

Running event quality: conceptualization and measurement scale

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Abstract. This paper aims to develop event quality measurement scale in running event context. This particular type of track event became more popular in many countries in recent years. The Big Five destinations of running events: Berlin, Boston, Chicago, London, and New York are among those final destinations of runners around the world. To attract these runners, quality of the event would be the key success factor. For this paper, the measurement scale has been divided into three dimensions: physical environment, staff attitude and experience of runner after participating in the running event. Samples has been selected using, first, cluster sampling method according to the running event organized in Bangkok during March 2019. The Ultra Park Run Thailand 100 was selected due to the number of participants, approximately 5,000 runners, and it was the only big running event during that time. Second, 109 runners who participated in running events has been selected using simple random sampling method. There are 18 items for this measurement scale. The result of exploratory factor analysis illustrated that all items have factor loading more than 0.4 except one item, st-att5 has factor loading close to 0.4 with communalities is 0.268, thus it is deleted during this stage. Furthermore, result of reliability coefficient test shows that all dimensions have Cronbach's α higher than 0.7. The alpha coefficient for physical environment dimension was 0.868, staff attitude was 0.821, and experience was 0.771. Therefore, all items are correlate to each other and it is sufficient to explain the running event quality construct.

1 Introduction

Within the era of health concerning, running becomes popular among others track sports. The running competitions has been heated-up by many running events organized around the world. The track event, which consists of all running and walking events, has been categorized as; (1) sprint races, involving 100 meters, 200 meters, and 400 meters races; (2) middle distance races, which include 800 meters and 1,500 meters; and (3) long distance races consists of 3,000 meters, 5,000 meters, 10,000 meters, and 42.195 kilometers for a marathon. In this paper, long distance races will be study because it is more popular since a race can conduct on a road and street meanwhile both sprint and middle-distance races normally compete only on a track. Since the Olympic Game in 1896, marathon race

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has been growing in number significantly and, recently, the distance has been adjusted to be suitable for changing runners' behaviors. The new distances consist of 21 kilometers, which has been called 'half-marathon' and 10 kilometers, named 'mini-marathon' [1].

Running event is considered as service event because runners can perceive the quality of running event by experiencing it. Normally, quality of the service perceived by runners can lead to event loyalty. Traditionally, the concept of event quality has been adapted from the study of Parasuraman [2], who developed service quality model or so called SERVQUAL. This model evaluated the gap of perception on functional and technical qualities of a service that meets or exceeds customer expectations. The SERVQUAL concept, however, could not widely use with all type of service due to the complexity of service dimension examined in different industry. So far, there is less study in running event quality concept. What we have now is the study of how runners' behaviors and attitudes affect their level of involvement in the running event [3]. In terms of event quality scale development, there are some studies that adapt SERVQUAL to the specific dimension of sports industry, such as the TEAMQUAL which measured the expectations and perceptions of 'spectators' whose the main purpose of attending the professional games like basketball is to watch the game [4-7]. Obviously, these studies focused on service quality for 'spectators' not the player or participant themselves. Unlike those researches, this paper focus on participants which in this paper will be called runners. Therefore, this paper aims to explore the concept of running event quality as well as develop the measurement scale of running event quality.

2 Objectives

This study aims to explore the concept of running event quality and develop the measurement scale of running event quality.

3 Literature review

3.1 Running event

Running event is categorized as one of the track and field events. Three categories include jumps, throws, and running. The running events consist of three major types: sprints (100, 200, and 400 meters), middle distance (800 and 1,500 meters), and long distance (3,000 meters, 5,000 meters, 10,000 meters, and marathon distances). Typically, most running events will be conducted within an indoor track beginning with a curved starting line. A marathon race, however, is generally a stand-alone event, which means that it often starts and ends with the desired of a runner. Runners may begin their race in a pack, but each competitor will go at their own pace. The main goal of these runners is simply to finish at the stop line with the consistent pace as much as possible [8].

