



Guidelines Management for Orienteering Events Competitions in Guangdong Province, the People's Republic of China

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Abstract

Background and Aim: Orienteering is an endurance outdoor sport that pays equal attention to physical strength and intelligence. In recent years, Guangdong province held all kinds of different sizes and different themes of orientation that were welcomed by the masses. Therefore, to ensure the smooth progress of the game and improve the event organization management system, this research aims to construct guidelines for management for orienteering events competitions in Guangdong province, the People's Republic of China.

Materials and Methods: The participants of this research were divided into 4 groups as follows: (1) 7 experts including 4 managers from Guangdong province who hosted the orienteering event, and 3 university lecturers related to the orienteering event conducted expert interviews, to study the problem and obstruction of the management of orienteering events competitions; (2) 3 managers in the orienteering event were employed the index of Item-Objective Congruence (IOC) to evaluate the alignment between questionnaire items and research objectives; (3) 15 expert were conducted two round of Delphi survey, to construct guidelines management for orienteering events competitions; and (4) 9 experts including 5 managers from Guangdong province who host the orienteering event, and 4 university lecturers related to the orienteering event conducted connoisseurship panel to discuss and confirm the developed guidelines management.

Results: The final guidelines management for orienteering events competitions in Guangdong province, the People's Republic of China including the 4 first-level indicators and 27 second-level indicators was confirmed. The details of the 4 first-level indicators are as follows: (1) match preparation period; (2) competition preparation period; (3) competition period; and (4) competition closing period.

Conclusion: After confirmation by the connoisseurship method, the final guidelines management for orienteering events competitions in Guangdong province were confirmed.

Keywords: Orienteering; Guidelines Management; Orienteering Event Competition

Introduction

Orienteering is an endurance outdoor sport that pays equal attention to physical strength and intelligence. Players use the map and the north needle to determine the direction, choose the route, and use the field to visit the spots marked on the map in the shortest time (Li and Chen, 1989). The movement originated in Sweden and was originally just a military sport. It was introduced to Hong Kong in 1979, officially entered mainland China in 1983, and gradually became well-known to the public. In addition, the sport is a team activity of mutual assistance, which not only needs individual competition, but also needs to help each other with peers, relying on mutual unity and cooperation to overcome obstacles, and finally win the victory. It has a good role in cultivating the ability of unity and cooperation of athletes. At the same time, participating in orienteering can contact different groups of people, which can accumulate rich social knowledge and experience, and improve their social skills (Yuan, 2020) and (Luo, 2007).

In recent years, Guangdong province held all kinds of different sizes, and different themes of orientation are welcomed by the masses, its participation in universality, from primary and secondary school outdoor experiential activities to professional competitors competitive sports, from the park, campus to the deep mountain forest, embodies the development trend of directional movement in China. Facing the development of events, currently participation in directional sports in China has become a national participation in large-scale sports activities, with the increasing scale, the organization management work become more complex, how to ensure the smooth progress of the game, improve the event organization management system, into the traditional culture and promote the economy. The organization and manager of orienteering events face a very important practical problem (Zhang, 2009).





Orienteering is not only a professional sports event, but it is as a form of outdoor sport, that is greater irritant and challenging, the need to strictly control each link to ensure normal events, tracking monitoring after the game, to ensure that the event held not for the masses, athletes and event organization participants bring safe hidden trouble. In addition, as most of the events are held outdoors, the risks will increase accordingly. According to the characteristics of the directional sports field environment, the directional sports field environment will be divided into general site environment and special site environment. For example, risk factors are specific to the field when wasps and mosquitoes bite, and uneven roads are risk factors common to all site types (Li, 2019). Various phenomena show that perfect event organization and management guidance are necessary for the development of the event.

Therefore, it is thus necessary to professionalize event management and use management tools tested in other areas to improve events' organizational efficiency. In other words, the resources must be properly oriented and for this, an adequate management model and strategic plan are required. Furthermore, having a clear plan is considered the first step towards a sustainable model (García-Vallejo, 2020). In addition, China's research on orienteering events also focuses on the organization of competitions, and there is no research on the organization and management of the whole event. Therefore, I aim to conduct systematic research on the organization and management of orienteering events with the main line of the organization and management structure of orienteering events and the knowledge of management.

Objectives

Main Objective:

To construct guidelines management for orienteering events competitions in Guangdong province, the People's Republic of China.

Subsidiary Objectives:

1. To study the problem and obstruction of the management of orienteering events competitions in Guangdong province.
2. To study the components and processes of the organization and management of orienteering competition in Guangdong province.
3. To confirm the guidelines management for orienteering events competitions in Guangdong province.

