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The reality and prospects of investment in the Algerian sports sector (A model of a startup in anthropometric body measurements for athletes)

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Abstract---This descriptive-analytical study explored the current state and future prospects of investment in Algeria's sports sector, addressing how to overcome existing challenges and the potential role of a specialized startup in anthropometric body measurements. The findings indicate that Algerian sports investment heavily relies on government spending, with varying quality infrastructure needing modernization. While football attracts the most investment, other sports and related industries receive limited attention. Key growth obstacles include complex legal and regulatory frameworks, funding access difficulties, a lack of transparency in some sports entities, and limited market size in certain areas. Despite these challenges, promising opportunities exist, such as developing modern infrastructure, investing in specialized academies, supporting sports industries (equipment, nutrition, technology), fostering sports tourism, and promoting less popular sports. These prospects are amplified by government

incentives for non-oil sector investment, the potential for public-private partnerships, and increasing societal interest in health and fitness. Crucially, the study demonstrated that an anthropometric measurement startup can significantly boost investment and develop the Algerian sports sector. By offering precise physical assessments, identifying suitable body types for various sports, monitoring training and nutrition impacts, and providing scientific recommendations, such a startup directly enhances athletic performance, aids in talent discovery, and guides development. Furthermore, it can create specialized jobs, foster entrepreneurship, and raise awareness of sports science's importance. Consequently, the study affirms its hypotheses, concluding that despite challenges, substantial investment opportunities exist in Algerian sports, and the anthropometric measurement startup model presents a promising solution for sector revitalization and creating tangible economic and social value.

Keywords---the reality and prospects, sports investment, sports sector, startups, anthropometric measurements, sports development.

Introduction:

The sports sector is a vital field that generates added value and boasts significant educational, developmental, social, and economic dimensions, making it a crucial part of both economic and human progress. It empowers individuals to unlock their full potential and is considered a driving force behind societal advancement, inherently linked to other human activities. In today's world, sports have evolved into a highly profitable commercial enterprise across many nations, with investment in this area capable of generating substantial value. This understanding explains why major global powers dedicate considerable attention to the sports sector, recognizing its pivotal role in economic and social development. Recent economic shifts have underscored the need for economies to diversify national income and adopt an entrepreneurial and investment mindset as key strategies to achieve this diversification. The economic landscape has seen numerous transformations, marked by increasing interest from economists and nations worldwide in entrepreneurship and investment. This focus stems from its critical role in economic activity and job creation, alongside its potential for

innovation, creativity, renewal, and the development of new products. Consequently, it's become imperative for countries, particularly developing ones, to enhance the effectiveness of entrepreneurship and investment and address all obstacles hindering them. This is essential to break free from poverty and marginalization, ultimately leading to the creation of greater added value.

When combined with economics, **sports have undeniably become a global industry**. Eric Falt, Communications Director at the United Nations, points out that sports possess an unparalleled global reach. Consequently, all societal institutions, whether public or private, now view sports as a **source of funding**. For instance, universities and high schools in the United States routinely engage in sponsorship deals for their sports teams, as well as the tournaments and competitions they organize, partnering with companies and economic entities to boost revenue and finance their activities (Menajhi, 2015, p. 01).

The sports sector and its practice have transcended mere entertainment and competitive activation; they now encompass distinct social, economic, and political dimensions. This shift is due to the intense focus from nations, which have worked to structure the sports sector and provide the necessary material, moral, and administrative support for sports organizations. This aims to elevate the physical and mental capabilities and qualifications of individuals and groups, ensuring efficient organization, management, and administrative conduct of sports bodies. Consequently, this leads to achieving the anticipated successes and results for sports and sporting events at local, national, and international levels (Khaloufa and Ben Abdel Karim, 2019, pp. 39-40).

Amidst aspirations for comprehensive development, the Algerian sports sector emerges as a promising arena for investment, given its inherent potential to contribute to economic and social growth. However, this endeavor is not without its challenges, which necessitate careful study.

Funding is one of the biggest obstacles facing specialized investments in the sports sector. Seeking financing, whether through loans from conventional or Islamic banks, often encounters strict conditions imposed by these institutions. For example, they might require an existing commercial activity for at least two or three years. These financial demands pose a significant barrier for many ambitious entrepreneurs, especially startups looking to enter this field.

Beyond the funding challenges, **a lack of expertise stands out as a major obstacle to the development of purposeful sports entrepreneurship projects with social impact**. Successfully launching integrated sports projects that include diverse activities and adhere to the principle of social responsibility (such as creating jobs) demands extensive entrepreneurial experience. Many coaches and sports specialists, despite their technical competence, may not possess sufficient experience in managing and developing complex social and investment projects that involve multi-sport facilities. These combined barriers necessitate **innovative solutions to open broader investment horizons and achieve the desired growth in the Algerian sports sector**.