According to McGehee et. al., [9], there are many aspects of the event that can attach runners' participation and the way they select the event. This includes organizational, environmental, social, physical, and emotional aspects. The organizational element concerns with the organizers' ability to control the running event, such as the routes safety, price of the race, and logistics. Many researchers found that runners tend to evaluate their experience based on the organizational characteristics. If the organization attributes a high quality of management level, they tend to participate on the same event in the future [10-11]. Moreover, the study of Kaplanidou[12] also supported this fundamental aspect that the motivation of runners to participate in the event normally varies with how well the event

has been prepared and organized. The uniqueness and quality of the event also plays an important role to attract runners to participate in the event.

The second element, environmental aspect, also influences the will of runners participating in the events. Some researchers suggested that environment around the host destination can increase motivation to travel for runners. These factors include, for instance, scenery, new culture, new topography, and challenge of the route that directly related with host destination [12]. Since aesthetic is one of the motivation factors for runners, they often possess a desire to collect destinations to run. Due to this, some running events became ‘the Big Five’ destinations for marathon runners. The Big Five destinations include Berlin, Boston, Chicago, London, and New York marathons [13-15].

Physical activity, the third element, relates with the healthy aspects of runners, such as good training, endurance, physical condition, and perseverance. This element is directly link with travel experience which in turn, relates with sport tourism component [16-17]. More often, sport tourism has been conducted outdoor, participants are exploited to a risk of fitness level.

Social element provides a sense of belongingness or membership of a social group. For runners, this social identity can influence runners’ perception in a sense that they are ‘part of a group’. Moreover, there is an evidence that people participate in running event because they want to reaffirm that they are part of that sport identity [18]. Some researchers found that social belonging plays a critical role for the successful of sport events [19].

The last element is emotional aspect. It consists of enjoyment, self-fulfillment, and excitement that people gain from participate in running events. This also includes the desire to get away from the daily routine and to relive from previous life experiences [18]. The level of emotion can be evaluated by the joy and mood during and after participating the running event. The study of Stewart [20]. noted that individuals developed friendships and sense of belonging when they travel to support their teams in another location apart from their home.

In conclusion, this paper defined a running event as a marathon race which is a field event. From previous studies, some researchers suggested that runners’ participation rates of an event are influenced by runners’ attitudes and behaviors. For instance, the study of Getz and Anderson [3] found that half-marathon runners in Gothenburg were motivated by emotional aspect, self-actualization and improvement. This also supported by the study of Simasathiansophon [21] that motivation is the integration between mental, physical, societal, and environmental factors. Further research also found that runners tended to travel to more events regarding to the destination choices. If the destination is ‘Big’ they may be willing to travel abroad to participate in the international running events, no matter the cost would be [22]. These results reassure that those five elements: organizational, environmental, social, physical, and emotional aspects can influence runners to select the ‘right’ event for them.

3.2 Quality of the event

The quality of a service has been perceived through the runner’s behavior and attitudinal outcomes. Running event is defined as active sport which is require runners to experiences quality of service at the specific point of contact. High quality of service leads to a high frequency of participation on the event, which in turn, increase level of involvement, satisfaction, and loyalty [23-24]. The first model of service quality was introduced by Grönroos[25] and later improved by Parasuraman, et. al., [26]. In the work of Parasuraman consisted of two elements: functional and technical qualities. This SERVQUAL model encompasses five dimensions of quality that perceived by consumers: tangible, reliability, responsiveness, assurance and empathy element. According to this model, consumers

evaluate service based on the discrepancy between expectation, delivery method, and actual experience. What exceeds from consumers expectation will be considered as loyalty.

The late study of service quality was normally divided into three elements: physical environment, interaction between customers and service provider, and experience elements. The work of Romiti&Sarti[27] suggested that physical environment includes announcements, parking and other additional service factors. Alexandris, et. al. [1] also supported this view that it is related with tangible elements which includes ambient conditions, facility design, security of the venue, etc.[7], [28]. Moreover, the attribute of the running route (course) plays a vital role on customers' evaluation of that event. The routes, such as a scenic route or a historical route attract more runners than the normal city route [29].

