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Additional Information

1 **Title:**

2 Innovation strategies in sports management: COVID-19 and the Latin American tennis
3 federations

4
5 **Abstract**

6
7 The purpose of this paper is to discuss some of the most relevant innovation strategies
8 used by the Latin American national tennis federations as a response to the COVID-19
9 pandemic. This paper describes the actual experiences within these organizations. The
10 study uses a mixed methods design. It combines quantitative and qualitative measures
11 with content analysis on the information provided by a sample of executives of national
12 and regional tennis federations in Latin America plus Spain and Portugal. The 19
13 professional executive staff members completed a survey in which they identified the
14 main characteristics of the innovation programs delivered by their organizations during
15 the pandemic and its impact on the overall strategy of their business. The findings
16 suggest that a variety of innovation strategies have been used by these organizations
17 during this unprecedented period. These strategies have been implemented in areas
18 such as information, participation, communication, and digitalization. To the knowledge
19 of the authors, this is the first paper that examines these innovative projects in the Latin
20 American tennis organizational ecosystem. This research is limited by the sample size,
21 which included several Latin American tennis federations, as well as by the special
22 characteristics of the representatives of these organizations that participated in the study.
23 The results provide practical implications as examples of best practices that can be
24 considered by other sport organizations in their innovation strategies. The study also has
25 social implications due to the impact of these innovation projects in the tennis ecosystem
26 of the nations and the continent.

27
28 **Keywords:** organization, innovation, sport, tennis, management, COVID-19, pandemic,
29 Latin America, federations

30
31 **Abbreviations**

- 32 ITF – International Tennis Federation
33 NAs – National tennis associations or federations
34 NPSOs – Non-profit sports organizations
35 NSGBs – National Sport Governing Bodies
36 RAs – Regional tennis associations or federations

37
38
39 **Funding**

40 This research did not receive any specific grant from funding agencies in the public,
41 commercial, or not-for-profit sectors.

42
43 **Título**

44
45 Estrategias de innovación en la gestión deportiva: COVID-19 y las federaciones
46 latinoamericanas de tenis

47
48 **Resumen**

49
50 El propósito de este trabajo es presentar algunas de las estrategias de innovación más
51 relevantes utilizadas por las federaciones nacionales de tenis latinoamericanas como
52 respuesta a la pandemia del COVID-19. Este trabajo describe las experiencias reales
53 dentro de estas organizaciones. El estudio utiliza un diseño de métodos mixtos.
54 Combina medidas cuantitativas y cualitativas con un análisis de contenido sobre la

1 información proporcionada por una muestra de ejecutivos de las federaciones
2 nacionales y regionales de tenis de América Latina más España y Portugal. Los 19
3 ejecutivos profesionales rellenaron una encuesta en la que identificaron las principales
4 características de los programas de innovación llevados a cabo por sus organizaciones
5 durante la pandemia y su impacto en la estrategia general de su empresa. Los
6 resultados sugieren que estas organizaciones han utilizado diversas estrategias de
7 innovación durante este periodo sin precedentes. Estas estrategias se han aplicado en
8 áreas como la información, la participación, la comunicación y la digitalización. Según el
9 conocimiento de los autores, este es el primer trabajo que examina estos proyectos
10 innovadores en el ecosistema organizativo del tenis latinoamericano. Esta investigación
11 está limitada por el tamaño de la muestra, que incluyó varias federaciones de tenis
12 latinoamericanas, así como por las características especiales de los representantes de
13 estas organizaciones que participaron en el estudio. Los resultados proporcionan
14 implicaciones prácticas como ejemplos de buenas prácticas que pueden ser
15 consideradas por otras organizaciones deportivas en sus estrategias de innovación. El
16 estudio también tiene implicaciones sociales por el impacto de estos proyectos de
17 innovación en el ecosistema tenístico de las naciones y del continente.

20 1. Introduction

22 Innovation in sport has been defined as the creation or application of a process, product
23 or service in any form of change or novelty that leads to an increased competitiveness
24 into a sports context (Ratten, 2018; Ratten and Ferreira 2017; Tjørndal 2016). Innovation
25 is crucial for success in many scenarios. In a general context, it has been indicated that
26 those companies which implement management strategies that allow them to rapidly
27 evolve and effectively get sustainable advantage from out innovating the competition are
28 the ones that achieve organizational success (Moore, 1993).

30 In the sport ecosystem, innovative organizations, such as the national sport federations,
31 have been shown to embrace a culture of change, progress, evolution and development
32 which affects all their stakeholders. As suggested by research conducted by Winand *et*
33 *al.* (2016) among others, by doing this, these organizations who govern their sport at
34 national level have managed to better adapt and fulfil the needs of all those involved.