Literature Review

1. Overview of the orienteering event

1.1. The orienteering event concept

Orienteering is an interesting competitive sport in which participants, with the help of maps and compasses, independently complete the search for several ground checkpoints marked on the map in the prescribed order and run the course in the shortest possible time. Orienteering has relatively low physical requirements for athletes participating in the event, it is a sport that integrates intelligence and physical ability, and it is also an outdoor sport that can be participated in by young people and middle-aged and old people (Zheng, 2021). Orienteering was defined by the International Federation of Orienteering Sports (FIOMO) in 2004 as a sport in which participants reach several checkpoints marked on a map and in the field in the shortest possible time with the help of a map and a compass. It is an emerging sport with mass, fun, knowledge, competition, and military significance.

1.2. Origin of orienteering event

Orienteering, the source is the German word *Orientierungslauf* its willingness is: to determine the direction of the run. The movement first originated in Sweden in 1986, when a boy scout leader named Gilante organized an activity called the Treasure Hunt, to train the field skills and physique, which is the cone of orienteering. It was developed as a sport in northern Europe in the early 20th century. In addition, the word orientation was first used in 1886 to use unknown territory with the help of maps and the north hand (Xiaozhi, 2004).





Hong Kong was the earliest orienteering activity in China. In March 1979, orienteering enthusiasts in Hong Kong established the "Hong Kong Field Orienteering Meeting" with the strong support of personnel from all walks of life. In 1982, the Hong Kong Field Orienteering Association the British Army, and the Royal Police Orienteering Association launched the "Orienteering Association of Hong Kong" (OAHK). (Xiaozhi, 2004). In 1983, it was officially introduced to mainland China, and the first area was in Guangzhou. In March 1983, the Sports Institute of the Chinese People's Liberation Army organized the "orienteering test competition" in Baiyun Mountain, Guangzhou.

1.3. The classification of orienteering event

There are many categories of orienteering. According to the sports mode, the International Federation divides orienteering into Foot Orienteering, Ski Orienteering, MTB Orienteering, and Trail Orienteering (Wang Xiang, 2005). It refers to a kind of orienteering without any means of transportation, which is the most traditional and the most common form now. Tool orientation is gradually developed based on hiking orientation, which mainly refers to a kind of orientation form with the help of auxiliary transportation tools, its types are relatively rich, such as ski orientation, mountain bike orientation, wheelchair orientation, rowing orientation, car orientation, motorcycle orientation, etc. The form competition activities: can be organized with different difficulties and lengths, allowing individuals of different ages and abilities to participate in orienteering activities (Xiaowei, 2019)

The form of holding can be divided into day race, night race, individual race, team race, relay race, ultra-short distance park race, and mountain marathon race. Night orienteering with headlights is also a popular form of orienteering (International Orienteering Federation IOF). According to gender, it can be divided into men's and women's groups; according to age, it can be divided into youth, senior, and junior groups; according to skill level, it can be divided into beginners' group (experience group and family group), senior group and elite group; according to the number of participants, it can be divided into individual singles, individual doubles and group events (Gu, 2018)

2. Overview of the organization and management of orienteering events

"Organization and management of sports events" refers to the process of arranging and controlling sports events by the managers of the system of sports events to ensure that they are conducted properly and to achieve the objectives set for them. In essence, it is to carry out reasonable planning, coordination, and control of the elements and resources involved in carrying out sports events, such as people, money, and materials, to make full use of the potential of these resources and to achieve the overall goal of a successful sports event. Sports events in China are generally managed by governmental sports administrative organizations in the exercise of their public management functions (Bin, 2004).

"Organization of sports events" means that to effectively achieve the established goals of competitive sports and public fitness activities, sports event organizations at all levels, through the determination of their respective duties and responsibilities and the coordination of their mutual relations, promote the rational allocation of sports and fitness resources to achieve the optimal functional efficiency of the system. The organization of sports event management is essentially the organization and implementation of sports activities, people, money, materials, time, information, etc. are important resources for sports event management, the effective allocation of these resources to achieve the ultimate goal of sports event management (Bin, 2004).

According to the relevant sports management theory and the life cycle theory of related projects, we divide the competition organization into five stages: the competition start stage, the competition preparation stage, the pre-competition preparation stage, the competition stage, and the competition closing stage. The Mountain Orienteering Site Selection and Roadmap Design law study, article points out that the mountain orienteering field selection and roadmap design are interrelated, before the event site field survey and evaluation, choose the right venue, reduce accident risk, design the right route for participants, can improve the success of the event (Jia, 2012).



