

La introducción de la innovación mediante los servicios científicos técnicos especializados

The introduction of innovation through specialized technical services

Yuri Torres Acosta**Inalvis Mengana Osorio****Hirbins Manuel Dopico Pérez**

Universidad de Guantánamo, Cuba

ORCID. <https://orcid.org/0009-0008-5516-4550><https://orcid.org/0000-0001-3403-7202><https://orcid.org/0000-0001-7434-4189>**Correos electrónicos:**yurit@cug.co.cuinalvismo@cug.co.cuhirbinsdp@cug.co.cu

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Resumen: El artículo aborda un aspecto esencial para el deporte de alto rendimiento, tiene como objetivo la introducción de la innovación mediante los servicios científicos técnicos especializados. Ello marcó la intencionalidad del diseño de una concepción teórico-metodológica, contentiva de un componente teórico y de otro metodológico, en la cual se establece un sistema de relaciones dialécticas entre los elementos de cada componente, a partir del nuevo punto de vista, principios, y las categorías que la conforman.

Palabras clave: Innovación; Servicios científico técnicos especializados; Deporte de alto rendimiento.

Abstract: The article deals with an essential aspect for high performance sport, its objective is the introduction of innovation through specialized technical scientific services. This marked the intentionality of the design of a theoretical-methodological conception, containing a theoretical component and a methodological one, in which a system of dialectical relations is established between the elements of each component, from the new point of view, principles, and the categories that comprise it.

Keywords: Innovation; Specialized scientific technical services; High performance sport

Introduction

The vertiginous scientific-technical development in contemporary times makes it possible to obtain scientific knowledge and technological results that demand constant creative and innovative activity in order to maintain progress. Under these conditions, the changes generated since the

middle of the 20th century converge in new conceptual frameworks through which novel theories are established, which promote the search for the real and completely unknown, and therefore innovation.

From this point of view, a vital recommendation is to keep in mind the following premises: to innovate or to die, investigate reality or stagnate. In this regard, the introduction of innovation guarantees the achievement of optimal results and the improvement of the processes that take place in sports institutions, especially in those aimed at high performance.

Innovation as a product or service presented as a new incremental or radical quality, and once accepted, it produces impacts, whether economic, social or environmental. In this sense, an innovative institution is capable of transforming scientific and technological advances into new products and processes according to the needs and requirements both at the national and international level.

At the international level, Camagni (1991), in his theory of innovations, considers innovation as a new production function. For his part, Castillo (1999) states that innovation implies not only the production of a new product or form of production, but also the creation of organizations, as well as a different way of performing a given task. The aforementioned authors contribute theories, conceptions and procedures about innovation from different angles.

At the national level, Addine (2006) refers to didactic innovation in the teaching-learning process. Díaz-Canel and Delgado (2021) propose an innovation-oriented government management model.

In this sense, its transformation involves the application of methodologies, standards and principles, which allow the strengthening of the actions of managers, coaches and athletes with an immediate perspective (API), based on a stable, dynamic environment, aimed at making sports institutions more flexible, innovative and of excellence.

In this regard, the Integral Program of High Performance Sports in the Integral School of Sports (EIDE) “Rafael Freyre Torres” is based on the threats in the sustainability of sports results achieved in the international arena. On the other hand, the introduction of innovation through specialized

technical scientific services in high performance sports requires the planning, organization, execution and control of all the activities in this institution to achieve this goal.

However, the existence of limitations are noted, which lacerate its quality, since the main scientific results achieved in the sports sphere and which constitute innovations are not always taken into account in spite of their importance and necessity. Hence, the present article aims at introducing innovation through specialized technical scientific services in high performance sports.

Development

The limitations in the theoretical, practical and methodological substratum impede the realization of innovation through specialized technical scientific services in high performance sport, based on strategic alliances between territorial organizations and the EIDE "Rafael Freyre Torres" of Guantánamo. For this purpose, it was selected an intentional sample; it is constituted by a total of 32 coaches (100 %) and the 31 managers (100 %) of the direction of the referred institution and of the high performance in the province.