36 The leaders of these organizations are the national federations' professional staff. They
37 are those responsible for delivering the services that implement the strategy of their
38 organizations. This process is driven by their leadership and their ability to facilitate an
39 innovative culture within their context (Skinner *et al.*, 2018).

41 As one of the most popular sports in the world, tennis attracts players, fans and media
42 audiences. Tennis is played by 87 million people worldwide, which represents 1,17% of
43 the total world population. 45% of these players are female, which indicates that it is a
44 truly equal gender global sport with a significant presence in the continents formed by
45 the Latin American nations (ITF, 2019).

47 Tennis, as well as other sports, has been notably affected by COVID-19 pandemic.
48 National tennis federations have tried to react and adapt to this phenomenon by
49 positioning tennis as one of the safer activities to practice due to the fact that it allows
50 social distancing while playing (ITF, 2020). The overall effects of this unprecedented and
51 challenging scenario in the tennis ecosystem are still to be fully studied and understood
52 (Crespo and Jabaloyes, 2020).

54 Researchers have paid considerable attention to innovation in the sport context, see for
55 all Ratten (2018) and Ringuet-Riot and James (2013). Less interest has received the

1 innovation conducted by national sports federations (Winand *et al*, 2013) and very few
2 studies have focused on the role of staff of these organizations in the implementation of
3 innovation strategies (Winand and Anagnostopoulos, 2017). In the case of tennis,
4 innovation research has mostly focused on the role of technology (Kim and Pennings,
5 2009; Sheridan, 2006). For a general overview, see Crespo *et al.*, 2021). The specific
6 innovation strategies of national tennis federations have not yet been investigated.

7
8 As per research on innovation, sport and COVID-19, authors such as Ratten (2020)
9 reflected on the new thinking required by sport organizations to capitalize on the use of
10 innovation to adapt and react to the situation, and Ratten and Dickson (2021) have
11 discussed the disruptions in sports management created by the pandemic. In the tennis
12 ecosystem studies have focused on several aspects related to the different stakeholders,
13 see Crespo *et al.* (2021) for a review. However, as above mentioned, no studies have
14 investigated innovation and COVID-19 in the context of tennis national federations
15 worldwide or in Latin America through the views of their executives.

16
17 Therefore, the purpose of this paper is to identify and discuss some of the most relevant
18 innovation strategies used by the Latin American national tennis federations as a
19 response to the COVID-19 pandemic. This will be done by describing the actual
20 experiences within these organizations as obtained through the information provided by
21 the different national tennis federations and some of their executive professional
22 management staff members.

23
24 This paper will have the following structure: after this introduction, a theoretical
25 background will set the scene of the research context. This will be followed by the
26 methodology section, and the results and the discussion part. Finally, the limitations,
27 practical applications and future directions of research will be presented together with
28 the conclusions at the end of the paper.

29 30 **2. Theoretical background**

31 *Innovation in sport and tennis organizations*

32
33 Innovation has been understood as a chaotic, complex, iterative and social process that
34 implies the adoption of new practices, structures, or technologies (Wolfe, 1994).
35 Innovation in sports refers to the adoption and use of a novel idea or behavior and its
36 application to sports context (Winand and Hoeber, 2017).

37
38 Research on innovation in sport settings has growth during the last decades and it has
39 covered many aspects that define the complexity of the sport ecosystem. Studies have
40 focused on technology, entrepreneurship, sustainability, digitalization, network models,
41 opportunities, social aspects, communication, management, organizations, etc. (for a
42 review see Tjørndal, 2016).

43
44 More specifically, the field of innovation in sport organizations has received some
45 attention from research. Sports organizations are complex sociotechnical systems which
46 implement strategies directed to the growth and development of the sport and that a
47 range of organizational factors interact to influence athlete performance (Fletcher and
48 Wagstaff, 2009).

49
50 Theoretical models that have addressed this topic include that of Newell and Swann
51 (1995) related to the diffusion and appropriation processes of innovation within National
52 Sport Governing Bodies (NSGBs), the model of innovation champions by Winand *et al*
53 (2013), and the model of innovation capability of Non-Profit Sport Organizations
54 (NPSOs) proposed by Winand and Hoeber (2017). Results on research related to
55

1 innovation of NSGBs have provided an interesting view of the challenges these
2 organizations should face and the policies, strategies and programs to fulfill their
3 stakeholders needs (see Crespo *et al.*, in press).