Ye (2018) said that in terms of the organization and management of events, the current route design of orienteering is faced with a lack of technical management norms and a lack of enjoyment. In addition, there are unreasonable problems in the selection of referees and the management of participants.

In terms of site management, because orienteering is done outdoors, it is not predictable. Orienteering safety problems are also highlighted, Zhang Xiaowei indicated that traditional sports have standardized competition, and orienteering competition is changeable, is a kind of fixed competition, has the characteristics of complexity and unknown, generally do orienteering venues in three years will not reuse (Xiaowei, 2019). The orienteering safety risk system is composed of personnel, equipment, environment, and management. Therefore, the safety risks of orienteering events can be divided into four categories: human factors, mechanical equipment factors, environmental factors, and management factors. The risk factors of orienteering event players include 3 categories, 9 middle categories, and 34 risk factor entries. The three categories of risk sources are "players' factors, site environment factors, and event organization factors"; the nine categories of risk types are "physical fitness management, equipment management, competition experience, general site environment, special site environment, weather, emergency plan management, logistics service, and organization management" (Li, 2019).

In each event, in medium-distance competition, the athletes can timely know whether the athletes are out of the competition area and whether there is any emergency and timely notify the referee of the nearest venue, which can greatly reduce the safety of the event; second, the safety of the event (Ren, 2019).

Through the explanation of the above concepts, combined with the concept of organizational management, my research defines the concept of event organizational management as achieving the smooth running of the competition, through the establishment of event organizational and management institutions, from the start of the tournament to the end of the tournament, the human, financial, material and other reasonable planning, coordination, and control, in the field of venue management, personnel management, safety risk management and other aspects of a series of organizational and management activities.

3. *Guide for the organization and management of targeted events*

It is urgent to avoid detours in the organization's work, let more people participate in the event, achieve the purpose of promoting national fitness, provide a reference for the event management in Guangdong Province, and formulate the event management guide (Zhu Hongjun, 2020). The city government departments of various countries have compiled corresponding sports manuals, which have become the main magic weapon to effectively guide the organization and operation of events in foreign countries. The Sydney Council in Australia has specially formulated the Activity Guide. In the UK, a guide for small event organizers was developed for small and medium-sized events with fewer than 500 people. The Event Guide, compiled by Toronto, Canada, identifies 40 tasks for organizing and coordinating events. British province for large sports events, in the event guide, specify the government public health, health care, the police fire, search and rescue, agriculture, environment, and other relevant government departments in large sports mission, responsibility standards, and supervisor role of sports management team according to the government requirements in the event transportation, medical, security, emergency and other kinds of event operation plan, to ensure that the event operation to the relevant standards.

Liu (2017) in his doctoral thesis on our high-level individual sports organization structure theory research and empirical analysis, shows that the high level of individual sports in China's development follows the law of market economy, need to continue to deepen the reform of high-level individual sports system and operation mechanism, make the event organization work a clear division of labor, cooperation, clear organization goals.

Zheng (2017) in the research on the Organization and Management of Urban Sports Events, At present, the management system in the organization and management of urban sports events is too fixed, and the update is not timely enough, Management laws and regulations and systems are not sound enough, and the degree of legalization is relatively low, The operation mechanism of the event is not perfect, Lack of professional competition organization team and professional competition company; Thus, by



strengthening the construction of management mechanism and management regulations, Led by the government, Integrating the social resources, Let more professional sports event operation teams participate, Improve the quality of the organization and management of urban sports events, to promote the healthy and stable development of sports undertakings.

The organization of the competition needs a perfect system, and the organization of the orienteering competition is a huge project, which not only requires a perfect competition organization process but also requires a detailed division of labor and coordination in all aspects to play a better effect. In competition organizations to timely summarize the successful experience of previous competition organizations, on the premise of the beneficial development reform and innovation competition organization related links and pay attention to the smooth implementation of other links, to ensure the smooth progress of the work of competition organization, effectively improve the service level of directional sports competition organizations at all levels (Su, 2019).

4. *Related Research*

Chen and Feng (2019) found through their investigation that due to the rapid development of sports events in Guangdong Province, they have developed in the direction of diversification. Sports like orienteering with a low threshold are favored by the majority of outdoor sports enthusiasts, and the groups participating in orienteering are becoming more and more widespread. However, due to the low degree of marketization, the increase in the number of people, and the unprofessional nature of the event, resulting in many accidents during the event, the quality of the event held is difficult to guarantee.

