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David Niyonshuti
School of Economics and
Management, Shanghai
University of Sport, Shanghai,
200433, China

Xiaoyi
School of Economics and
Management, Shanghai
University of Sport, Shanghai,
200433, China

Ntakirutimana Jean de Dieu
School of Physical Education
and Sports Coaching Shanghai
University of Sport, Shanghai
200433, China

Innocent Habimana
College of Physical Education,
Taiyuan University of
Technology, Taiyuan, China

Kiruzi Reverien
School of Physical Education
and Sports Coaching Shanghai
University of Sport, Shanghai
200433, China

Corresponding Author:
David Niyonshuti
School of Economics and
Management, Shanghai
University of Sport, Shanghai,
200433, China

Evaluating the effect of service quality on participants satisfaction and behavioral intention: A case study of 2021 tour du Rwanda cycling event

David Niyonshuti, Xiaoyi, Ntakirutimana Jean de Dieu, Innocent Habimana and Kiruzi Reverien

Abstract

Cycling is a popular and widely adapted sport around the world. It plays an important role in promoting peace, and the economy at large. Through the Tour Du Rwanda cycling competition, cycling has become an attractive sport in the country bringing together people around the world. However, studies aiming at identifying cyclists' consumption behavior are still scarce. In light of this context, the goal of this research is to explore the effect of service quality on overall satisfaction and behavioral intention during the 2021 Tour du Rwanda. Three hundred and ten questionnaires were randomly distributed, and the collected data was evaluated using various statistical measures like mean, percentile, Likert scale, Cronbach alpha, and Standard Equation Modeling (SEM).

The attendee's demographic characteristics depicted that 81.5% were male while the remaining 18.5% were female. The dominant age group was 30-49 years occupying 40.3% of the sample while the least represented age bracket was above 51 years (10.4%) of the sampled population. The questionnaire was reliable as depicted by a Cronbach alpha value of 0.942, 0.856, and 0.905 for the constructs; service quality, overall satisfaction, and behavioral intention respectively. The majority of the attendees of the Tour Du Rwanda 2021 were from Africa and they represented 48.7% of the sampled population. Empirical analysis shows that Tour du Rwanda service quality positively and significantly influenced participants' overall satisfaction ($\beta=0.83$, $p<0.01$). Participants' satisfaction significantly impacted behavioral intention ($\beta=0.62$, $p<0.01$) while the event service quality insignificantly influenced participants' behavior intention ($\beta=0.28$, $p<0.05$).

The findings of this study are useful to event managers and government peace builder officials who may utilize this information. The study contributes significantly to the body of literature review on the sport globally. The event managers are advised to create more awareness of the events and improved the services so as to attract many people globally. The government should fund sporting activities to enhance peace and create more revenue.

Keywords: Tour du Rwanda, cycling event, participant, service quality, overall satisfaction, behavioral intentions

Introduction

Cycling has been used by nations in the sports field to attract tourists, create jobs, enhance physical activity, and promote economic development and social integration. Recent studies have shown that cycling has greatly improved from a tourist attraction event to a mainstream sport. In 2017–2020, Tirol Werbung, (2016) [36] also found that a sport such as cycling can be an integral element in promoting sports in a country. In comparison to Europe where cycling is normally a major event, it is steadily gaining popularity in Africa, especially in Rwanda through initiatives like Tour du Rwanda. The race to host a significant sports event has grown considerably in the recent past (Horne, 2007) [29], pushing countries to develop in developing sports infrastructure to attract such events to their locale (Hall, 2004; Bowdin *et al.*, 2010; Deloitte, 2010) [30, 31]. This is because, as the country hosts a major event, it aids in the creation of awareness and the image of the host country (Higham, 2005; Kim and Morrision, 2005) [32-33]. As a result, the number of contestants for cycling events grows every year hence the need for improved service quality to the participants and spectators.

The quality service is a pivotal aspect of sports events as it helps in determining participant/attendees' satisfaction and behavioral intentions. Participants' satisfaction in these events depends on individuality, status, and interest that aids in their success (Ritchie, 1998) ^[19]. According to Jung Hak *et al.* (2011) ^[37], the two main categories of service quality in the sports industry are spectator and participant sports service. For instance, in a sporting event attendance, service quality is related to the event information, environment, organization, registration, schedule, venue, facilities, route, volunteers, transportation, food, and beverage. Hence the main goal of an event is to enhance participants' satisfaction by providing him/her with good services and impacting the need to participate again (Min *et al.*, 2013) ^[38]. Previous studies indicated that the motivation to take part in these events depends on earlier engagement in sports activities, the desire to participate, social interaction, and the popularity of a particular event.