4
5 In this context, tennis is a multifaceted activity that can be considered a global industry
6 and a business with many ramifications. It has been indicated that tennis has an
7 innovation strategy since it is committed to develop ideas and implement innovative
8 practices (Crespo and Jabaloyes, 2020) and, for innovative processes, tennis is
9 especially seen as a favorable scenario (Crespo *et al.*, 2021). The tennis executives
10 have been identified as key drivers of innovation strategies in this ecosystem (Valiño,
11 2017).

12
13 In fact, innovation through digitalization is one of the main objectives of the International
14 Tennis Federation (ITF) 2020-2024 strategy (ITF, 2021a) since its focus on innovations
15 in tennis includes player analysis technology, electronic line calling and research into the
16 state of the game with the goal of ensuring that tennis remains true to its traditions in an
17 ever-evolving world.

18
19 Technological innovations have been the main focus of research on innovation in tennis
20 as they have studied products (i.e., rackets, balls, clothing, strings, etc.) created to
21 increase the players' experience (Crespo *et al.*, 2021). It could be then stated that
22 management innovations of NSGBs would need more attention due to the relevant role
23 this organizations play in the governance of the sport.

24
25 Apart from innovation, there are many other relevant topics that tennis federations are
26 facing as part of their management strategies and that could be linked to the sports
27 context. Among these, aspects such as Corporate Social Responsibility (CRS),
28 sustainability, digitalization, gender equality, inclusion, integrity, governance,
29 safeguarding, etc., are crucial for an adequate development of these organizations.
30 However, they are outside the scope of this research which, as indicated above, deals
31 with innovation strategies in these challenging times.

32 33 *National tennis governing bodies in Latin America*

34
35 From an international governance perspective, and according to the ITF Constitution
36 (ITF, 2021b), National Associations are "*National Tennis Associations or corresponding*
37 *organizations of independent countries or territories that are member states of the United*
38 *Nations or members of their National Olympic Committee"* (p.6). The national tennis
39 associations or federations (NAs) are the governing bodies of tennis in their respective
40 nations. They are affiliated to the ITF which is the world governing body of tennis. They
41 are also affiliated to their respective Regional Associations (RAs). There are some 210
42 affiliated NAs affiliated to the ITF.

43
44 As suggested by Bayle and Robinson (2007) they are usually not-for-profit sport
45 organizations. Their role is to govern and manage their sport in their territory by
46 implementing strategies and policies to plan, organize, regulate and deliver sport
47 activities to their stakeholders. They accomplish this role by articulating a variety of
48 administrative methods to achieve their organizational goals. These activities are
49 conducted by a combination of volunteers and paid staff that provide them with a 'hybrid'
50 nature due to their social scope, mixed source of funding (public and private) and network
51 structure of operation which includes regional/provincial federations and clubs (Naraine
52 and Parent, 2017).

53
54 According to the ITF (2021b), tennis in Latin America is governed by two Regional
55 Associations (RAs): COSAT and COTECC, which are affiliated to the ITF. COSAT is the

1 South American Tennis Confederation, which is made up of 10 nations: Colombia,
2 Venezuela, Ecuador, Peru, Bolivia, Argentina, Brazil, Chile, Paraguay, Uruguay
3 (COSAT, 2020). COTECC is the Confederation of Tennis for Central America and the
4 Caribbean, and it has 34 member nations. For the study, the 10 Spanish-speaking
5 nations of this sub-region were included. These nations were: Costa Rica, Cuba, El
6 Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Puerto Rico, and
7 Dominican Republic.

8
9 From a tennis participation perspective, data from the ITF (2019) inform that the Latin
10 American countries have close to 5% of the world's tennis population (4.8%) totaling 4,2
11 million tennis players. The percentage of the total population in this region that plays
12 tennis is 0.31%. As per gender balance, 27.6% is the percentage of female tennis players
13 in the region. The countries in the region with more players include Brazil (2.3 million),
14 Argentina (1 million), Mexico (0.6 million) and Colombia (0.2 million). These four
15 countries have close to 99% of the total tennis population in the region.

16
17 In terms of tennis clubs, the region has around 6,000 clubs, which account for the 8.5%
18 of the total number of tennis clubs in the world, with Brazil, Mexico, Colombia and
19 Argentina as the nations in the region with more clubs. As per tennis courts, the region
20 has close to 15,000 courts which is approximately 3% of the tennis courts in the world.
21 It has also a population to tennis court ratio of approximately 33,000 people per court.
22 Brazil, Argentina and Mexico are the nations in the region with more courts.

23
24 As per data on tennis coaches, Latin America has a total of approximately 16,000
25 coaches which is around 10.1% of the total number of coaches worldwide. Furthermore,
26 the ratio of tennis coaches to tennis players is approximately 4 per 1,000. Brazil,
27 Argentina, and Colombia are the nations in the region with more coaches.