The Research Problem

Despite the promising investment opportunities in Algeria's sports sector, fueled by its significant potential for talent development and a growing demand for sports services, the sector faces considerable challenges that prevent optimal utilization of these prospects.

So, how can a **startup specializing in anthropometric body measurements for athletes** serve as an effective model to **stimulate investment in the Algerian sports sector**, contribute to its development, and overcome existing obstacles, while leveraging the importance of these measurements to **enhance athletic performance**?

Therefore, based on the foregoing, we can pose the following question:

- What is the reality and prospects of investment in the Algerian sports sector, and what role can a specialized startup in anthropometric body measurements for athletes play in activating this investment and developing the sector sustainably?

To cover all aspects of this study, we'll try to answer the following sub-questions :

1. What are the most prominent challenges facing current investment in the Algerian sports sector, and what are the most promising opportunities available for its development?
2. How can a specialized startup in anthropometric measurements contribute to enhancing athletic performance and creating economic and social value within the Algerian sports sector?

Research Hypotheses ; Based on the questions mentioned above, the following hypotheses can be proposed :

- **First Hypothesis:** There are challenges facing current investment in the Algerian sports sector, and there are promising opportunities available for its development.
- **Second Hypothesis:** A startup specializing in anthropometric measurements can contribute to enhancing athletic performance and creating economic and social value within the Algerian sports sector.

Objectives of the Study

This study aims **to analyze the reality and prospects of investment in the Algerian sports sector**, highlighting the most prominent challenges and available opportunities. It also seeks to **determine the potential role of a specialized startup in anthropometric body measurements for athletes as a practical model** that can contribute to activating this investment, enhancing athletic performance, and creating sustainable economic and social value within the sector.

Research Methodology: In this research, both the descriptive and analytical methods are adopted in order to achieve the study's objectives and verify the proposed hypotheses.

Study Divisions: To provide a precise answer to the posed problem and achieve the research objectives, we've divided the study into two main sections. The first section focuses on the theoretical aspect of the **reality and prospects of investment in the Algerian sports sector**, while the second section presents a **model for a startup specializing in anthropometric body measurements for athletes**.

Chapter One: Theoretical Aspect - The Reality and Prospects of Investment in the Algerian Sports Sector

Firstly: The Importance of the Sports Sector and its Role in Economic and Social Development in Algeria

The relationship between economics and sports lies in the fact that **sports depend on economics for funding various games** (UNESCO, 1986). It serves as a means of advertising, promotion, and widespread dissemination, and acts as an integrated market for the production and marketing of sports products and services, encompassing two main areas (El Hadi & Raash, 2011, p. 43):

- **Participation Field:** Aims to increase the number of practitioners, affirming that participation is a right for every human being, as per the UNESCO Charter of 1978.
- **Championship and Sports Competition Field:**
 - A. **Amateurism:** (e.g., Olympic Games)
 - B. **Professionalism:** Where sports serve as a job or career for financial or economic gain. Sports have now formed a close relationship with the economy.

Among the direct contributions of sports that support the economy are the following (Mahmoud & Rashid, 2014, pp. 130-131):

- **Organizing major sports events** and hosting championships and tournaments, which serve as a financial source for the organizing country.
- **Merchandising, fees, television broadcast rights, and advertising revenues**, all benefiting the state.
- **Individuals and families allocating a specific budget for sports activities**, such as purchasing sportswear.
- **Attending matches and watching them via various paid encrypted television channels.**
- **Costs (likely referring to various expenditures related to sports).**
- **Fees for local clubs and gyms.**
- **Playing, massages, and physical therapy.**
- **Sports tourism revenues.**

This highlights the relationship between sports and economics. Regarding the sports sector's role in human development, sports, as a practice or event, function as a consumer good for various households. In 1999, its value was estimated at approximately 74 billion French Francs, with 20 billion allocated to purchasing sportswear and shoes, and 27.6 billion for acquiring various services offered by different sports teams. As a productive activity, the sports sector managed to create a market worth nearly 1% of the Gross Domestic Product for all countries within the Organisation for Economic Co-operation and Development (OECD). The

scope of markets for sports equipment, gear, apparel, and footwear has genuinely expanded to become global, with various sized enterprises—small, medium, and large—actively participating. (Berberis, 2017, page 182).