Dai & Gao (2016) found that the competition organization and management of orienteering events is very important work, which not only needs the coordination and cooperation of all aspects to organize and manage effectively but also needs a perfect technical specification to guide it to play a better role. Summarize the successful experience of previous races in time, constantly explore and innovate the means and methods of each link in the race organization, and pay attention to the smooth implementation of other links to ensure that the organizational and management work, and effectively improve the service level of the race organization.

Liu (2019) believes that with the booming development of sports in China, the organization of large-scale sports events is also increasing year by year, and event management is becoming more and more important. China's research on event management, in addition to the introduction of foreign research results, has not much progress on its own, sports event management research needs us to spend more time and energy to improve and perfect.

Shi (2016), through the analysis of the current situation of the risk of large-scale sports events in China, concluded that China's awareness of risk management of sports events is weak, security risk prevention is the main focus, other risk management is insufficient, risk management during the game is the main focus, ignoring the pre-game risk prediction, governmental management is the main focus, the social participation is low, risk management is process-oriented, and teamwork is insufficient, and put forward that China should enhance the awareness of risk management of sports events, improve the event management system, build a risk warning mechanism, and cultivate sports event risk management talents. It also puts forward the countermeasures that China should enhance the awareness of risk management of sports events, improve the event management system, build the risk early warning mechanism, and cultivate talents for risk management of sports events.

5. *Summary*

To sum up the above, orienteering is a competitive sport full of fun, a sport integrating intelligence and physical fitness, and an outdoor sport that can be participated in by both youngsters and middle-aged and old people. Firstly, it can improve physical quality and health, enhance body resistance and immunity, secondly, it can cultivate teamwork spirit and competition consciousness, and enhance self-confidence and



self-esteem, in addition, it can also promote mental health, relieve the pressure of study and life, and improve the efficiency of study and quality of life.

Orienteering was introduced in China relatively late, and much related literature on management and event management was reviewed. At this stage, through the search tools such as China Journal Network, Knowledge Network, and Wipu Database, the full-text search keywords showed 4402 articles related to "Orienteering", 164 articles related to "Orienteering Events", and 25 articles related to "Orienteering Event organization". There are 25 articles related to "Orienteering Event organization", but the search for "Orienteering Event Management Guidelines" shows 0. At present, the research on sports events in China is only confined to a small part of event organization. Through the website of the General Administration of Sport of China, the official website of the International Federation of Orienteering, the official website of the China Mountaineering Association, the official website of China Orienteering, and the official website of China Student Orienteering, we can get the relevant national policies, regulations, and documents, etc. At present, there is a lack of research on the organization and management of orienteering events, and in general, there is a big gap between the development of orienteering in China and that of developed countries in the West.

In studying the organization and management of orienteering events in Guangdong Province, the Delphi method can be used to conduct the study, considering the lack of literature, the lack of information materials and historical data, and the vulnerability of information analysis and prediction to other factors. The Delphi method is an expert consulting technique that can be used to study complex social problems and decision-making issues. The knowledge and experience of experts can be fully utilized to increase the credibility and validity of the research. At the same time, anonymous voting can be used to avoid mutual influence and subjective bias among experts. Finally, using several round-robin surveys, the opinions of experts are gradually pooled to arrive at more accurate and reliable conclusions.

The problems and obstacles encountered in the organization and management of orienteering and cross-country events in Guangdong Province are investigated, the root causes of the problems are identified, the guiding principles for the organization and management of the events are researched, and corresponding countermeasures and suggestions are put forward.

The study provides guidelines for the development of orienteering and cross-country sports in Guangdong Province, provides reliable theoretical support and reference, and fills the gap in research on event organization in Guangdong Province. This study will provide reliable theoretical support and reference for orienteering companies and enterprises in Guangdong Province. Therefore, this study has a very important and urgent practical role and theoretical significance and is of great significance to the promotion of orienteering and cross-country sports in Guangdong Province as well as to the development of sports undertakings in Guangdong Province.

Conceptual Framework



Figure 1 Conceptual Framework

Methodology

Research Tools

In this research, research tools are as follows: (1) Interview form; (2) Evaluation Form for Connoisseurship Method; and (3) Questionnaires for Delphi survey.