28
29 During the last decades, tennis has gained considerable popularity in some Latin
30 American nations. This is the case of Brazil, mainly due of the charisma of great
31 champions like Gustavo Kuerten (Urso *et al.*, 2015). The same situation applies to other
32 nations such as Argentina and Colombia which shows the long-standing tradition of the
33 game in the region (Crespo *et al.*, 2021).

34
35 Although tennis is known to a large part of the Latin American population, there is a major
36 challenge which relates to the practice of the game by an increasing number of people
37 in a changing and difficult environment. This is being addressed with the appropriate
38 policies that look to provide support to initiatives that increase both the number of tennis
39 venues and tennis deliverers. As pointed out by Bocketti (2017) in this combination of
40 national identities, it is relevant to reflect about the support to be provided to favor
41 structural changes that will help achieve an alliance between the public and the private
42 sectors. The policies, programs and projects based on innovative strategies should have
43 participation as the key developmental objective in this region.

44 *Tennis and COVID-19*

45
46 According to Crespo *et al.* (2021) tennis has been considered as one of the leading
47 sports in the world in effectively dealing COVID-19 mainly due to the social distancing
48 nature of the sport that allows its practice. Tennis organizations have joined efforts,
49 informed their stakeholders, provided assistance where most needed, adapted venues,
50 calendars and activities, and are continually looking at new ways to enable people to
51 access the sport.

52
53
54 Tennis NAs have engaged with players, coaches, clubs, tournaments, and staff by
55 working together in a close, albeit virtual, relationship. They have created or adapted

1 guidelines, policies and contents to help guide the stakeholders to carefully get tennis
2 down the road to recovery up and running again. They have also followed the appropriate
3 advice from the relevant authorities by prioritizing the health and safety of all those
4 involved (ITF, 2020).

5
6 Data from latest surveys and market research conducted by the United States Tennis
7 Association (USTA) and Tennis Australia, indicate that tennis is actually one of the sports
8 that is coming out of a pandemic stronger than others. For instance, despite an 80%
9 decrease in the 2020 operating income of the USTA, there have been increases of 22%
10 in the US and 10% percent in the tennis playing population (USTA, 0221).

11
12 Within this context, research on COVID-19 and tennis has focused on areas such as
13 professional tennis (King, 2020; Kowalik and Lewandowski, 2021; Slater and Watkins,
14 2020), player training (Bonavolontà *et al.*, 2020), community tennis (Turner *et al.*, 2021),
15 and coaches' perceptions (Crespo *et al.*, 2021).

16
17 Due to the relevance of the sport, the role of the national associations in Latin America,
18 the impact of the pandemic, and the lack of studies on innovation in tennis NAs, it was
19 considered interesting to study the innovation strategies in sports management of the
20 tennis NAs in the region during the COVID-19.

21
22 The research questions of this study were the following: which are the attitudes and
23 perceptions of the executive professional staff of the NAs towards innovation in this
24 unprecedented situation? And which are the most innovative strategies, programs or
25 projects implemented during this period?

26
27 The three hypotheses tested in this study were the following: 1. Executives with higher
28 education levels would be more open to innovation and change than those with lower
29 education levels in these challenging times; 2. The executives would consider that the
30 COVID-19 pandemic had a considerable impact on the innovation capability of their
31 organizations, and 3. NAs would tend to implement tennis-specific programs over non-
32 tennis ones as means of innovation.

34 **3. Methodology**

35
36 The first author's involvement in tennis was the base for the collection of the data used
37 for this research. The study uses a mixed methods design. It combines quantitative and
38 qualitative measures with content analysis on the information collected. Data was
39 collected from a questionnaire and the analysis of content produced by the organizations.

40
41 An online survey used by Crespo *et al.* (in press) adapted to tennis from the one by
42 Winand *et al.*, (2013) was used. The survey consisted of three sections apart from the
43 consent one: a general descriptive part, one with 30 questions to assess attitudes and
44 perceptions, and a final section which included open questions.

45
46 The second section of the questionnaire was structured in three levels (managerial,
47 organizational and environmental) and different subcategories of each level to assess
48 the attitudes and perceptions using a Likert scale (1 = completely disagree to 5 =
49 completely agree) in the 30-item questionnaire (Table 1). See Winand *et al.* (2013) for a
50 full description of the original questionnaire and Crespo *et al.* (in press) for the specific
51 details of its adaptation to tennis.

52
53 **[Insert table 1]**

54

1 The third section of the questionnaire consisted of questions with open answers in which
2 participants had to indicate both tennis and non-tennis specific innovative actions
3 implemented by their organizations during this period (Table 2). This was adapted to
4 tennis from the one by Winand *et al.* (2013) and used by Crespo *et al.* (in press).