Sports possess **economic impacts that can be leveraged for development**, not just locally but also internationally. These impacts include their ability to **create jobs**, stimulate growth, and boost exports—all fundamental aspects of an economic development strategy centered on sports. Furthermore, it's crucial to consider how sports contribute to a country's **health and well-being**, and their overall contribution to the economy at both local and international levels. (Amaarfia, 2018, p. 53)

A cornerstone of human development is the ability to live a long, healthy, and disease-free life, an aim effectively met by a thriving sports sector that encourages healthy living and boosts individual physical fitness. This improved fitness, in turn, enhances productivity across various professions, driving economic growth within diverse organizations. Within the sports world, both investment and marketing are powerful forces for human development, acting as vital engines for economic growth in nations globally. In Algerian society, the health sector stands out as a promising area for social entrepreneurs, given that health is a wide-ranging concept that includes sports and physical activity as key elements of health promotion. Many seniors today, even those over seventy, enjoy excellent physical health, free from chronic conditions like diabetes or high blood pressure, with some even engaging in physically demanding sports that might challenge younger people. Safeguarding physical well-being and preventing illness largely depends on cultivating a widespread culture of sports participation; regular physical activity reduces disease risk and improves overall health and fitness, especially for the cardiovascular and respiratory systems. Recognizing this, many Arab and Middle Eastern countries have embraced social entrepreneurial goals to popularize sports, aiming to enhance public health. For instance, heart diseases are a leading cause of death in neighboring and Arab regions, often linked to insufficient health awareness and inactive lifestyles, followed by diabetes and high blood pressure—conditions largely preventable through healthy living and consistent exercise.

The sports sector acts as a powerful catalyst for achievement and progress across many domains. In Algeria, social entrepreneurs can foster high-level athletic champions by nurturing talent from an early age, establishing specialized academies, developing integrated sports cities, and creating schools for gifted athletes with comprehensive training. It's also vital to focus on diverse sports infrastructure and facilities, avoiding over-reliance on a single sport. Investing in various sports clubs can reduce dependence on government support, leveraging successful international models to build sustainable, investment-driven clubs. Implementing these strategies will create job opportunities for qualified young professionals, enabling them to apply modern sports concepts and maximize their expertise. Furthermore, social entrepreneurs can significantly contribute by prioritizing school sports, providing resources for successful programs to discover young talent and instill a culture of participation. Embracing these visions will build a strong sports foundation that benefits both society and investors. The widespread engagement in sports brings numerous positive effects, from

improving public health and cutting healthcare costs to enhancing overall quality of life, all of which will positively drive Algeria's economic and social development.

This leads us to discuss the social role of investment in projects related to the sports sector:

- ***First: Job Creation***

The sports sector in many countries has successfully fostered intricate relationships and even specialized professions. In France, for instance, approximately 300,000 individuals are engaged in sports-related professions, including administrators, analysts, consultants, experts, media personnel, and more. In short, especially in developed nations, sports have established themselves as a **productive economic sector** whose importance and characteristics become more apparent with each passing day. (Berberis, 2017, p. 183).

In Algeria, over recent years, the establishment of more than 60,000 small and medium-sized enterprises (SMEs) has led to the creation of over **1.2 million jobs**, significantly contributing to a reduction in unemployment rates. The number of new jobs rose from 766,678 in 2004 to 1,298,253 in 2007, and further to 1,605,329 in 2009, indicating a **109% increase between 2004 and 2009**. This sector accounted for **77.6% of total jobs by 2009 statistics**. By the end of 2012, the cumulative total of jobs created by these enterprises reached 1,800,742, marking a 7.44% increase compared to 2011. These figures clearly illustrate the substantial contribution and importance of the **private entrepreneurship and investment sector**, in contrast to public institutions (Meziane & Ammarouche, 2018, p. 103).

- ***Second: Equity in Income Distribution***

By fostering a large number of similarly sized enterprises operating under simple competitive conditions, it's possible to achieve **equity in income distribution**. This helps expand the middle class and reduce the size of the impoverished segment. Furthermore, equitable income distribution contributes to **social responsibility** through the innovation of environmentally friendly products and services that meet societal needs. It also supports social welfare by reducing unemployment, combating poverty and social ills, and bolstering health, education, sports, talent development, and the growth of remote areas. (Fetit & Bourma, 2018, p. 124)

- ***Third: Poverty Reduction and Development of Isolated and Less Developed Regions***

Since the early 1990s, the issue of **poverty reduction and the development of isolated and less developed regions** has topped the priorities of governments and international funding institutions. Micro-enterprises have been recognized as an **effective mechanism for combating poverty** due to their accessibility to small investors and their rapid spread, especially in remote, less developed, or most needy regions. This gives these regions greater opportunities for development and progress by revitalizing them with such projects. Moreover, these initiatives help contain the negative social impacts of economic reform programs in many countries, particularly. (Bouhadjar, 2020, pp. 80-81).

- **Fourth: Combating Social Ills**

Within the sports sector, engaging in physical activities, especially for youth, offers immense benefits, primarily by keeping them away from negative environments and harmful practices. The stories of many global athletes serve as excellent examples; numerous individuals have stated that sports were a turning point in their lives, saving them from dangerous paths. Young people possess tremendous energy, and our country is rich with latent athletic talents and potential. If these energies are not channeled positively into sports, they might be exploited in undesirable ways. This highlights the vital and effective role of **social entrepreneurship** in investing these youthful athletic energies to achieve professionalism. This can then lead to venturing into the world of **sports investment** and creating Olympic champions, in addition to opening doors for exporting these talents to major international clubs across various sports.