Empirical methods were used which facilitated the verification of the scientific-methodological preparation for the introduction of innovation through specialized scientific-technical services in high performance sport. As for the theoretical methods, these allowed knowing the criteria about the introduction of innovation, as well as evaluating the feasibility of the theoretical-methodological conception and the methodology elaborated for that purpose.

For the elaboration of the theoretical-methodological conception, the investigators took into account, its new point of view, the categories and principles that constitute the theoretical substratum of the conception. In relation to the structure, it consists of the objective, rationale, new point of view, categories; it has a theoretical and a methodological component exposed from the relationship that links them.

The aforementioned conception starts by revealing the essence of the introduction of innovation from the renovating approach, which leads to the development of emerging behaviors and a renovating mode of action. For this purpose, the authors considered the introduction of innovation as a process and result, which implies changes and, every process of change generates resistance.

The theoretical component consists of the categories, innovative Incentives in High Performance, Specialized Technical Scientific Services with a Renewal Approach, Advanced Environments, as well as Strategic Surveillance and Monitoring of Technical Scientific Advances. It offers the characterization of each of them, synthesized through the three principles to support the innovation.

This component makes possible to systematize the essential relationships established between the different theoretical elements of the concept. It states its fundamentals on the new point of view that conceives the introduction of innovation and the relationships established between this new view and the approached categories that, in the epistemological order, are in close relation to the declared principles and that serve as support for the elaboration of the three innovation support principles.

In the theoretical modeling of the conception in this thesis, according to the analyses carried out, the starting point becomes the innovative incentives in high performance, defined as the process of stimulation that incites towards the search for advanced innovations that facilitate the modification of behaviors and modes of action. An incentive, as its name indicates, incites and motivates the desire to act.

In this sense, several factors constitute impulses for the development of innovative incentives in high performance sport:

The generation of ideas: ideas are new products, concepts, perspectives, and their origin does not have to be limited to within the institution. The creativity of employees is an important source of ideas, but not the only one. Institutions relate with collaborators from other institutions, all of them can be a source of ideas.

Structured processes: it should know the capacities and resources available in high performance sport institutions in order to accelerate the introduction of the innovative process. Therefore, identifying performance indicators and defining precise targets for measuring the outcome of the entire investment is critical.

Leadership: the leader must be clear about his or her mission and strategic direction. The role that innovation also plays in institutions aimed at high performance, the type of innovation sought, and the expected changes from the implementation of a given innovation. However, being an effective

leader requires the establishment of well-defined responsibilities so that everyone's work does not become no one's work.

Skilled employees: New products, services and technologies are constantly appearing, which requires active training to adapt to new changes. Part of this training depends on the will of the individuals; on the other hand, it depends of the institution through job rotation, financing of courses, as well as specialized scientific and technical services.

The users: they are the people that receive the results of the innovations and their generalization through technical scientific services in the specific case of this thesis. They, from their motivations and perspectives, give rise to the introduction of innovation in high performance sport. For this reason, a fundamental element of the innovative process is human resources. So innovating implies having the right people doing the right things at the right time.

The relationships between the university and the scientific poles of the organizations (ideas, capacities and financing) as well as of the territories constitute the element that links and allows their alignment based on the role played by each of these actors in innovation. It is therefore necessary to better articulate the relationships between those involved, moving from a system of relationships based on the transfer of knowledge to its co-production.

Social responsibility: this makes it possible for the pieces that make up innovation, among which governments and local leaders stand out, to work together to introduce innovations. This collaboration has a double function; first, governments must empower local idols.

For the proper implementation of specialized scientific and technical services, advanced collaborative environments are required, considered as the space that allows increasing efficiency, competitiveness and responsiveness. This implies the application of a set of integrated procedures and actions that respond to a given context, given that the success of innovation in an institution depends almost entirely on the preparation and training of human resources, as well as the development of competencies (knowledge and skills) for innovation.