Second element is interaction between customers and service providers. This element relates with the frontline interaction between event workers and consumers. Researchers in service marketing field suggested that interaction between consumers and service provider or staff are crucial and, as a result, can predict service quality [30-31]. Interaction element is also determined by attitude, behavior and expertise of staff. Willingness to help or response to customer shows a good attitude of staff. A good behavior of staff is determined by their action to help. For a high quality of event, staff must be knowledgeable enough to delivery information according to customers' request [1].

The third element of service quality is experience of customers. In the study service marketing, experience has been considered as main part of service quality because it indicates the outcome – positive or negative experience that customers perceived from that service. In Grönroos[25] work, this outcome was defined as technical quality which is what the customers receive after they finish the event. In the context of running event, experience is mainly liked with satisfaction of customers' expectation after the end of the running event. Previous studies stated that there are many factors affect runners' desired to participates in running event, such as achievement, social facilitation, skills mastery, physical fitness, fun and enjoyment, learning and exploration [1], [32].

The researcher applied and modified service quality dimension of Romiti&Sarti[27] and Ko, et. al. [7] since their models includes both physical environment and staff interaction quality. For the third dimension, however, the previous model of Alexandris, et. al. [1] was insufficient to explain the changing behavior of runners' behavior. The trend of health concerning became main purpose of participating in sport [33]. Thus, this paper expands the experience dimension to cover health concern experience, which adapted from sport motivation scale of Funk et. al. [34].

4 Methodology

Before developing the measurement, the researcher defined and selected conceptualization of running event quality from previous researches. All three dimension: staff attitude, physical environment, and experience are test using exploratory analysis to validate construct and Cronbach's alpha to test reliability of the construct. The researcher developed multi-item 5-point Likert scales which rated from 'strongly disagree (1)' to 'strongly agree'. The scales consisted of statements regarding the running event quality. The first dimension, developed from Hallmann, et. al. [11] and Alexandris, et. al. [1] is physical environment dimension which includes seven questions. There are six questions for staff attitudes dimension related with attitude of staff and their interaction with customers. The third dimension consists of five questions and relates to experience of runners after participating in the running event in terms of running experience and health concern experience. Table 1 shows survey items and its code.

Table 1. Survey items.

Construct with underlying items	Item code
Physical environment	
• On the web site, it was possible to find all information about the race	Phy-en1
• Signage along the course enhanced your understanding on information and direction	Phy-en2
• Information inside the race kit (map, rules, race chip, etc.) were useful and clear to understand	Phy-en3
• The location of the running event is well suited to be host	Phy-en4
• The location offers a cultural experience	Phy-en5
• The aids station is sufficient	Phy-en6
• The course is unique	Phy-en7
Staff attitude	
• The organizer’s staff is friendly	St-att1
• The attitude of the organizer’s staff demonstrates their willingness to help	St-att2
• The attitude of the organizer’s staff shows you that they understand your needs	St-att3
• The running event Expo was effective in providing information	St-att4
• At the registration point, the competitor kit was delivered and well organized	St-att5
• Staff provided a good guide service	St-att6
Experience	
• Participation in running event helps you to reach your potential	Exp1
• Participation in running event gives you a feeling of self-assurance	Exp2
• Participation in running event is one way in which you can express yourself	Exp3
• Competition is the best part of participating in the running event	Exp4
• Your goal is to be outstanding in the event	Exp5

To test the measurement, the pilot test has been conducted using questionnaire with the Likert-type scale response. Samples has been selected using, first, cluster sampling method according to the running event organized in Bangkok during March 2019. The Ultra Park Run Thailand 100 was selected due to the number of participants, approximately 5,000 runners, and it was the only big running event during that time. Second, 109 runners who participated in running events has been selected using simple random sampling method. Reliability and construct validity were utilized to evaluate the measurement scale. Under the reliability concept, all items should be the same construct and correlated with each other. Cronbach’s α is the common measure of the internal consistency applied in social science researches[35]. The good alpha value can be ranged from 0.7 to 0.8. Moreover, the average interitem correlation should fall from 0.15 to 0.50 since the optimal value varies with the generality of the target construct. In this paper, the average interitem correlation was range between 0.40 and 0.50, which indicated that the construct was quite specific in their theme.