There's no doubt that restructuring practices vary significantly from one country to another. However, **cuts in welfare budgets, layoffs, unemployment, and a lack of productive job opportunities** have contributed to some of the fundamental social burdens resulting from recent global economic changes. Often, **limited access to education and the absence of necessary incentives and skills** push young people to the margins of society, leaving them vulnerable and susceptible to various risks, including crime, illness, and drug addiction. (Al-Joudi, 2015, p. 48)

Second: The Reality of Investment in the Algerian Sports Sector

- **Existing Sports Structures and Institutions :**

- Algeria possesses a vast network of sports facilities across the country, though their quality and distribution vary by region. These facilities include football stadiums, some of which boast modern international standards, alongside multi-purpose sports halls and specialized training centers for various sports. Nevertheless, there's still a need to develop and modernize much of this existing infrastructure to elevate it to global standards and broaden the range of services offered.
- Sports clubs and federations are the main actors in organizing and developing various sports competitions and activities. Clubs play a pivotal role in scouting athletic abilities and nurturing athletes, while federations are responsible for establishing sports regulations and laws, overseeing national championships, and representing the country in international sporting forums. However, many of these structures face diverse challenges related to administrative, financial, and professional marketing aspects.
- The government sector is the primary source of funding and development in Algerian sports. Government budgets are allocated to support sports clubs and federations, finance the construction and maintenance of sports facilities, and organize major sporting events. Nevertheless, there's a growing trend towards encouraging private investment and diversifying funding sources to ensure the sustainability of the sports sector and reduce sole reliance on government resources.

The sports sector in Algeria is receiving increasing attention from both government bodies and investors, driven by a growing awareness of its pivotal role in achieving comprehensive development. In this context, promising investment opportunities are emerging in areas such as developing sports infrastructure, establishing specialized academies, and fostering industries linked to athletic activities. However, overcoming existing organizational and financial difficulties remains essential to realize the anticipated growth for this sector.

- **Current Investments in Algeria :**

- **Analysis of Investment Volume and Quality :**

- ✓ **Public:** Government investment is the largest player in the sports sector, with the state allocating budgets to support various sports clubs and federations. A significant portion of government spending is also directed towards developing sports infrastructure, including the construction and modernization of stadiums, halls, and training centers, in addition to funding the organization of sports events and activities at various levels.
- ✓ **Private:** The private sector shows growing interest in investing in sports, though the volume of its investments remains smaller compared to government spending. These private investments primarily focus on establishing private sports academies, fitness centers, and some sports-related industrial activities, such as local production of sportswear and equipment. Direct foreign investment in this sector, however, remains relatively limited to date.
- ✓ **Local:** The majority of private investments are local, carried out by Algerian businesspeople and companies.
- ✓ **Foreign:** Direct foreign investment in the sports sector remains limited, with some indirect interest in sponsorships and advertising.

- **Most Attractive Sports Sectors for Investment:**

- **Football:** This receives the largest share of investments, both public and private, due to its immense popularity in the country. This includes supporting professional clubs and developing some facilities.
- **Other Sports:** Investments are less significant in other sports like athletics, handball, and individual combat sports, often coming from the public sector or small private initiatives.
- **Sports Tourism:** This sector is still in its early stages, with efforts to develop it through hosting some small regional and international sports events, but it has not yet attracted substantial investment.
- **Sports-Related Industries:** This field shows slow growth, with some investments in local production of sportswear and equipment, but it still heavily relies on imports.

Examples of Successful or Ongoing Investments:

- **Development of some modern stadiums:** Such as Baraki and Tizi Ouzou stadiums, built to international specifications and standards.
- **Establishment of some private sports academies:** These focus on talent development in football and some other sports, like Paradou AC football club.
- **Investments in fitness centers and bodybuilding gyms:** These are widely spreading in major cities and are owned by businesspeople.

- **Some initiatives to support professional clubs:** Through national companies or limited private sector sponsorships.