It is a matter of renewing the competencies developed in people in relation to innovation, related to creativity and continuous improvement, teamwork, risk-taking, relationship building, project

management, implementation and intra-entrepreneurship. All of the above is possible if the environment is collaborative and advanced, oriented to the development of commitment in people, through the promotion of passion for what they do, the creation of initiatives, spaces and conditions for the incorporation of best practices, where transparency, collaboration and meritocracy are the factors of progress.

The methodological component covers the stages of the methodology for the introduction of innovation through specialized technical scientific services in high-performance sports. The diagnostic stage for the introduction of innovation with its respective phases, among which are those of awareness raising, information gathering and processing. The stage of action planning used for introducing the innovation. The stages of implementation and evaluation of actions for the introduction of innovation as well as.

Examples that illustrate how to implement the proposal:

Innovation introduced kinematic analysis model of the different types of strokes to perfect the stroke technique.

1. Specialized scientific and technical opening service

Objective: to enable managers and coaches of Baseball five about the state of the science on the kinematic analysis model of the different types of hits to improve the hitting technique.

Didactic-methodological procedure:

Begin by asking: what are your expectations of the service?

Select an activity recorder.

Grouped in teams, the participants will receive a worksheet with different indications. To do so, they will start with the concept of model, then they will analyze the definition of the kinematic analysis model, emphasizing the terms that make it up.

They will incorporate the missing word or words related to the topic, and give their arguments.

They will organize these terms taking into account their relationship with the concepts addressed and subsequently elaborate with them new definitions in correspondence with their points of view.

They will relate then, these concepts according to their complexity and the explanation of why they organized them in that way.

To conclude this first service, they will know the state of the science on the different throws, their analysis based on the model introduced, and they will exemplify how it manifests itself in their sport, in addition to specifying its incidence in practice.

2. Specialized scientific and technical experimentation service.

Objective: to enable managers and coaches of Baseball five to implement the kinematic analysis model of the different types of hitting as a function of the improvement of the hitting technique.

Didactic-methodological procedure:

Start with the following question: what are the expectations regarding the innovation introduced?

They will elaborate an idea from the content approached in the previous service; this can be conclusive, integrative or simply explanatory.

Then they will express the elaborated idea, which will serve as a guiding thread throughout the service, they will chose and expressed in plenary the best ideas formulated.

It demonstrates the kinematic analysis model of the different types of strokes.

Grouped in teams, they will elaborate game situations where the kinematic analysis model of the different types of strokes is used. The sports practice with their APIs will implement these actions.

At the end, the recorder should read the record of events, assessing the activity and giving the evaluation to all participants taking into account the criteria determined.

Note: criteria for evaluation

- Fit with the theme.
- Originality

3. Specialized technical scientific service of completion

Objective: to evaluate the implementation of the kinematic analysis model of the different types of hitting for the improvement of the hitting technique in Baseball five.

Didactic-methodological procedure:

The selected coach is communicated the following orders on a worksheet: you have the responsibility to start or end today's service for this you have to fulfill different duties: take up the main aspects addressed in the previous meetings and ensure the beginning or of what was addressed during the same you must be responsible with the conclusions.

All those presented will receive a strip of paper to write down their criteria about the services received where they should express their degree of satisfaction and proposals for their improvement (their name should not appear).

All of them will read in plenary; they will consider them for the redesign of the services received.

The activity recorder reads the report of what happened during the three sessions.

Finally, the use of other closing techniques recommended such as positive, negative and interesting criteria, parallel texts, among others.

Conclusions

The theoretical-methodological conception establishes a system of dialectical relationships between the elements of the theoretical and methodological components, expressed in the introduction of innovation through specialized scientific services in high performance sport, based on the new point of view, principles and categories that make it up.

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