There is a lack of empirical information on the current effects of service quality satisfaction on cyclist behavioral intentions. This is attributed to few studies on the satisfaction of the participants in a cycling event. For instance, Armbrrecht, (2021) ^[2] focused on perceived value, emotional and cognitive experiences, and their significance in mediating the effect of event quality on behavioral intentions. Another study by (Vallejo-Borda *et al.*, 2020) ^[24] explored the relationship between cyclists' perception of the cycling infrastructure along with their attitudes and the quality of service. This signifies the need for the current research to try and fill in some existing literature gaps about cycling in Rwanda.

The main objective of this study is to evaluate the effect of service quality satisfaction on the behavioral intention of the participants during the 2021 Tour du Rwanda cycling. A sample size population of 310 participants was used which focused on these areas of quality service delivery. This research work contributes significantly to the body of literature review in this field and also responds to the scientific questions below:

- What is the demographic characteristic of the sampled population?
- How does quality service affect the level of participant satisfaction?
- What is the impact of quality service satisfaction on cyclist behavioral intentions?

The remaining parts of this research will cover the data and methodology in section 2. The findings of this research are elaborated in section 3. Section 4 will draw research recommendations, implications, conclusions, and suggestions for the government, event organizers, and future studies.

Literature Review

History of Cycling in Rwanda

Cycling in Rwanda has a long history, dating back to the 1970s and 1980s when Rwandans admired seasoned cyclists; the Tour du Rwanda was founded in 1988 by Rwandan pioneers after many regional bicycle races.

Tour du Kigali, tour de l'Est (Kigali-Rwamagana), Ascension des Milles Collines (Kigali-Butare-Akanyaru), and Tour des Volcans (Cyanika-Ruhengeri-Gisenyi) were the first cycling competitions to attract local cyclists (Nshimiyimana, 2016) ^[17]. Local competitions like these piqued the interest of some ministerial officials in charge of sports at the time, who organized a national cycling competition featuring only local cyclists.

Local races became regional after a year, attracting cyclists from neighboring nations such as the Democratic Republic of Congo (formerly Zaire), Burundi, and Kenya. Tour du Rwanda evolved into an international event with the help of local government and international cycling race organizers and was recognized by the UCI-Union Cycliste Internationale (Cycling Union International) in 2009.

Since then, the Tour du Rwanda has evolved into one of Africa's top three cycling events, attracting cyclists from all over the world (UCI, 2019) ^[23]. While the Tour du Rwanda was a sub-regional tournament, Rwandan nationals won all of them except the 2006 edition, which was won by a Kenyan. The Tour du Rwanda saw significant improvements and raised the bar with the involvement of professional riders from the United States, Morocco, Eritrea, and South Africa.

The current situation of Cycling in Rwanda

The rise in popularity of the Tour Du Rwanda has prompted the department in charge of the Rwanda cycling Tour to promote hosting of the event in all regions of Rwanda continually due to the country's growing economy and population (UCI, 2019) ^[23]. Similarly, infrastructure in the provinces and other cities needs collaboration with the private sector to identify and produce appealing entertainment and sports promotion, as well as management of regional events which will help in developing the sport.

Presently, the desire and intention of the contestants to participate in this event is a combined effort between the Ministry of Sport and the Rwanda Development Board (RDB), which is responsible for tourism development, and FERWACY, which is responsible for cycling in Rwanda. These two government institutions are pooling their resources and efforts to create an appealing package of Tour du Rwanda that can be sold as a Rwandan sporting event.

Sport participant

In comparison to sports spectators, organized competitive sport has received far less attention. However, one of the most important elements for determining the success of a sporting event is participation. Understanding the demands of participants is critical to the event's success and growth. The impact of participant perceptions on service quality is key in determining the future popularity of an event (Zhang *et al.*, 2014) ^[28]. Remarkably, there is a significant statistical difference in involvement between participants and spectators since the participants would concentrate more on the competition and pay more attention to an event (Lee and Shiu, 2015) ^[15]. Spectator participation depended on brand awareness which is an important factor because it is a prerequisite for attitudes and future intentions leading to higher possible behavioral intentions.

Sports events service quality dimensions

Service quality is the evaluation of overall excellence in service. It is the attitude related but not comparable to pleasure that arises from a comparison of expectations with perceptions and performance (Ko and Pastore, 2004) ^[13]. It is defined as the gap between customers' expectations and impressions of services provided or received by/from various players. Laroché *et al.* (2004) ^[14], defined service quality as the comparison of a consumer's assessment of service performance to their expectation and consumer attitude relating to the excellence of service.

In the sports industry, service quality is measured by the customer's perception of service delivery systems, service

performance, and overall consumer experience which influences a customer's decision to return, share, or recommend a service or product to others as a result of service excellence (Ko and Pastore, 2004) [13].