Generally, it's observed that **investment in the Algerian sports sector currently relies significantly on government spending.** However, **promising opportunities are emerging to expand private sector participation and attract foreign investments** across various sports activities and related industries. Realizing this expansion will require efforts to **overcome further regulatory obstacles and provide clear investment incentives.**

- **Challenges and Obstacles :**

Investors may perceive the legal and regulatory framework governing the sports sector as somewhat complex or ambiguous in certain aspects, which could dampen their enthusiasm for investment. This might include difficulties in obtaining necessary licenses, a lack of clarity regarding club ownership regulations and investor rights, or even the absence of specific laws adequately regulating this type of investment. Investors, especially new ones or those with small and medium-sized enterprises (SMEs), face challenges in securing essential funding for their sports projects from banks and financial institutions. This could be attributed to these institutions viewing the sports sector as high-risk, or to insufficient collateral provided by investors. **The biggest hurdle for such specialized investments is indeed the financing aspect.** Whether seeking loans from conventional or Islamic banks, these institutions often demand collateral. Crucially, a primary requirement is that the loan applicant must have an existing commercial activity, typically for at least two or three years, meaning specific conditions must be met by the funding applicant. Among these conditions are the following (Belloul, 2018, pp. 5-6):

Financial institutions conduct an **in-depth analysis of loan applications**, focusing on multiple aspects related to both the borrower and the financed project. This analysis includes evaluating the applicant's **current financial status and income**, as well as the **nature of the collateral** they provide, whether personal or material. Their **credit history is also examined** by reviewing previous loans and repayment methods to assess their capacity to handle new debt and avoid exceeding the allowed credit limit. If collateral is provided for the loan, the loan amount is compared to the value of the pledged asset to determine the **level of security.**

In addition, the **exact size of the requested loan and its repayment period are precisely defined.** The financial institution places particular importance on assessing the borrower's ability to **efficiently achieve the loan's objectives;** if this ability is not present, a legal guarantor may be required. The borrower's **financial reputation and past behavior** in financial dealings are also taken into account to evaluate their trustworthiness.

Financial institutions also assess the project's potential for **future income generation**, analyzing prospective revenue sources that will enable the borrower to earn profits sufficient to cover loan installments on their due dates. The borrower's existing assets, such as equipment and property, are also considered as **additional collateral** for the financial institution. Finally, the financial

institution's management takes into account current and future economic conditions and their potential impact on the borrower's ability to meet obligations, with the loan amount determined based on these projections.

Furthermore, some sports entities, such as clubs and federations, suffer from a **lack of transparency** in financial management and decision-making processes, compounded by weak governance and accountability mechanisms. This situation can erode investor confidence and deter them from committing funds to these entities.

Despite the existing sports infrastructure in the country, a significant portion of it is outdated and requires **development and maintenance**. The distribution of these facilities is also unbalanced across different regions. This scarcity of modern and high-quality facilities can hinder the growth of professional sports activities and reduce the sector's investment appeal.

In some specialized sports fields or related services, the **market size might be limited**, or the **purchasing power of the target audience may be insufficient** to ensure viable returns on investment. This can make investors more hesitant about entering certain sub-sectors within the sports domain.

Third: Prospects for Investment in the Algerian Sports Sector

There are diverse investment prospects within the Algerian sports sector. Among these opportunities, the **development of modern, multi-use sports infrastructure** that aligns with international standards stands out. Investing in the **establishment of specialized academies and training centers** across various sports disciplines also represents a strategic direction for enhancing athletic capabilities. Additionally, **supporting sports-related industries**—such as the manufacturing of equipment, apparel, nutritional supplements, and sports technology—presents a fertile ground for growth. Efforts to **develop sports tourism and host major events** further boost the country's appeal as a sports investment destination. The significant potential for investment in **less popular sports**, which can be developed to cater to broader public interests, should not be overlooked. Finally, the increasing use of **technology and digitalization** plays a crucial role in modernizing sports services and offering innovative solutions. All of these factors constitute promising investment opportunities.

Considering the investment incentives, several factors make investing in the Algerian sports sector attractive. On one hand, the government is actively seeking to diversify the economy and encourage investment in non-oil sectors. On the other, there's potential for robust public-private partnerships to drive sports projects forward. Furthermore, the growing public interest in health and fitness creates an expanding market for diverse sports services. Finally, Algeria possesses significant potential in discovering and developing young athletic talent, opening promising investment avenues for establishing training academies and sports care facilities.

To activate and boost investment in the Algerian sports sector, it's essential to **develop and simplify the current legal and regulatory framework**. We also need to find effective ways to **facilitate financing and attract capital** for various

sports projects. Enhancing **transparency and good governance** within sports institutions is crucial to restoring and encouraging investor confidence. Furthermore, clear plans should be put in place to **develop and upgrade the existing sports infrastructure**. Finally, growing the sports market and encouraging spending on related products and services requires comprehensive and well-thought-out marketing strategies.

