals require different types of exercises (Calves, H., 2020) [11]. As a result, exercise innovation is an option. This assists individuals in promoting exercise as engaging and not tedious.

Example of Innovative Exercise in a New Normal

Technogym MyRun : Compact treadmill

A treadmill with a refined and compact design, an adaptive running surface, and tablet-based custom training sessions. This is high-tech exercise equipment for users who want to train quietly at home without disturbing neighbors, such as a treadmill with a motor-driven drive system. This makes it possible to practice without disturbing others early in the morning or late at night. This exercise machine connects to a virtual trainer via a 21.5-inch display. Which can select required programs. Including the following features: personalized training from a tablet, Technogym session, Technogym routines, Technogym Outdoor, Technogym music playlist, Treadmill running biofeedback, and running improvement. It features built-in speakers that enable users to connect their devices to the system to play music or stream content. Shock absorbers are incorporated into the running surface to increase comfort and prevent injuries. The monthly cost is approximately \$1,345.77, or \$16,298.78 annually. [12].



Figure 1. *Compact*

Capti: ‘game-changing’ smart bike

SMART RIDE™ TECHNOLOGY automatically configures the steering and flywheel to match the rider's selected workout to deliver a realistic experience by allowing users to immerse themselves in the industry's largest 24-inch screen touchscreen experience. It features high-performance 3D graphics that immerse the player in the ride. While simple on-screen options allow you to customize the experience, the program automatically adjusts the resistance based on the incline when you propel your avatar uphill. This becomes more difficult when cycling uphill and easier when cycling downhill. As with cycling in the great outdoors, studio-grade durability with a futuristic design is commercially manufactured for the home. This bike has been used and evaluated for riders weighing up to 350 pounds. This intelligent bicycle will last a lifetime. The cost is approximately 25062 USD. [13].



Figure 2. Capti launches new ‘game-changing’ smart bike

Rope Climber Workout Equipment

The Ropeflex APEX RX4400 tread climbing rope machine is a novel piece of training equipment that will enable athletes to engage in an analog activity with greater professionalism. The machine has an integrated rope that the athlete must climb, while the integrated vertical treadmill track provides a portion for them to pedal while moving in place. The modular design of the exercise equipment will enable consumers to use each component separately for a customized workout. The resistance on the Ropeflex APEX RX4400 tread climbing rope machine is adjustable between 40 and 250 pounds, and its commercial-grade construction allows it to be used in public gyms. The cost is approximately \$7,261.35 . [14].



Figure 3. The Ropeflex APEX RX4400 Tread Climbing Rope Machine is Intense

CYCLE BOXER - Bicycle with a Boxing Pad

"CYCLE BOXER - Upright Bike with Boxing Pad" exercise equipment is the solution to fitness problems for users seeking a full-body workout. Unlike competing products on the market, this machine's upright cycling platform features sixteen resistance levels. To enable individuals to engage in strenuous cardio exercises. In addition, a top punching pad segment with 12 selectable punch levels targets and exercises the upper body randomly as the user spins.

The advantages of the CYCLE BOXER - Upright Bike with Boxing Pad are increased strength, improved hand-eye coordination, enhanced cognitive processing, relief from the symptoms of soft-voice disorders, enhanced reaction time, a stronger core that can lead to improved gait + agility, and enhanced posture + balance. For 36 months, the price is \$2,499.00, or \$80.63 per month. [15].



Figure 4. *CYCLE BOXER*
- Upright Bike with Boxing Pad

Home fitness gym "Speediance"

Speediance is an all-in-one home gym designed for individuals who wish to train in the comfort of their own homes. Utilizing artificial intelligence to reduce unique gym visits with a design centred on technology (AI). This optimizes both training and the type of motion. The 21.5-inch touchscreen interface enables users to concentrate on their workout. Users can select from over a hundred distinct movements, in addition to automatic shock and noise reduction. Which is compact and suitable for placement within the home. The price is approximately \$559112. [16].