Quality service has grown in importance and effectiveness, and it has been connected to outcomes such as customer happiness, loyalty, value, and return intent. There is a three-dimension model of the physical environment, human interaction, and core service are areas of focus for service quality evaluation (Shonk and Chelladurai, 2008). [20] The study also highlighted that perceived fairness influence significantly influences how athletes perceive service quality. According to Brady and Cronin Jr, (2001) [4], a three-dimensional model of service quality included interaction quality, physical environment quality, and outcome quality. Interaction quality was linked to a customer's experience as a result of their interactions with event staff. Outcome quality, on the other hand, refers to meeting a customer's expectations after participation in an event, and outcome quality refers to the customer's feelings during the post-production consuming phase.

The concepts of sports events Satisfaction and behavioral intentions

The concept of sports events satisfaction

Satisfaction with a sporting event is a key factor in the development of a positive attitude toward commitment and future aspirations in taking part in the sports events (Ridinger *et al.*, 2012) [18]. When participants are satisfied with an event, it triggers a long-term desire to participate in future sports events. However, satisfaction with a sporting event does not have a direct impact on one's willingness to participate again in an event. Notably, sports locations, the overall performance of sporting events, and destinations have no effect on satisfaction and inclination to come back (Theodorakis *et al.*, 2015) [22].

Kim and Jogaratnam, (2015) [11] revealed that good experience and competitiveness of a sporting event have a direct impact on the overall satisfaction of an event. To boost participant contentment, sports event organizers should improve quality service and destination perception. Sports performance and service quality have a direct beneficial impact on audience satisfaction and loyalty influenced by addressing customer complaints (Zhang *et al.*, 2014) [28].

The concept of sports event behavioral intentions

Satisfaction in sports is the desire to participate in a sporting event and to recommend it to others in the future, with a focus on performance, perceived quality, and demography hence an event's long-term success hinges on the measure of attendees' future intentions (Yoshida and James, 2010) [26].

Theoretically, sentiments toward sporting events and future intentions coincide well (Kim and Jogaratnam, 2015) [11]. Finally, the relationship between pleasure and projected future behavior is critical in influencing future sporting event attendance. Two elements influence behavioral intent: attitudes toward behavior and subjective norms. Attitude toward action is influenced by essential ideas, while subjective norms regarding the impact of others are influenced by normative beliefs (Kim and Lough, 2007) [10].

Empirical relationship between Service Quality, Satisfaction, and Behavioral Intentions.

It is paramount to understand the relationship between these perceived factors since they measure future intentions of sporting event participation which are very important for an event's continued success. This is because service quality and customer satisfaction constructs are strong indicators to explain behavioral intentions (Kaplanidou and Gibson, 2010) [9] in sports events, the relationship between the service provider and the event participant is seen as the primary precursor of service satisfaction (Yoshida and James, 2010) [26].

According to Yoon *et al.* (2010) [25], the value of a sporting event is a relevant component of satisfaction because the value influences contentment among event participants. Value perceptions positively influence views of sports event quality, which in turn affects participant satisfaction. The excellence of an event and the performance of athletes are the major factors that influence the outcome of an event. This consequently influences spectators' satisfaction than the service atmosphere or engagement with event staff (Theodorakis *et al.*, 2013) [21]. Service quality is a substantial determinant of participants' satisfaction in sports and satisfaction is a precursor of future intentions (Murray and Howat, 2002) [16].

Research Design and Methodology

Research conceptual model and hypothesis

Conceptual model

A multi-dimensional research tool, service quality (SERVQUAL) is used to capture customer expectations and perceptions of a service along five dimensions that are thought to characterize service quality. According to Kim *et al.* (2014), the SERVQUAL model is the best instrument for explaining service quality in many forms and techniques. The model measures participants' satisfaction with the event service quality (all services as per the organizers of the 2021 Tour du Rwanda) and their attitude after the event. Figure 1 depicts the conceptual model framework adopted in this current study following previous studies.

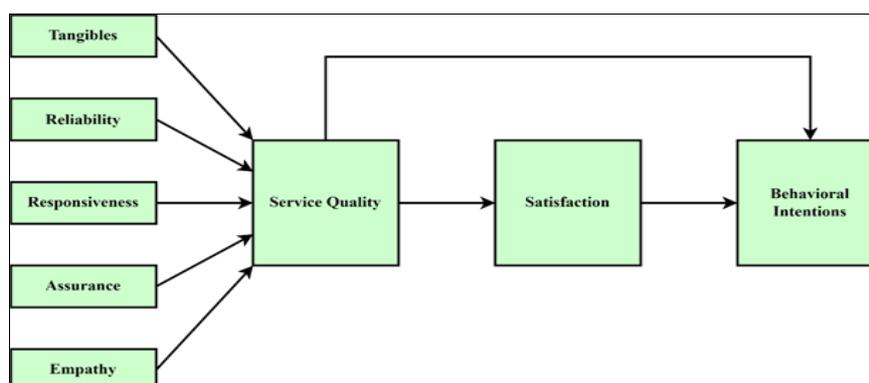


Fig 1: A conceptual framework used in this study showing the relationship between SERVQUAL, satisfaction, and behavioral Intentions at a sports event.