5
6 **[Insert table 2]**

7
8 The analysis of relevant documents available in the websites of the different
9 organizations also provided further data and details to complement this last section of
10 the questionnaire.

11
12 As per the sample of the study, innovation in tennis is driven through many organizations
13 and individuals. For this study, the organizations identified were a group of tennis NAs
14 and RAs in Latin America plus Spain and Portugal. As per the individuals, those selected
15 were the professional staff members of these organizations. They were considered
16 innovation leaders since they lead the way in the process of change of the different
17 organizations. It was considered that they could provide valuable information for the
18 purposes of the research. The education level of the members of the sample was
19 considered an appropriate criterion to differentiate the participants because it could
20 considerably affect their views on innovation and management strategies and programs.
21 Practical experience in the tennis environment suggests that in the case of tennis
22 executives working for national federations, some of them come from pure tennis
23 backgrounds with no education, whereas others may come from more academic
24 backgrounds related to management or business administration educational pathways.

25
26 Regarding the period of the study, the questionnaire included a specific mention to the
27 innovative activities implemented during the COVID-19 pandemic.

28
29 The levels, categories, sub-categories and items included in the questionnaire are shown
30 in table 1. There were 3 categories and 11 sub-categories at the managerial level. There
31 were 5 categories and 9 sub-categories at the environmental level, and 3 categories and
32 6 sub-categories at the organizational level. Two levels (tennis and non-tennis) with 4
33 categories each one were included in the open section of the questionnaire.

34
35 The statistical analysis was carried out using SPSS v. 26. The Kolmogorov-Smirnov test
36 was used to test the normal distribution of the variables. Since it was found that data did
37 not distribute normally non-parametric tests were used. The differences based on the
38 executives' experience was tested with the Mann-Whitney U test. The significance level
39 was established at 0.05. For all comparisons the size of the effect was calculated using
40 eta-squared. Small effect values were considered $0.01 < 0.06$, moderate effect values
41 were considered $0.06 < 0.14$ and large effect values were considered ≥ 0.14 .

42
43 The analysis of the data collected in the open section consisted of the extraction and
44 coding by level, category and sub-category. Key terms, which generated descriptions of
45 initiatives or projects, were matched with the programs of the several NAs. The most
46 cited innovative program in each category was considered the preferred one as relevant
47 criterion in this section.

48 49 **4. Results**

50
51 The results on the general descriptors, on the statistical analyses and on the most
52 relevant innovative programs put in place by the Latin American RAs and NAs in the
53 period of the pandemic are included in this section.

54

1 Nineteen professional staff members (14 males and 5 females) of ages 44.58 ± 10.68
2 representing 19 RAs and NAs of Latin American nations plus Spain and Portugal took
3 part in the study. The response rate for representatives of Central America as well as for
4 Spain and Portugal was of 100% since all NAs plus the RA completed the questionnaire.
5 In the case of South America, the response rate was of 60%. The response rate was
6 considerably high because the authors followed a strict monitoring strategy by constantly
7 following up the replies to ensure that all participants that received the questionnaire did
8 complete and return it. As per years of experience as a tennis executive, 57.1% had up
9 to 10 years, 33.3% had from 11 to 20 years and 9.5% had more than 21 years. In terms
10 of education level, 52.6% of the sample had an education level up to university degree
11 or less, and 47.3% had a master's degree or higher.
12

13 For the analysis, it was considered that the education level was an appropriate criterion
14 to differentiate the members of the sample. The results and the significant differences
15 between the two groups according to the education level of the executives are shown in
16 Table 3.
17

18 **[Insert Table 3]**
19

20 Regarding the first hypothesis: 1. Executives with higher education levels would be more
21 open to innovation and change than those with lower education levels in these
22 challenging times; Two sub-categories of the managerial and environmental level
23 determinants showed significant differences between executives of both groups. In the
24 management level, the results in the attitude towards contemporary management
25 category showed that the executives with lower education level perceived that they
26 should be more involved in the decision-making processes of their tennis organizations
27 than those with a higher education level. In the perception of competitive regional
28 environment category of the environmental level, the executives with lower education
29 level perceived that there was more rivalry between the different provincial and regional
30 federations within their nations than those with a higher education level. No significant
31 differences between the two groups of executives were found in the organizational level
32 determinants.
33