Population and Sample

The participants of this research were divided into 4 groups are as follows: (1) 7 experts including 4 managers from Guangdong province who hosted the orienteering event, and 3 university lecturers related to the orienteering event conducted expert interviews; (2) 3 managers who in the orienteering event have employed the index of Item-Objective Congruence (IOC) to evaluate the alignment between questionnaire items and research objectives; (3) 15 expert were conducted two round of Delphi survey, to construct guidelines management for orienteering events competitions; and (4) 9 experts including 5 managers from Guangdong province who host the orienteering event, and 4 university lecturers related to the orienteering event were conduct connoisseurship panel to discuss and confirm the developed guidelines management.

Data Collection

1. Invite 7 experts including 4 managers from Guangdong province who host the orienteering event, and 3 university lecturers related to the orienteering event to discuss the problem and obstruction of the management of orienteering events competitions in Guangdong province and establish a questionnaires for use in Delphi survey.

2. Invite 3 managers from Guangdong province as experts in orienteering event management to evaluate the alignment between questionnaire items and research objectives by using the index of Item-Objective Congruence (IOC).

3. Invite 15 experts to deeply explore the guiding principles of Guangdong Province orienteering organization and management through the Delphi method (two rounds)

4. After an anonymous survey, the evaluation and opinions of the Delphi experts were summarized, the data were analyzed by statistical descriptive analysis, and the guidelines management for orienteering events competitions in Guangdong province were finally determined.

5. Invite 9 experts to conduct a connoisseurship panel for discussion and confirmation of the developed guidelines management for orienteering events competitions in Guangdong province, the People's Republic of China.

Data Analysis

This research predominantly employed a software package for data analysis, utilizing the following methods:



1. The research process mainly analyzes historical documents, expert investigation opinions, mathematical and rational analysis, and qualitative analysis.

2. Statistical descriptive analysis was used, such as standard deviation (SD) and coefficient of variation (CV) analysis.

Results

1. Explore the existing problem of the management of orienteering events competitions in Guangdong province and draft questionnaires for use in the Delphi survey through experts' interviews.

To study the situation and the problem of management of orienteering events competitions in Guangdong province, the researcher decided to conduct focus group interviews to explore the problem.

In this section, the researcher has elected to spotlight key expert viewpoints, as delineated below:

1) Expert 1 was an orienteering event manager. He believed that Guangdong province encompasses various terrains, from urban areas to mountainous regions and dense forests, presenting logistical challenges in selecting suitable locations for orienteering events. Therefore, obtaining permits and navigating regulatory requirements from local authorities can be complex, especially in protected natural areas or urban parks where orienteering events are held.

2) Expert 3 was an orienteering event manager. He suggested that the availability and adequacy of infrastructure such as trails, signage, and facilities like restrooms and first aid stations can vary, impacting the quality of the event experience. Moreover, providing training and capacity-building opportunities for event organizers, volunteers, and officials to enhance event management capabilities, safety protocols, and the overall quality of orienteering events.

3) Expert 4 was an orienteering event manager. She believed that incorporating technology for course mapping, timing, and participant tracking demands expertise and investment in specialized equipment and software, which may pose challenges for smaller event organizers.

4) Expert 5 was a university lecturer related to orienteering events. He believed that engaging local communities, landowners, and stakeholders in orienteering events while respecting cultural and environmental sensitivities requires effective communication and relationship-building efforts.

5) Expert 6 was a university lecturer related to orienteering events. He recommended that recruiting and training volunteers and event staff proficient in orienteering rules, safety procedures, and course management is essential for successful event execution.

2. Delphi Method survey results

Two rounds of Delphi questionnaires were conducted to solicit expert evaluation and opinions. A total of 15 questionnaires were distributed in the two rounds, and 15 questionnaires were collected each time, with a recovery rate of 100%.

In this article, the average value of the index is set to not less than or equal to 4.0, while those less than or equal to 4.0 will be adjusted according to the opinions of the experts. In this study, if the coefficient of variation is greater than or equal to 0.25, we can think that the expert consistency of the index is not enough, then the capacity index can be adjusted according to the expert opinion.

2.1 Analysis of the results of the second Delphi survey

2.1.1 Analyze the survey results of the first-level indicators



Table 1 Expert findings of the first-level indicators (second round)

No.		Average value	Standard error	Coefficient of variation
1	Preparatory period for competition	5	0	0.000
2	Competition preparation period	4.923	0.277	5.634%
3	Competition period	4.846	0.376	7.749%
4	Competition closing period	5	0	0.000

For the results of the second round of the survey, the average score of the first-level indicators was above 4.80. Therefore, the results of the evaluation opinions of the experts can be considered credible and should be retained when handling the results of these indicators. Therefore, the questionnaire survey on first-level indicators was concluded and all first-level indicators were used.