Research hypothesis

To analyze the effect of service quality, satisfaction and behavior intention during the 2021 Tour du Rwanda, the following hypotheses were proposed for our research:

H₁: Quality service has a significant consequence on participants' satisfaction.

H₂: Quality service has an impact on participants' behavioral intentions.

H₃: The overall event satisfaction significantly affects behavioral intentions.

Data Collection

Questionnaires

The data used in this study to discern the relationship between service quality, behavioral intentions, and overall event satisfaction during Tour Du Rwanda 2021 was obtained through the random distribution of a questionnaire to the participants and cyclic event spectators. A questionnaire is a research tool that consists of a series of questions that are used to gather data from respondents (Flores, 2016) [6]. Notably, the department of the Rwanda Development Board (RDB) and Rwanda cycling Federation (FERWACY) in charge of cycling sports events in Rwanda aided in the collection of the data. The questionnaires were distributed during the event to 310 participants. The cyclists participating in the event were informed of the purpose of the study and confirmed that the information would be used only for research.

Methodology

Descriptive statistics

Descriptive statistics refers to a series of short descriptive coefficients that aid in summarizing different aspects of a given dataset. Majorly, measures of variability and central tendency are the two types of descriptive statistics that are primarily used. The mean, median, and mode are examples of central tendency measures, while variance, standard deviation, skewness, and kurtosis are examples of variability measurements (Hayes, 2021) [8]. Mathematically, they can be elucidated as;

$$\text{Mean} = \frac{\sum_i^j x_1}{N}$$

$$\text{Percentage} = \frac{x}{N} * 100\%$$

Where by

X: Is the item

N= The total number in the sample population

The Likert Scale

In 1932 Likert discovered a measuring scale (The Likert scale). This measuring scale is essential in social sciences as it

aids in understanding human behavior. The scale is demarcated into 5 units depicting their intuition on a certain aspect of life (Likert, 1932) [34]. The respondents are asked not only whether they are satisfied or dissatisfied with the statement, but also how strongly they are satisfied by choosing one of the five criteria: very satisfied, satisfied, neutral, unsatisfied, or very unsatisfied. Each category is given a numerical score for the purposes of analysis (Table 1). For instance, in the Tour Du Rwanda 2021, the participant was asked about their level of satisfaction, the quality of services offered at the event, and the event performance.

Table 1: The Numerical Likert scale

Measurement	Numerical
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5

Cronbach Alpha

The Cronbach Alpha is deployed in this current study to discern the consistency of the models items and the constructs that are used to build the structural equation models. Lee Cronbach, who invented the procedure in 1951, is the name given to it. This method is used to determine the internal consistency or reliability of a group of questions used to respond to certain subjects in a questionnaire. Reliability is defined as the ability of a measure to accurately measure what it is designed to measure. Because of the importance of this method, a questionnaire's lack of reliability might lead to misinformation and incorrect findings.

Furthermore, this strategy provides us with information regarding the significance of a certain variable. When a variable is removed, for example, we examine the item's internal consistency to see if it improves or deteriorates. If the Cronbach alpha decreases after eliminating a variable, it indicates that the variable is less important, and if it increases, it indicates that the variable is more relevant in the item. Cronbach's alpha can alternatively be expressed in mathematical format as follows:

$$\alpha = \frac{k \times \bar{c}}{\bar{v} + (k-1)\bar{c}}$$

Where

k is the number of scale items

\bar{c} = the average covariance's of all items

\bar{v} = each item's average variance

The higher the Alpha reliability score at least more than 0.7, the higher the level of consistency among items in a construct (Cronbach, 1951) [35]. This is demonstrated in Table 2 below;

Table 2: Tabulation of Cronbach alpha and its associated reliability level

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Structural Equation Modeling

Structural equation modeling (SEM) is a multivariate technique for testing and evaluating multivariate causal linkages that are increasingly being used in scientific research. SEM is distinct from other modeling tools in that they examine both direct and indirect impacts on pre-established possible correlations (Fan *et al.*, 2016) [5]. Additionally, SEM is a statistical method that combines

confirmatory factor analysis and path analysis. The goal of confirmatory factor analysis is to assess hidden psychological qualities like attitude and satisfaction. Path analysis aims to create a path diagram to determine the causal relationship between variables (Fig.2). Structural Equation Modeling SEM was employed to test the impact of the 2021 Tour du Rwanda service quality factors on participants' overall satisfaction and behavioral intentions.