34 Further results at the managerial level showed that executives had a positive perception
35 of an attitude favoring change, being open to staff, club and member expectations and
36 suggestions, and to contemporary management which included the need for an
37 innovative strategy in the organizations. At organizational level, the results showed a
38 favorable perception of innovation in the organizational culture, in the strategy, in the
39 policies, in the ability and commitment of the leaders as well as in the services and
40 products offered by the organizations. At environmental level, executives in the sample
41 did not perceive private companies as a threat to their organizations but had a favorable
42 perception of the cooperation with other organizations.
43

44 As per the second hypothesis: The executives would consider that the COVID-19
45 pandemic had a considerable impact on the innovation capability of their organizations.
46 The executives of the NAs perceived that the pandemic had considerably affected the
47 strategy, structure, and budget of their organizations. It was also felt that the
48 organizations should invest more in creating and developing innovative services even in
49 these times. However, there was no consensus on the perception of its impact on the
50 innovation capability of the NAs.
51

52 Regarding the third hypothesis, NAs would tend to implement tennis-specific programs
53 over non-tennis ones as means of innovation. In terms of the projects and initiatives
54 delivered, the most cited innovative programs of the different Latin American tennis NAs

1 implemented during the pandemic period are included in Table 4. The classification in
2 levels, categories and sub-categories is also shown.

3
4 **[Insert Table 4]**

5
6 Tennis services projects as compared to the non-tennis ones are the most cited
7 innovation activities. The results on the two most popular tennis services (i.e., in the
8 participation and rules sub-categories) and on the most popular non-tennis service (i.e.,
9 in the communications sub-category) will be explained.

10
11 An innovative program identified in the player development category and in the
12 participation sub-category was that of “tennis at home”. This was the alternative program
13 implemented by some NAs to deliver tennis activities for junior tennis players during the
14 lock down period.

15
16 As indicated by the general sports manager of one of the NAs involved: “*We had a tennis
17 program for each of the age categories, but COVID has not allowed its implementation
18 due to the strong measures taken by the government. Therefore, we tried to continue
19 with the activity organizing new sessions and competitions mostly for junior players who
20 were at home*” (Manager, 8).

21
22 These sessions were delivered online using a digital platform. The follow up was done
23 using social media tools such as WhatsApp or Facebook. In some of the cases, the
24 virtual sessions were delivered during more than 5 months (FNTG, 2021).

25
26 One of the organizers stressed the fact that it had been a team effort: “*We want to
27 express our greatest gratitude to all those parents, siblings, cousins, aunts and
28 grandparents for their participation and support during the virtual classes. Their
29 collaboration in the project was important not only for us but also for the tennis players
30 at home; to whom we assure that they learned and developed new technical and tactical
31 skills in the sport of tennis. We would especially like to congratulate all the coaches from
32 the different regions of the country who were always willing to contribute to this project*”
33 (Manager, 3).

34
35 The other innovative program in the tennis category which was part of the policy sub-
36 category was that of the publication of rules and regulations related to tennis and the
37 pandemic. Most of the Latin American tennis NAs have produced protocols to provide
38 basic guidelines for the safe practice of tennis in the environment of global affectation by
39 the COVID-19 pandemic. These guidelines are for application before, during and after
40 the practice of the sport. Its implementation is suggested both at recreational and
41 professional level, either in social and sports clubs, private courts, or individuals (AAT,
42 2021).

43
44 As indicated by the director of participation of one of the NAs: “*We have engaged all
45 those involved in tennis (players, teachers, physical trainers, court maintenance
46 personnel, tennis administrative personnel, managers) to get familiar with the protocol.
47 Each club may develop its own protocol, adapted to local recommendations. The NA has
48 prepared this guide to share the knowledge that allow a responsible development in the
49 current context, minimizing any instance of contact and possibilities of contagion, both
50 for those who practice our sport as well as for the professionals involved in the practice
51 of our sport*” (Manager, 11).

52
53 Finally, the non-tennis program identified as an innovation by the executives of the Latin
54 American tennis NAs was that of the communication strategy of the organization during
55 the pandemic. This communication was implemented through digitalization programs.

1
2 The CEO of one of the Latin American tennis NAs in the sample explained: “*Everything*
3 *online has increased exponentially. Thus, the National Association has a clear strategy*
4 *emerging from the communications department to provide as much information as*
5 *possible to the public about all tennis activities in the country*” (Manager 2).

6
7 These results confirm the fact that the management of tennis NAs in the region is rapidly
8 moving online and that many of the NAs base their communication strategies on digital
9 solutions that provide value to their clubs and coaches.

10
11 Another executive stated: “*The NA is seeking to explore the role it can play in providing*
12 *communication and digital services to all stakeholders that need support, enabling*
13 *significant improvements in the way tennis is shown to the different segments of*
14 *consumers. For instance, a new social media communication program is based around*
15 *the concept of gender balance in tennis*” (Manager, 15).