2.1.2 Analysis of the survey results of the second level indicators

Table 2 Statistical results of second-level indicators (second round)

The second dimension		Average value	Standard error	Coefficient of variation (CV)
Match preparation period				
A1	Set up a preparatory committee to complete the pre-competition preparatory work and clarify the responsibilities of each unit.	5	0	0.000%
A2	The establishment of the office shall include the office of the organizing committee, the competition discipline and anti-doping working group, the competition and site comprehensive support group, the logistics support group, the security and traffic support group, the medical food safety guarantee group, the promotion group, the site, and environmental sanitation improvement group.	4.923	0.277	5.634%
A3	Determine the event organization plan, competition rules, and work plan.	5	0	0.000%
A4	Formulate the competition rules, issue notices, and the main contents of the competition rules including the organizers, co-organizers, competition methods, registration ways, competition rules, routes, bonuses, and other aspects.	5	0	0.000%
A5	Formulate emergency response plan for events and emergency drill plan for events.	4.923	0.277	5.634%



	The second dimension	Average value	Standard error	Coefficient of variation (CV)
A6	If the competition site needs to update and adjust the map, ensure that the adjustment and maintenance work should be completed before the competition.	5	0	0.000%
Competition preparation period				
B1	Register and register through the online registration method. After the organizer accepts the registration, the competition department should make the statistics of the relevant contents in time, to carry out other preparatory work.	4.615	0.506	10.971%
B2	Make an order book and an event guide (or an entry manual). The staff responsible for the competition arrangement shall comply with the rules and regulations of the competition	4.846	0.376	7.749%
B3	Referees and volunteers are selected.	4.692	0.48	10.238%
B4	Organize the referees to learn the competition rules and relevant supplementary regulations.1. Understand the latest changes of the latest rules and unify the scale of judgment.2. Organize on-site practice, and be familiar with the site and equipment.3. Conduct professional ethics education of referees	4.692	0.63	13.435%
B5	For the publicity and promotion of the event, the organizer should do a good job in the publicity and report before, during, and after the competition, to ensure the attention of the media and the public	4.692	0.48	10.238%
B6	Focus on the impact of climate change on the competition. Make good preparation and docking of logistics reception and understand the needs of different teams according to the habits of athletes.	4.692	0.48	10.238%
B7	Ensure the map information security	5	0	0.000%
Competition period				
C1	Registration and reception, arrange special personnel to contact sports teams, technical officials, media reporters, etc., to complete the registration and reception work	4.615	0.506	10.971%
C2	The organizing committee meeting will be held one day before the competition, which will be attended	4.923	0.277	5.634%



	The second dimension	Average value	Standard error	Coefficient of variation (CV)
	by the main leaders of the local organizing committee, team leaders, head coaches, technical representatives, referee supervisors, and other relevant personnel of the competition			
C3	Organize business training for technical officials. The training content is arranged by the supervision of the referee, generally including theoretical study and site practice, and strengthening the latest rules and key points.	4.692	0.63	13.435%
C4	Start the competition on time and orderly according to the competition schedule. At the end of each competition, the relevant data of the team ranking, and the stage points will be published.	4.846	0.376	7.749%
C5	The organizing committee shall formulate and implement the security plan for the event according to the requirements of the local government.	4.923	0.277	5.634%
C6	The organizing committee shall formulate and earnestly implement the medical security and public health prevention and control plan. First aid equipment (including ambulance, first aid kit, AED, etc.) and professional medical personnel shall be provided at the competition site to provide on-site first aid and necessary trauma treatment services in time, and the critically ill patients shall be sent to the designated medical institutions in time.	5	0	0.000%
C7	The organizing committee shall conduct live or broadcast on TV or network according to relevant requirements to increase the number of audience watching the event. The organizing committee should actively release the news of the event through the media, and actively publicize the event and the key athletes, coaches, and sports teams. Focus on promoting and reporting the quality content related to wonderful competitions.	4.538	0.519	11.433%
C8	The functional departments of the local government are convened to hold coordination meetings, and the government company is responsible for convening the public security, tourism, education, sports, medical care, street office, and undertaking units to coordinate the transportation, accommodation, food,	4.846	0.376	7.749%