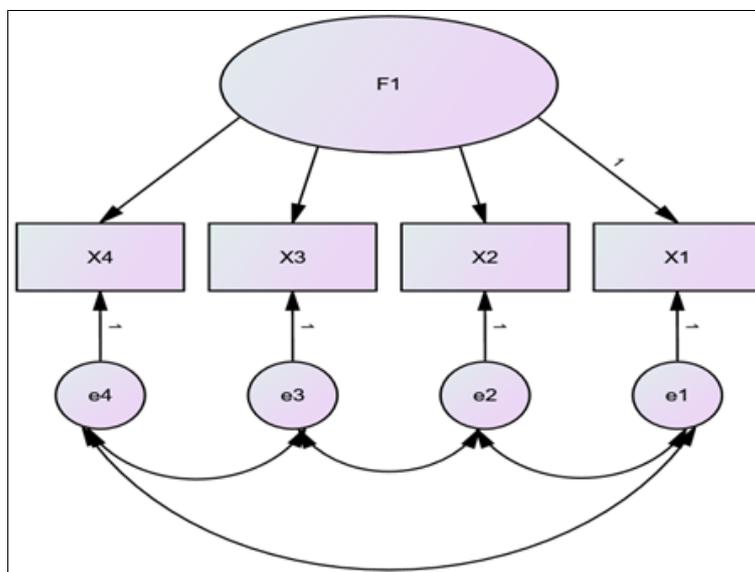


Fig 2: The SEM model path

Where

F_1 : The latent variable,

$X_1 - X_4$: The items in the test (observed variables),

$e_1 - e_4$: The measurement errors (unreliability) in each item.

Results and Discussion

Questionnaire's outcome

The questionnaires were distributed during the event to a total of 310 participants of which 25 people did not complete the questionnaire; another 35 did not fill them out correctly, and 250 questionnaires were certified to be valid (Table 3). The results are tabulated in table 3 and they represented a recovery rate of 91.9% and an effective recovery of 87.7%. This high turnover indicates a high willingness to participate in the study.

Table 3: Questionnaire recovery rate

Element	Forms	Recovered	Recovered %	valid	Effective %
Participants	310	285	91.9	250	87.7

Demographic Profile of the respondents

The demographic characteristics considered in this study include; Gender, age, and education (Table 4). The data suggest that the male made up the majority of the sampled population, accounting for 81.5% of the total population while the remaining 18.5% was occupied by the female (Table 4). The age of the population plays an important role in any sports event due to experience, body posture, health, and exposure. The results show that majority of the sampled population were aged between 30-35 years and composed of 49.6% of the sampled population followed by people aged between 20-29 years taking 40.4% of the sampled population (Table 4). The least represented group were people aged

above 50 years and above occupying only 10.4% of the sampled population. Remarkably, the majority of the sampled population based on their age are in the best age bracket to be involved in the event since they are fully grown and at least have some experience in the sport.

Table 4: Demographic characteristics of the cycling event participants

Variable	Category	N	%
Gender	Male	203	81.5
	female	47	18.5
Age	Under 20-29 years	101	40.4%
	30-49 years	124	49.6%
	50 years and above	25	10%
Education background	High school or less	10	4
	Attended college	60	24
	Bachelor's degree	70	28
	Post-graduate degree	110	44
Signing up experience	Very easy	36	14.3
	Somehow easy	78	29.9
	Average(Easy)	75	31.2
	Somehow difficult	58	23.4
	Very difficult	3	1.3

Education-wise, 44% of participants who attended the events had a Post-graduate degree. This was followed closely by people who had bachelor's degrees occupying 28% of the sampled population. Attendees who had college diplomas were 60 representing 24% of the population. The least category was high school or less than that and this group occupied 4% of the sample (Table 4).

The easiness of signing up for the events influences the level of satisfaction drawn from the event. The results show that the majority (31.2%) of the people neutrally evaluated the signing-up process while 29.9% said the process was easy. Notably, 14.3% of the attendees rated the process very easy.

On the contrary 23.4% of the sampled population experience difficulty in signing up while only 1.3% said the process was very difficult (Table 4).

The Frequency of attending the Tour Du Rwanda

The frequency of attending the cyclic event leads to understanding the extent to which the participants and the spectators were satisfied by the previous services and performance of the events. The results show that the majority of the people (33.8%) had attended the event more than three times (Fig.3). This signifies that the service offered at the event was satisfying leading to high turnover. The people who were attending the event for the second time occupied 23.4% and the ones who were attending for the first time were 28.8% (31.2%) of the sampled population (Fig.3).