16 17 **5. Discussion**

18
19 The results on the executives’ perceptions on the managerial level categories related to
20 an attitude favoring change, innovativeness and need for considering the views and
21 expectations of the different stakeholders are similar to those obtained with Spanish
22 tennis coaches by Crespo *et al.* (in press) and by coaches in general (Ferkins *et al.*,
23 2005) who were favorable to the professionalization of their federations.

24
25 The results related to the executives’ perception of the impact of the pandemic on the
26 NAs are similar to those found by Tennis Europe (2020). The European nations reported
27 that inevitably, all nations had suffered financially in these uncertain times. However,
28 executives expressed that their organizations had certain capacity to innovate as data
29 have shown that tennis is one of the few sports that has increased participation following
30 the outbreak due to the increased demand for courts and equipment (USTA, 2021). In
31 this context, authors such as Valiño (2020) also stated the need for the appropriate
32 adaptation and respect to the guidelines to ensure a safe practice.

33
34 The results have also shown that, in general, the executives of the Latin American tennis
35 NAs identified innovative tennis services and programs over non-tennis ones. These
36 findings are in line with those obtained from Crespo *et al.* (in press) who collated
37 perceptions from tennis coaches of innovative programs of NAs and concluded that
38 coaches in the sample also prioritize tennis programs over non-tennis ones.

39
40 The most cited tennis program has been that of “tennis at home”. This result is similar to
41 the programs identified as innovative by other NAs (Tennis Europe, 2020). In fact, these
42 European NAs had indicated that one of the main concerns of tennis NAs is the delivery
43 of grass roots tennis programs as part of their drive to increase participation in tennis.
44 The specific programs identified by this NAs are those that include initiatives by clubs
45 and local coaches and programs for kids aged 10 and under and free beginner lessons.

46
47 These participation programs are also mentioned by Smolianov *et al.* (2014) as the ones
48 most suitable to achieve an integrated development of mass participation and high
49 performance. They are the ones carried out by NAs, which are seen to have the greatest
50 impact on the sport. Bonavolontà *et al.* (2020) also found that tennis organizations used
51 virtual sessions to continue the educational relationship between coaches and young
52 tennis players during the outbreak as a means to retain participation in tennis.

53
54 Regarding the policies issued by these organizations to face the pandemic, the results
55 of our study have also shown that Latin American tennis NAs believed in the value of

1 policy information and in the provision of support to their stakeholders with
2 recommendations, best practice examples and guidance on how to ensure the safest
3 tennis practice possible. The protocols produced by the different NAs have facilitated the
4 return to tennis during the COVID-19 pandemic by mitigating the risk of exposure to, and
5 spread of, the virus.

6
7 These results are also very similar to those reported by the ITF (2020). The delivering
8 global digital transformation is a key objective of the ITF 2024 strategy. Its digital
9 communication strategy represents an important step on the ITF's journey to increase
10 the global tennis-playing population.

11
12 The information provided by these organizations is part of their communication strategy
13 that is vital to develop and promote tennis around the world. These results are close to
14 those obtained by Thompson *et al.* (2014) who examined the development of the social
15 media strategy of a tennis NA. These authors recommended the use of creative online
16 strategies to ensure they meet the needs and expectations of all stakeholders by
17 constantly engaging with members and fans.

18
19 On the professional tennis environment, King (2020) also acknowledged the role of
20 efficient communication from tennis organizations in their response to COVID-19. The
21 author concluded that the tennis ecosystem produced a combination of strategies in this
22 scenario due to the divided nature of the game from a governance perspective. Gender
23 issues were studied by Kowalik and Lewandowski (2021) as related to the aversion to
24 the exposure to the pandemic in professional tennis evidencing the relevance of this
25 topic.

26
27 In general terms, it can be stated that the results of our study are in line with those also
28 found by Naraine and Parent (2017) who concluded that NSGBs are certainly not exempt
29 from the impact of market forces and trends, including innovations and technological
30 advancements.

31 **6. Conclusions**

32
33 A great deal of work in the study of innovation in the tennis domain has focused on the
34 technological and product innovations produced by the different stakeholders. Less
35 attention has received the innovation of tennis organizations, and even less, the research
36 on innovation strategies of tennis NAs as perceived by their stakeholders.

37
38
39 This study is the first one to analyze the behaviors and perceptions of professional staff
40 members of tennis NAs in Latin America and their views on the programs implemented
41 by their organizations to face the COVID-19 pandemic.