	The second dimension	Average value	Standard error	Coefficient of variation (CV)
	medical treatment, safety and the ideological work and ideology of the residents in the competition area during the competition			
C9	Report and summarize the daily competition situation in time, pay attention to the health status of the referees and ensure the smooth progress of the competition.	4.692	0.63	13.435%
Competition closing period				
D1	Compilation and printing of results	4.538	0.66	14.547%
D2	Collect the competition information and file it	4.538	0.519	11.433%
D3	Within 2 weeks after the end of the competition, each referee group shall submit the summary of the decision to the chief referee, and the chief referee shall submit the summary report to the organizer, the referee committee of the orientation association of the corresponding specifications, and the competition supervision (including the summary of the competition execution and collecting 3 sets of route maps for each event)	4.923	0.277	5.634%
D4	Suggestions from the coaches and athletes on the competition were collected through the questionnaire	4.846	0.376	7.749%
D5	After the competition, trophies, MEDALS, awards, issue the invoice, and other finishing work.	4.615	0.506	10.971%

The second secondary indicators Delphi survey data (Table 2) were calculated and analyzed according to the Delphi screening criteria. They showed that all secondary indicators met the Delphi screening criteria and were retained. The coefficient of variation for each secondary indicator was <0.25, the mean score of all indicators was above 4.00, and the consistency test value was 0.00 <0.05. It shows that the feasibility of the second-level dimension is good and has been unanimously recognized by the experts. When handling the results of these indicators, it is retained.

After the investigation and statistical analysis, the orienteering event organization and management system containing 4 first-level indicators and 27 second-level indicators was finally established.

3. Confirmation of the guidelines management for orienteering events competitions in Guangdong province, the People's Republic of China, by using the Connoisseurship method

Through a comprehensive process of expert interviews and two rounds of data collection by the Delphi method, the researchers developed the guidelines management for orienteering events competitions in Guangdong province. The researchers conducted a connoisseurship panel to ensure the guideline's satisfaction, practicality, and practicability. A total of 9 experts were invited to participate in the discussion,



including 5 managers from Guangdong province who host the orienteering event, and 4 university lecturers related to the orienteering event. The aim was to confirm the feasibility and reasonableness of the developed guidelines management for orienteering events competitions in Guangdong province, the People's Republic of China. The experts' key opinions on the guidelines management for orienteering events competitions in Guangdong province are summarized below:

Expert 1: The guidelines management for orienteering events competitions in Guangdong province, which consisted of 4 first-level dimensions and 27 second-level dimensions was acceptable.

Expert 2: The guidelines management for orienteering events competitions in Guangdong province is crucial for ensuring the safety of participants and the success of the events. These guidelines management are clear to address various aspects such as course design, participant communication, safety protocols, and environmental conservation, and suitable for implementation in orienteering events competitions in Guangdong province.

Expert 3: After reviewing the guidelines management for orienteering events competitions in Guangdong province, I believe they offer a comprehensive framework for organizing successful events. However, to ensure practicality and practicability, I suggest simplifying some of the procedures and documentation required for event organizers. Clear and concise guidelines will make it easier for organizers to adhere to the standards while ensuring participant satisfaction

Expert 4: The guidelines management for orienteering events competitions in Guangdong province demonstrates a robust framework for event organizers. However, to enhance satisfaction and practicality, I suggest implementing a standardized evaluation process for assessing the effectiveness of the guidelines after each event. This feedback loop will enable continuous improvement and refinement of the guidelines based on real-world experiences, ultimately leading to better outcomes for participants and organizers alike

Therefore, the guidelines management for orienteering events competitions in Guangdong province is effective and feasible and can be used to guide the organization of orienteering competitions in Guangdong Province as a reference. The implementation of the guidelines will help to promote the development of orienteering events competitions in Guangdong Province, improve the development level of orienteering and cross-country sports, and improve the level of orienteering events organization.

Conclusion

After confirmation by the connoisseurship method, the final guidelines management for orienteering events competitions in Guangdong province, the People's Republic of China including the 4 first-level indicators, and 27 second-level indicators was confirmed. The details of the 4 first-level indicators are as follows: (1) match preparation period; (2) competition preparation period; (3) competition period; and (4) competition closing period, and the details of second-level indicators as shown in Figure 2.