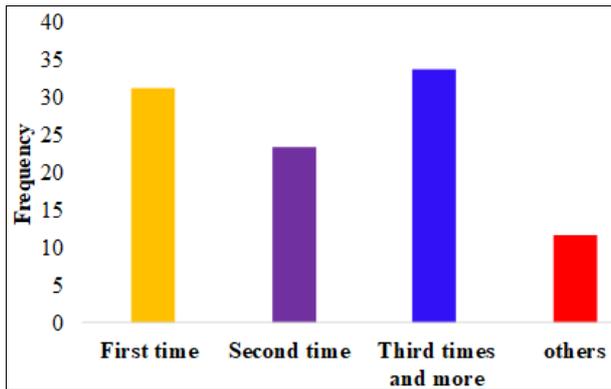


Fig 3: The frequency of attending the Tour Du Rwanda Cyclic event

Level of advertisement of Tour du Rwanda cycling event

The creation of awareness of a sports activity determines the number of participants and spectators who will attend the events. The Tour du Rwanda was advertised on several social media and formal invitations. The results show that the majority of the attendees learned about the cyclic event through media (Television and Radio) (47.4%) while 23.7% learned about the event over social networks (Fig. 4). Word of mouth scored the lowest as an advertisement mode occupying only 3.9% of the sampled population while 17.1% were invited through formal invitation letters (Fig. 4). The remaining 7.9% of the attendee populations heard about the events through other means which were not included in the study.

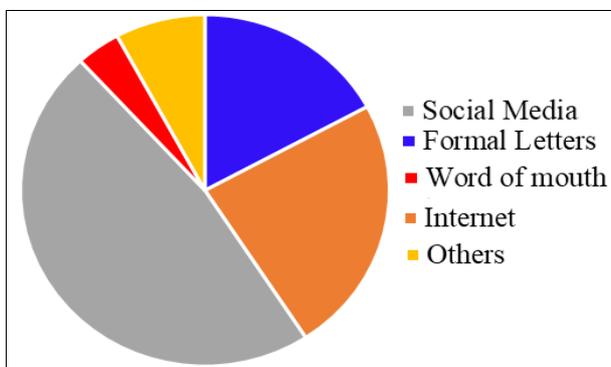


Fig 4: The mode of awareness creation of Tour Du Rwanda

Region of Origin of the attendee of the Tour du Rwanda cycling event

The level of satisfaction is highly influenced by the region of origin. According to Ziqiong *et al.* (2012) [27], recently, the investigation of cross-national or regional differences in the

realm of Service quality and customer satisfaction research is considered to be the new innovation adopted by contemporary scholars. Notably, this trend is more prevalent in the service industry these regions endure certain levels of service standards, facilities, and décor which led to a different rating of the service quality. These engrained standards affect international travelers’ perceptions while receiving service from the visiting host.

This research considered Continental differences as grouped as (Africa, Asia, Europe, America, and Oceania). Nevertheless, there exist significant cultural differences even within the same continental but in this study, we chose to classify them in terms of continental differences. The results show that majority of the people (48.7%) who attended the event were from the African continent (Fig. 5). This can be linked to the fact that; the event was hosted in an African country and there is a high likelihood of hosting a lot of locals and the neighboring countries where the Tour Du Rwanda is very familiar.

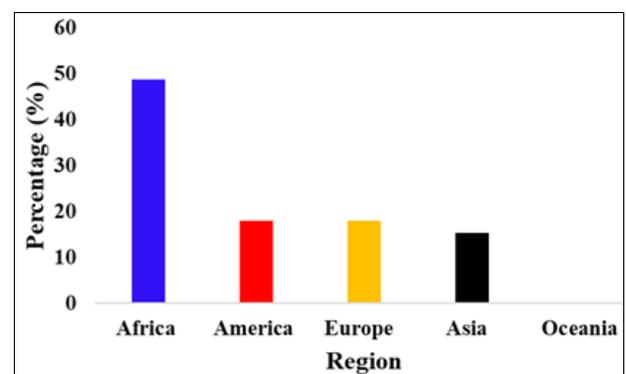


Fig 5: The region of origin of the Tour Du Rwanda attendees

Americans and Europeans who attended the event occupied the same percentage of 17.9% each of the sampled population (Fig. 5). This was followed by Asians who occupied 15.4% of the attendees’ population. Notably, the event received no person from the Oceania region. This can be due to a lack of awareness of the existence of the events in the region. This calls for the event manager to create more awareness in order to attract more people during the next Tour Du Rwanda event.

Relationship between service quality, overall satisfaction, and behavior intentions value

The relationship between the three variables was discerned using the Pearson correlation coefficient. The results show that there exists a significant relationship among the variables as shown in table 5. There is a considerable correlation between Service Quality and Overall Satisfaction ($r = 0.71, p < 0.01$). The results were also evidently between Overall Satisfaction and Behavior Intentions $r = (0.72, p < 0.01)$, also a meaningful results correlation is between the Service Quality and the participants’ Behavior Intention ($r=0.69, p < 0.01$).