42 *Practical applications*

43
44
45 Several practical applications can be drawn from this study. The results demonstrate
46 that, although traditional management, organizational and administrative behaviors are
47 still present in the tennis ecosystem, a more innovative mentality should be present in
48 these organizations. Therefore, it is relevant that sport and tennis organizations commit
49 to the implementation of innovative strategies for the optimization of the administration
50 of their ecosystems.

51
52 From a practical perspective, NAs executives can use the results and conclusions
53 provided in this study to change, evolve, innovate, and adapt their organizations to the
54 new developments and trends in sport. This can be done by reflecting on possible

1 programs and projects shared in this research that could also be implemented by their
2 organizations.

3
4 Results have also shown that, the impact of COVID-19 has been considerable on the
5 organizations of the sample. However, data also have shown that the innovative
6 programs put in place have achieved considerable results on the participation side. This
7 can be an important lesson to learn when implementing programs in the future.

8
9 The views of the executives participating in the sample have been used in this study to
10 better understand the innovation perceptions and behaviors of an important group of
11 stakeholders of tennis NAs. Specifically, executives with lower education levels
12 expressed their wish to be more involved in the decision-making process of the
13 organizations and perceived that there was more rivalry between the different provincial
14 and regional federations within their nations that did those with a higher education level.
15 These organizations should acknowledge the work done by these executives, together
16 with that of the volunteers, and try not to undervalue or overlook them since, as
17 mentioned, they are the ones that implement and deliver the innovation strategies of
18 these organizations.

19
20 Finally, we consider that it is also relevant to highlight the possible applications of the
21 conclusions of this study to the business world. Even though our research was focused
22 on tennis federations and its context is the sports environment, some of the results can
23 be extrapolated to organizations with profits seeking, that is, companies. Specifically, the
24 focus on the adaptation and innovation of the projects to face challenging times such as
25 the one created by the COVID-19 pandemic as well as on the provision of programs and
26 initiative that focus on increasing participation and retention of customers.

27 28 *Limitations and future research-based considerations*

29
30 There are limitations of this study that need to be mentioned. The first limitation relates
31 to the sample size of executives who completed the questionnaire. Although the study
32 obtained an evenly distributed sample of executives from many Latin American tennis
33 NAs, it would have been beneficial to have included at least another executive staff
34 member from each organization. This would have helped to represent another view from
35 the same organization. The second limitation refers to the details provided in the open
36 section of the questionnaire. Specifically, the space allocated for the answers and the
37 degree of detail required could have been optimized by providing more space to provide
38 the answers and further instructions on the importance of facilitating information related
39 to the implementation of the programs, their development, and their impact on the
40 respective stakeholders.

41
42 Future research-based considerations include the need for expanding the study to other
43 regions and continents. By doing so, it would be possible to compare the innovative
44 strategies implemented by the tennis NAs worldwide and reflect on geographical,
45 cultural, or societal influences and differences. Furthermore, the possibility of conducting
46 studies with other samples of stakeholders, such as volunteers, coaches, referees, or
47 players, who could provide different views is encouraged. Finally, the need for analyzing
48 more in depth the specific characteristics of the innovative programs implemented during
49 the pandemic would provide further insight on how operations can be optimized, and
50 results evaluated.

51 52 *Final remarks*

53
54 The unprecedented situation created worldwide by the COVID-19 pandemic has
55 generated considerable uncertainty. Important conclusions from the study are that Latin

1 American tennis NAs have implemented a wide variety of initiatives, focused on both
2 participation and performance players, and that many if not all of them are services, and
3 not products, that involve some sort of technological web-based innovation.

4
5 As it has been shown in this research, NAs have reacted to the situation by adapting
6 through a variety of innovative projects. A combination of flexible and creative initiatives
7 has helped the tennis community to face the challenges and risks of the disruption.
8 Some of these innovations are related to the tennis specific competences or functions
9 they should deliver, whereas other sit outside the expected functions of organizing and
10 managing tennis. The extraordinary determination of the innovations put in place has
11 helped tennis to position itself as one of the safest sports to play in the actual
12 circumstances.

13
14 The results of the study will help all those interested in having insight on the different
15 alternatives NSGBs have to apply an innovation strategy to their organizations to meet
16 the expectations and needs of their respective sport ecosystems. From the perspective
17 of national sports organizations in general and national tennis federations in particular,
18 the results and conclusions of this research have shown the need to continue the study
19 of the programs, structures, systems, and policies designed by sports such as tennis to
20 attract, retain and motivate participants and fans in complex scenarios.

21
22 We hope that this article has provided an overview of the complex nature of innovation
23 in a sport management setting such as a national tennis federation in a region, Latin
24 America, that has an enormous potential to grown in this sport.

25 26 27 *Acknowledgements*

28
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30 tennis national associations who took part in the research for their assistance in
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