Chapter Two: A Startup Model for Anthropometric Body Measurements in Athletes

First: The Scientific and Practical Basis of Anthropometry in Sports

Anthropometric measurements hold significant importance in sports training for several fundamental reasons, as follows:

- **Determining Body Profile:** These measurements help define an athlete's metabolic body composition, including height, weight, various body circumferences, and estimates of fat and muscle percentages. This data provides fundamental insight into the player's metabolic physical structure.
- **Assessing Growth and Development Stages:** Anthropometric measurements are an essential tool for tracking growth and development stages in young athletes. This enables coaches to adapt weekly, medium-term, and long-term training plans to suit different age groups.
- **Contributing to Measurement, Evaluation, Assessment, and Sports Orientation:** Certain physical characteristics can be more suitable for specific sports. For instance, height is an advantage in basketball and swimming, while a strong physique might be beneficial in weightlifting. These measurements assist in guiding individuals toward sports where they are likely to excel.
- **Monitoring the Impact of Training and Sports Nutrition:** Anthropometric measurements can be used to track changes in an athlete's body over time resulting from training programs and dietary regimens. This helps in evaluating the effectiveness of these programs and making necessary adjustments to improve performance, achieve desired goals, and attain changes in metabolic body types (ectomorph, mesomorph, endomorph, meso-ectomorph, meso-endomorph).

Overall, anthropometric measurements offer **valuable information** that helps coaches and athletes **understand physical capabilities, track progress, and make informed decisions** to enhance athletic performance and achieve desired success. This aspect of sports training science is considered a **major feature of athletic performance**.

In Algeria, there's a growing demand for specialized expertise in **anthropometric body measurements for athletes** across both individual and team sports. This surge is driven by the significant role these measurements play in **optimally guiding athletes** toward disciplines suited to their physical build, and in **monitoring and evaluating the physical growth stages of young athletes** to adapt training programs effectively. Furthermore, anthropometric data offers precise information on **metabolic body composition** (e.g., Ectomorph, Mesomorph), enabling coaches to craft personalized training and nutritional plans that enhance performance by adhering to the principle of individual differences. Beyond performance enhancement, these measurements are crucial for **injury prevention** by clarifying the physical demands of each sport and ensuring

necessary precautions are taken. They also help in **tracking and assessing the effectiveness of training and nutrition regimens** through observed body changes, which is vital as a high to moderate muscular component is essential for all athletes to perform at their physiological peak. Ultimately, anthropometric measurements serve as an indispensable tool for **scientific studies and research** into sports and physical performance within Algeria. With the increasing focus on professional sports and the ambition to elevate Algerian athletes' standards, providing this specialized expertise is a pressing need to propel the country's sports development on all fronts.

- **Types of Anthropometric Measurements :**

- **Height:** Typically measured using a stadiometer, it provides essential information about growth and the overall longitudinal structure of the body.
- **Weight:** Measured using an accurate scale, it reflects total body mass.
- **Linear Dimensions:** These include measuring the lengths of different body parts such as arm length, leg length, trunk length, upper body length, lower body length, sitting height, and shoulder width. These measurements are crucial for understanding body proportions and identifying features specific to certain sports.
- **Circumferences:** These measure the circumference of various body parts like waist circumference, hip circumference, arm circumference, chest circumference, abdominal circumference, and thigh circumference. They are used to assess the distribution of fat and muscle mass in the body.
- **Skinfolds:** Measured using a specialized device called a skinfold caliper to estimate the thickness of the subcutaneous fat layer at specific body sites. These measurements are used to estimate total body fat percentage.
- **The Importance of Anthropometric Measurements in Various Team and Individual Sports**

Identifying the Physical Requirements for Each Sport: Anthropometric measurements help understand the ideal characteristics for athletes in specific sports. For instance, in basketball and volleyball, **height** is a significant advantage, whereas in gymnastics, **relative strength and flexibility** are more crucial. In endurance sports, a **lean muscular or muscular-lean body composition** plays a prominent role.

Assisting in Selecting Suitable Players for Positions and Teams: By comparing the physical measurements of potential players with the typical characteristics of successful athletes in certain positions or on national teams, coaches can make more informed decisions when selecting players. This is particularly vital for **playing positions that demand specific morphological characteristics** that align with the nature of that role.

Customizing Training and Nutrition Programs: Measurements provide essential data about an athlete's body composition (such as **muscle, fat, water, vitamin, mineral, calorie, and weight percentages**). This information aids in designing **individualized training and nutrition programs** aimed at enhancing strengths and addressing weaknesses, thereby boosting performance.

Monitoring Physical Changes Resulting from Training: Anthropometric measurements can be used periodically to track changes in an athlete's body in response to training and nutrition programs. This helps assess the effectiveness of these programs and make necessary adjustments.

- **Tools and Techniques Used:** A variety of tools and techniques, ranging from traditional to modern, are employed in sports anthropometric measurements:

✓ **Traditional Tools**

Scale: This is a fundamental device for determining overall body weight. Various types are available, such as floor scales and electronic scales, which operate on different mechanisms.

Measuring Tape: A flexible tool often made of linen or metal, used to measure circumferences of various body parts like the waist, hip, and arm. It can also be used for some length measurements.