Table 5: Correlation matrix between Service Quality (SQ), Overall satisfaction (OS), and behavior intentions (BI)

Construct	OS	BI	SQ
OS	1	0.72	0.71
BI	0.72	1	0.69
SQ	0.71	0.69	1

Reliability test of the main constructs of the survey

It was vital to examine the reliability of the questionnaire by

examining the combined consistency of the three main constructs (Service quality, overall satisfaction, and behavioral intention) that made up the questionnaire. The results show that Cronbach's alpha values of 0.942, 0.856, and 0.905 for service quality, overall satisfaction, and behavioral intention, respectively were recorded (Table 6). This signifies that all the constructs have internal consistency making the questionnaire reliable for assessing the effect of service quality on participants' overall satisfaction and behavioral intention (Table 6). Notably, different constructs have various numbers of items that were used to build that construct. For instance, service quality (SQ) has 24 items, Overall satisfaction has 3 items and behavioral intentions have 5 items that were considered in this study.

Table 6: The SQ, overall satisfaction, and BI reliability test

Construct	Cronbach's Alpha	Items
Service quality.	0.942	24
Overall satisfaction.	0.856	3
Behavior Intention.	0.905	5

Table 7: Tabulation of the model results

F. index	SRMR	RMSEA	NFI	CFI	TLI	AGFI	GFI	IFI
Fitting index value	0.024	0.069	0.955	0.972	0.962	0.896	0.935	0.973

The model had CMIN/DF ($\chi^2/df = 2.48$) is less than 3, which depicts that, the model fitting effect is acceptable. The RMR=.02 is less than .05. Notably, the AGFI was 0.55 and is less than the expected set standard of 0.9. Nevertheless, the overall factors IFI, GFI, CFI, and TLI are above 0.9, justifying the data fitness (Table 6). The RMSEA =.06 hence less than 0.08, indicating the overall fit of a credible model.

Structural Equation Model Path

Upon evaluation of the psychometric characteristics of the model, a full structural equation model (SEM) was built between three latent variables; service quality (SQ), overall satisfaction (OS), and behavior intention (BI). Notably, the oval in the model path represents latent variables while the rectangles depict measurable variables. The random error (e) is given to each required index. The symbol e9 and e25 denote the residual terms of the latent internal variables. The single arrow indicates the "influence" relationship, that is, the

Structural model

Model fitting index results

Before embarking on building the SEM model, it was crucial to determine the data fits. Confirmatory factor analysis is used in this case to assess the model measurement. The results show that the collected data is fit for structural equation modelling. In our case, the data is characterized by chi square-to-degree of freedom ratio: ($\chi^2/df = 2.48$, at $p < .01$) hence within the range of 2-3 that is identified as acceptable according to Bollen, (1989). Additionally, a SRMR =.025; root mean square error of approximation (RMSEA) of .069; NFI =.955; CFI =.972; TLI =.962; AGFI =.876; GFI =.935; IFI =.933 was documented (Table 6). The model measurements are deemed suitable for further analysis. This conclusion is based on Hair *et al.*, (2014) [7] study that recommended that a CFI value should be above .90, and an RMSEA value in the range of 0.03-0.08.

linear causal relationship between latent variables, and the magnitude of the influence represented by the regression weight coefficient.

The results show that Tour du Rwanda service quality positively and significantly affected participants' overall satisfaction ($\beta = 0.83$, $p < 0.01$). Participants' satisfaction significantly impacted behavioral intention ($\beta = 0.62$, $p < 0.01$). This depicts that, satisfied participants are likely to attend the event again and inform other people about the existence of such events. This is concurrent with previous studies that depicted that primarily involvement and development of participants in the sports event depends on the attractive sport and related event elements (Wood *et al.*, 2010). The event service quality insignificantly influenced participants' behavior intention ($\beta = 0.28$, $p < 0.05$). Notably, Assurance and Empathy items indicate significant influence on the participants' perception of quality service at ($r = 0.82$, $p < 0.05$).