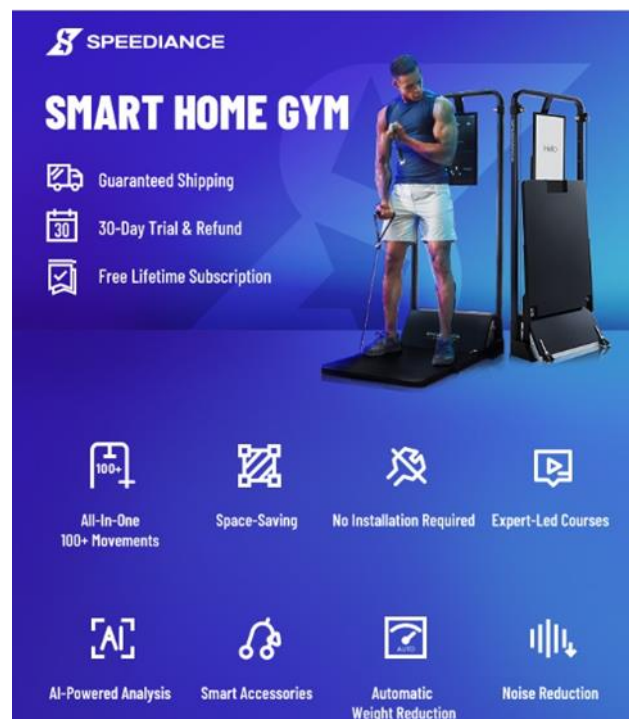


Figure 5. *Speediance: Personal All-In-One Home Gym & Workout Coach*

HIIT

HIIT is for exercisers who want to burn a lot of calories. It contains exercises that simultaneously build strength and coordination. It also helps to highlight their level of skill. The app also allows users to specify the strength of each body part individually, such as the upper body, core, and lower body. Users can select trackable training and rest intervals. There are over 700 new exercises for fitness development. Moreover,

exercise combinations enable more precise control over the sessions' focus. The price for members is approximately 10 USD per month [17].

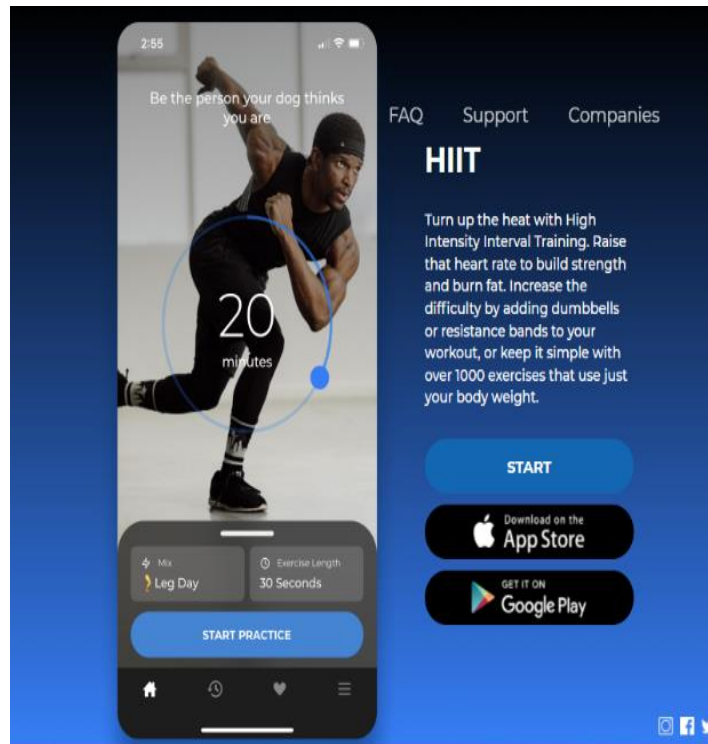


Figure 6. HIIT Ap

ArtiFit



Figure 7. ArtiFit

ArtiFit is an intelligent computer vision fitness assistant for tracking exercise techniques that automatically recognizes the movements of 20 of the human body's major joints. Using the user's smartphone camera in real-time, the app offers corrections for up to five exercise joints per pose. (More than 80% of the most frequent errors) If a user makes an error, they will be instructed on how to exercise correctly. Simultaneously, the user can control themselves using real-time augmented reality images of their body. On the smartphone's display, ArtiFit will automatically edit and display the exercise duration, number of repetitions, score of overall exercise efficiency, and common errors by analyzing the user's exercise results. The membership fee is approximately \$5 per month. [18].

NIKELAND



Figure 8. NIKELAND Metaverse

Nike and Roblox (an online gaming platform) have collaborated to create a virtual world called "NIKELAND." The game "The Floor is Lava" was derived from tag and dodgeball. These games were modeled after the company's Beaverton, Oregon headquarters. Comparable to world-class athletic competitions such as the World Cup and the Super Bowl, the time between games resembles these events. Nike has stated that it will continue to incorporate its athletes and products into the virtual world. Additionally, users can enter a virtual fitting room to virtually try on Nike apparel. The NIKELAND website is currently promoting special items such as headwear and backpacks [19], regardless of whether they are the most recent or newest versions.

CONCLUSION

Exercise innovations are the new standard of living. There are both process innovations and product innovations that have been developed to address a variety of user needs. Consequently, exercise is more convenient and productive, allowing the user to exercise anywhere, at any time, according to their goals. There is also a production process that takes the environment into account, for instance, 10 At-Home Workout Apps (Mahas, G. 2021). [20].

Therefore, users can exercise and preserve the environment in a sustainable manner. Future exercise innovations will be able to accommodate more individualized exercise requirements. Because companies continue to develop innovative exercise equipment. In the not-too-distant future, we may see exercise innovations that simultaneously promote exercise and good health. The conclusion reached by Alasfour, M., and Almarwani, A. (2020) is that a smartphone application with motivating and appealing features could increase patient adherence to HEPs. [21].

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