Caliper: An instrument with branches used to measure distances between two points on the body. It includes types such as:

- **Anthropometer:** Used to measure linear body dimensions, such as limb lengths and specific heights.
- **Skinfold Caliper:** A pistol-like device with two jaws used to pinch and measure the thickness of a skinfold at specific body sites, subsequently estimating the total body fat percentage.
- **Stadiometer:** A vertical device equipped with a ruler and a sliding horizontal headboard, used for accurate measurement of body height.

✓ **Modern Techniques and Devices**

3D Body Scanners: These devices use technologies like lasers or structured light to create highly accurate 3D digital models of the body. They provide quick and comprehensive measurements of various dimensions, circumferences, and body volume.

Bioelectrical Impedance Analysis (BIA) Devices: These devices work by sending a weak, imperceptible electrical current through the body and measuring the resistance encountered from different tissues. Since various tissues (like fat, muscle, and water) exhibit different resistance levels, the device can estimate body fat percentage, muscle mass, and body water content.

Medical Imaging Techniques: In advanced cases or scientific research contexts, medical imaging techniques such as Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) may be used to obtain a very detailed assessment of body composition and the distribution of different tissues within the body.

Secondly: The Proposed Startup Model

❖ Company Idea and Vision: Establishing a Startup Specializing in Providing Anthropometric Measurement Services for Athletes in Algeria

The core idea revolves around establishing an entrepreneurial entity entirely specialized in providing **precise and specialized anthropometric measurement services** for athletes across various individual and team sports disciplines in Algeria. This entity aims to meet the growing need among athletes, coaches, and

sports organizations for scientifically grounded and reliable morphological physical assessments.

The primary services offered by this entity will include a **comprehensive range of anthropometric body measurements**, utilizing the latest available technologies and tools. This will be complemented by **data analysis and the provision of detailed reports and personalized recommendations** aimed at enhancing athletic performance and preventing potential injuries.

The main objective of this entity is to deliver services characterized by **high quality, based on solid scientific foundations and recognized international standards**, while considering the specific needs of each sport and individual athlete.

As for the future vision, this entity aspires to become the **foremost and most trusted national reference** for athlete physical assessment in Algeria. It aims to establish **national standards for morphological physical assessment** in sports by adopting global best practices and techniques. It also seeks to contribute effectively to the development of Algerian sports by providing athletes and coaches with the necessary information and analyses for informed decision-making. Furthermore, it strives to build a strong reputation and a broad client base to ensure its long-term growth, with the ambition of being at the forefront of entities adopting the latest technologies and methodologies in anthropometric measurements and physical assessment.

❖ **Services Offered**

- Services include a comprehensive suite of **anthropometric measurements**, encompassing both basic assessments like height, weight, linear dimensions, circumferences, and skinfolds, as well as more specialized measurements required by specific sports—such as limb lengths for swimmers or basketball players.
- The services also feature **body composition analysis** using the latest available technologies, including bioelectrical impedance analysis devices (like the INBODY 770) or 3D scanners. The aim is to estimate the percentages of different body components such as fat, muscle mass, bone mass, and water levels, and to provide a detailed analysis of these components and identify the athletes' specific metabolic body type.
- Based on these measurements and analyses, an **assessment of the athlete's body type** will be provided, determining its compatibility with their current sport or other sports where they might possess latent abilities.
- **Comprehensive reports** will be prepared, containing all collected data and derived analyses, along with comparisons to typical standards for each sport and age group. These reports will be accompanied by **practical recommendations for coaches** on how to adjust training and nutrition programs to enhance athletic performance and reduce the likelihood of injuries.
- Additionally, **workshops and training courses** will be organized for coaches, athletes, and academics in the sports field. These sessions aim to

raise awareness about the importance of anthropometric measurements and how to leverage them for sports performance development.

- Finally, there are plans to develop **digital applications for smartphones or online platforms**. These will enable athletes and coaches to track their measurement data over time, compare it with standard performance levels, and access simplified, easy-to-understand analyses and graphs.

❖ Target Market

- **Various Sports Clubs and Federations:** Targeting sports clubs at all levels (professional, amateur, youth) and national sports federations to provide morphological physical assessment services for their players and national teams. This is especially crucial as morphological profiling requires testing before the start of general preparation, after the end of specific preparation, during the competition period, and after the end of each competitive training season.
- **Academies and Training Centers:** Collaborating with sports academies and specialized centers focused on developing young talent to offer periodic assessments for their trainee athletes.
- **Professional and Amateur Athletes:** Targeting athletes who seek to scientifically improve their performance and monitor their physical progress.
- **Sports Educational Institutions:** Partnering with colleges and institutes specializing in sports science to provide assessment services for students and conduct scientific research.
- **Fitness, Bodybuilding, and Nutrition Centers:** Cooperating with fitness centers and sports nutritionists to offer integrated services to their athletic clients.

❖ Operational and Marketing Aspects

Location and Required Equipment: Choose a **strategic location** easily accessible to target clients. Equip the center with the **latest traditional and modern anthropometric measurement tools**, in addition to data analysis software (such as INBODY devices).