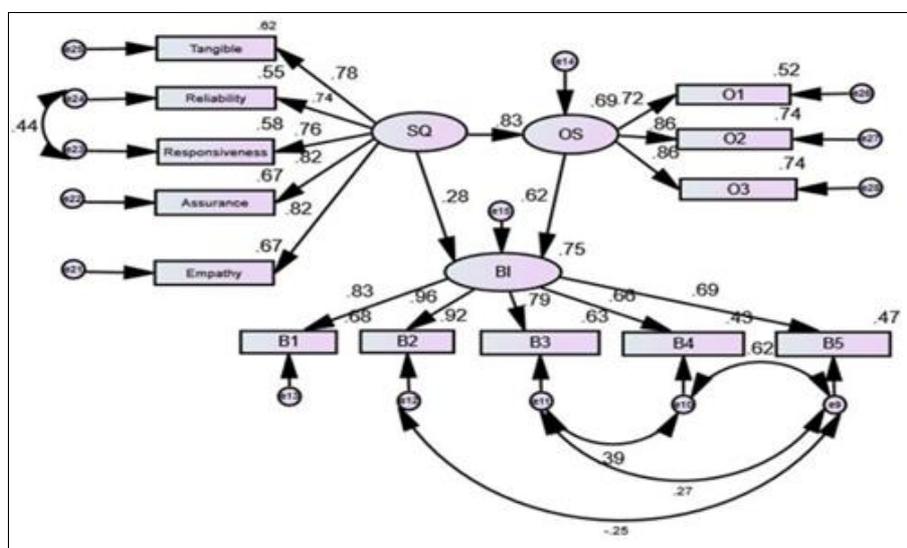


Fig 6: Structural Equation model path

The most significant error correlation between behavioral intention e11 and e10 items was 0.39. The results show that organizers of the Tour Du Rwanda cycling event should put more emphasis on service quality delivery which affects the overall satisfaction and impacts behavioral intention.

Conclusion and Recommendations

This research attempts to determine the effects of service quality on overall satisfaction and behavioral intention using the 2021 Tour Du Rwanda as the case study. Various statistical metrics were used, and they include; mean, percentage, Cronbach alpha, and structural model. Random distribution of questionnaires to 310 participants was done through various platforms. The results indicate a good recovery rate of 91.9%. The respondent's demographic characteristics show that the majority (81.5%) of the sampled population were male while the remaining population was female. Additionally, the dominant age group was 30-49 years occupying 40.3% of the sample while the least represented age bracket was above 51 years and occupied 10.4% of the sampled population. The questionnaire utilized in this study was reliable as depicted by a Cronbach alpha value of 0.942, 0.856, and 0.905 for service quality, overall satisfaction, and behavioral intention respectively. The rating of the service quality is highly influenced by regional-cultural differences and the results show that the majority of the attendees of the Tour Du Rwanda 2021 were from Africa and they represented 48.7% of the sampled population.

The empirical results from the structural model show that the overall satisfaction ($\beta=0.83$) was more dependent on service quality. Additionally, overall satisfaction ($\beta=0.62$) had more impact on behavior intention than service quality ($\beta=0.28$). This depicts that a participant's future intention to attend an event is positively connected with their perceptions of the overall satisfaction. This study backs earlier research findings by (Alexandris *et al.*, 2007) ^[1] that satisfaction and attitudes towards an event lead to a higher possibility of participants' behavioral intention. Conclusively, the results supported H1 and H3 but didn't support H2.

Assurances and Empathy had more impact on the service quality hence the study recommends the government, organizers, and sponsors of the Tour du Rwanda put more measures on event security, better organization of the event, and quick response to the needs of the participants. This will go a long way in attracting top teams and future participants from around the globe. The events managers are encouraged to advertise more to increase the scope of awareness among nations so as to increase participants. The future study should embrace both online and offline means of questionnaire distribution so as to capture a wide range of people and reduce biased results. The signing-up process should be digitized to reduce long queues and wastage of time during the event. Future studies should include other years of Tour Du Rwanda and other sports events instead of concentrating on only one event to discern the impacts of service quality on consumer satisfaction and behavioral intentions.

Implications

Tour du Rwanda cycling event is one of major sport event in Africa. The findings of this study are of great importance in the literature of the event service quality on participants overall satisfaction and behavior intentions in the current and future studies. This is because previous studies have majored in understanding the impacts of service quality on the spectators. This analysis will better interest sports

management and other researchers to comprehend the relationship between service quality, satisfaction, and intention in sports events management. The findings are of significance to sport manager in general since they help them understand the participant's needs and how they can meet them satisfactory. By understanding better how to satisfy the event participants they can draw high numbers and increase the economic benefit to the host country. The results of this study will help sport event organizers to emphasis for effective preparation and good organization system of sports events and focusing on service quality and behavior intention for participants.

Limitations of the current study

Despite the immense contribution of the paper to the body of knowledge, the research was limited in the following way. The sample size was small and drawn from only one single events of 2021 without taking to considerations of the previous events hence cautions should be exercise in generalizing the impact of service quality on participants overall satisfaction and behavioral intentions. The findings can be replicated on other sport events nor any similar event in another country since they were examined for only Tour Du Rwanda cyclic event of 2021. Notably, data collection was limited in the way that, the questionnaire was distributed online and experience language barrier.

Statement of Disclosure

All the authors unanimously agree to no existence of a known conflict.

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