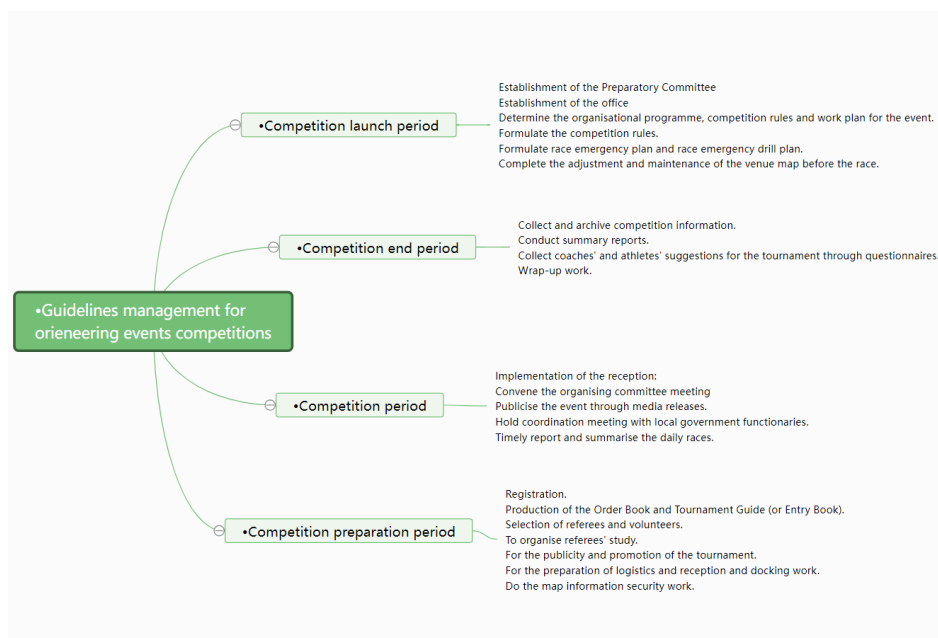


Figure 2 The guidelines management for orienteering events competitions in Guangdong province

Discussion

The organization of the event needs a perfect system, orienteering event competition organization is a huge project, not only needs to have a perfect competition organization process, but also needs to refine all aspects of the division of labor, coordination, and cooperation to better play the effect. Based on the research results, from the guidelines management for orienteering events competitions in Guangdong province showed that the guidelines management was important for management and organizing orienteering events competitions, and the goal of guidelines management is to create an efficient event organization. The final guidelines management including 4 first-level indicators are as follows: (1) match preparation period; (2) competition preparation period; (3) competition period; and (4) competition closing period, which indicates that every stage of the competition management process is equally important. Preparation should begin from the event planning phase, continue through the pre-competition period, during the competition, and even after the conclusion of the event. This is consistent with the research results of Dai & Gao (2016) which indicated that the competition organization and management in orienteering events is a very important work, which not only needs the coordination and cooperation of all aspects to organize and manage effectively but also needs to be guided by perfect technical specifications to play a better role. Moreover, each phase of the competition management process holds equal significance, there should be a well-planned preparation scheme to ensure the efficiency of the event organization.

Based on the final guidelines management, there are second-level indicators of post-competition management, such as (1) reporting and summarizing the daily competition situation in time, paying attention to the health status of the referees, and ensuring the smooth progress of the competition; (2) compilation and printing of results; (3) collect the competition information and file it; (4) within 2 weeks after the end of the competition, each referee group shall submit the summary of the decision to the chief referee, and the chief referee shall submit the summary report to the organizer, the referee committee of the orientation association of the corresponding specifications, and the competition supervision; and (5) suggestions from the coaches and athletes on the competition were collected through the questionnaire. These are beneficial for future orienteering events competition management because, in managing competitions, it is important to study the principles, problems, and obstacles of previous competition



management to ensure the most efficient orienteering events competition management. This is consistent with the research results of Su (2019) which indicate that in the competition organization, it is necessary, to sum up the successful experience of the competition organization of the previous events promptly, to reform and innovate the relevant links of the competition organization under the premise of beneficial event development, and to pay attention to the smooth implementation of the other links to ensure the smooth progress of the competition organization, and to improve the service level of the competition organization of orienteering events at all levels effectively.

Recommendation

Recommendation for current research

1. Administer surveys to stakeholders involved in orienteering events in Guangdong province, such as organizers, participants, local authorities, and environmental organizations, to gather insights on the effectiveness and practicality of existing guidelines.
2. Conduct a comparative analysis of orienteering event management guidelines across different provinces or countries to identify best practices and areas for improvement.
3. Undertake case studies of recent orienteering events held in Guangdong province to assess how well the current guidelines were implemented and identify any challenges encountered during event management.

Recommendation for further research

1. Compare the guidelines management practices in Guangdong province with those in other regions or countries with similar or different cultural, geographical, and regulatory contexts to identify transferable best practices and lessons learned.
2. Evaluate the impact of guideline management on various stakeholders, including participants, organizers, local communities, and the environment, to understand the broader implications of guideline implementation.
3. Investigate the adoption and utilization of technology in orienteering event management, including challenges, opportunities, and emerging trends, to inform future guideline revisions and technology integration strategies.

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