Marketing and Service Promotion Strategies:

- **Online:** Create a **professional website** and leverage **social media** (Facebook, Instagram, LinkedIn, TikTok, YouTube) to promote services and share educational content.
- **Partnerships with Clubs:** Build **strong relationships** with sports clubs and federations, offering them special deals.
- **Sports Conferences:** **Participate in sports conferences and seminars** to showcase services and network with potential clients.
- **Content Marketing:** Develop **blogs, articles, and videos** explaining the importance of anthropometric measurements and their benefits for athletes.

Team Structure: Build a **qualified and specialized team** that includes:

- **Anthropometry Specialists:** Individuals with **expertise in conducting various types of measurements** and data analysis.
- **Sports Coaches:** Professionals with a **deep understanding of sports training requirements** who can translate measurement results into practical, competitive field recommendations.
- **Marketers:** Responsible for **promoting services** and building client relationships.

❖ **Economic Feasibility**

- **Estimating Initial and Operational Costs:** Calculate the necessary costs for establishing the center (rent, equipment purchase, facility setup) and ongoing operational costs (staff salaries, marketing, maintenance).
- **Revenue Projections Based on Target Market and Proposed Pricing:** Determine competitive pricing for services based on the value offered and competitor price analysis, then estimate projected revenue based on the size of the target market and marketing strategies.
- **SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats):** Conduct a comprehensive analysis of the startup's internal strengths (e.g., expertise and efficiency) and weaknesses (e.g., initial costs), as well as market opportunities (e.g., growing interest in sports) and potential threats (e.g., emergence of new competitors). This analysis helps in developing a sustainable business strategy.

Thirdly: The Role of the Anthropometric Measurement Startup in Revitalizing the Algerian Sports Sector

- ❖ **Contribution to Sports Performance Development :** This organization significantly **contributes to enhancing sports performance**. It provides coaches with **accurate data on athletes' physical characteristics**, enabling them to make informed, scientifically-based training decisions (adhering to the principle of individual differences). It also helps in **discovering athletic talent at an early age** and effectively guiding them toward sports that align with their physical capabilities, which boosts their chances of success and development.
- ❖ **Job Creation :** This entity also contributes to **creating new job opportunities within the sports sector**. By providing specialized positions for sports science graduates, measurement specialists, and sports nutrition experts, it **supports local talent**. Furthermore, it **stimulates entrepreneurship** in this field, encouraging the emergence of more specialized initiatives and projects that contribute to the growth of the sports economy.
- ❖ **Promoting Awareness of Sports Science's Importance:** Finally, the organization works to **boost awareness of the importance of sports science**. It disseminates knowledge about the vital role anthropometric measurements and sports science in general play in achieving athletic goals and elevating performance levels. It also opens up broad avenues for **collaboration with academic and research institutions**, which supports scientific research and encourages the application of the latest methodologies in assessing and developing athletes' capabilities.

Conclusion

- It's observed that **investment in the Algerian sports sector still primarily relies on government spending**. Despite existing sports infrastructure, its quality varies, and there's an urgent need for modernization. **Football is currently the most attractive sport for capital**, while investments in other sports and related industries remain limited. Furthermore, **major obstacles hinder investment growth and sector development**, including a complex legal and regulatory framework, difficulty in securing funding, a lack of transparency in some sports organizations, and limited market size in certain areas.
- Despite the existing challenges, the Algerian sports sector possesses **promising investment opportunities**. These opportunities are evident in the potential for **developing modern sports infrastructure** and investing in specialized academies and training centers. Opportunities also exist in **supporting sports-related industries** such as equipment, apparel, sports nutrition and supplements, and technology. Additionally, **sports tourism and hosting major events** can be developed, with a focus on less popular sports that hold growth potential. The growing role of **technology and digitalization** further enhances these prospects. All these opportunities are supported by government initiatives that encourage investment outside the oil sector, the potential for **public-private partnerships**, and increasing societal interest in health and fitness.
- Establishing a **startup specializing in anthropometric body measurements for athletes** can play a vital role in driving investment and developing the sports sector in Algeria. By providing accurate measurements and analyses of physical characteristics, identifying the most suitable body type for each sport, monitoring the impact of training and nutrition programs, and offering direct scientific recommendations to coaches and athletes, this startup will directly contribute to **improving sports performance, discovering promising talents, and effectively guiding them**. Moreover, this startup will **create specialized job opportunities** for qualified professionals and **stimulate entrepreneurship** in this vital sector. It will also **boost public awareness of the importance of sports science** through knowledge dissemination and collaboration with research and academic institutions. Thus, this model can become a powerful catalyst for investment, generating tangible economic and social value that serves the development of sports in Algeria.

From these findings, we can conclude that both hypotheses under study are correct.

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