5 Results

The table 2 of the result shows reliability test on each item of three dimensions: physical environment, staff attitude and experience quality. The alpha coefficient for physical environment dimension was 0.868, staff attitude was 0.821, and experience was 0.771. All items have inter-item correlations higher than 0.4 except the item “St-att5”, which was .431, a little higher than the minimum rate.

Table 2. Item-total correlation and coefficient alpha (n = 109).

Dimensions and Items	Item-to-total correlations	Alpha if item deleted	Reliability Coefficient
Physical Environment Quality			.868
Phy-en1	.533	.863	
Phy-en2	.740	.836	
Phy-en3	.685	.843	
Phy-en4	.618	.853	
Phy-en5	.617	.853	
Phy-en6	.730	.837	
Phy-en7	.580	.857	
Staff Attitude Quality			.821
St-att1	.586	.793	
St-att2	.677	.774	
St-att3	.658	.780	
St-att4	.601	.790	
St-att5	.431	.830	
St-att6	.603	.789	
Experience Quality			.771
Exp1	.539	.733	
Exp2	.625	.716	
Exp3	.668	.692	
Exp4	.506	.743	
Exp5	.502	.769	

For exploratory factor analysis (EFA), Hair et. al. [36] stated that only the factors having eigenvalue greater than 1 is considered appropriated. For this study, the principal component method has been applied. Measurement items will be deleted if factor loading were below 0.4 or if there is a cross-loaded more than one factor. The communalities of the items must higher than 0.4. The communality of an item that is less than 0.4 will be considered as insufficient to explain for that factor. The Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO) must higher than 0.5. A significant Bartlett’s test of sphericity ($P < 0.05$) means there is a sufficiency of correlations among variables [37]. Table 3 shows factor loadings for all items of running event quality.

From the result of EFA, all three quality dimensions have been extracted with eigenvalue greater than 1.00. The measurement of KMO sampling adequacy is 0.826, which indicated appropriateness of factor analysis. Bartlett’s test suggested overall significant of all correlation within a correlation matrix. The value of this test is 786.752 and statistically significant ($P < 0.05$). However, item St-att5 has factor loading close to 0.4 and the communalities of this item is 0.268 which means the item cannot explain this factor, thus it is deleted in this stage. With the reliability coefficient of three dimensions are over 0.70 of a minimum criterion, this construct indicated a good internal consistency of running event quality items.

Table 3. Exploratory factor analysis of running event quality (n=109).

Items	Factor loading		
	F1	F2	F3
Phy-en1	.582		
Phy-en2	.757		
Phy-en3	.709		
Phy-en4	.698		
Phy-en5	.712		
Phy-en6	.754		

Phy-en7	.675		
St-att1		.631	
St-att2		.703	
St-att3		.773	
St-att4		.673	
St-att5		.482	
St-att6		.765	
Exp1			.638
Exp2			.732
Exp3			.823
Exp4			.684
Exp5			.689
Eigenvalue	7.322	2.155	1.232
Variance Explained	40.676	11.970	6.844
KMO	.826		
Bartlett's test: Chi-square	1095.849		
Sig.	.00		

6 Conclusions

Traditionally, concept of event quality has been adopted from the model of SERVQUAL which developed by Parasuraman et. at. [2]. In the field of sport industry, some researchers employed with a specific dimension, such as TEAMQUAL which is a scale to measure the expectation of sport's spectators [38]. Rather, this paper focuses on the event quality expectation of participants, not spectators, which, in this case, runners who participate in a running event. The measurement scale of the 'running event quality' has been divided into three dimensions: physical environment, staff attitude and experience. The result of running event quality scale development shows that all items are correlated to each other with the reliability coefficient rate of all dimension over 0.7. There was only one item has been deleted during the exploratory factor analysis due to it has low correlation with the construct. Thus, the items were reduced to 17 questions. The result of KMO and Bartlett's test illustrated that all items remain correlation with each other and suitable to use for this construct, running event quality. This means, therefore, these three dimensions: physical environment quality, staff attitude quality and experience quality are suitable to measure the running event quality. Getz and Anderson [3] also suggested that the criteria of event standard that runners expected was routes and other supporting facilities. The study of Getz & McConnell [22] also supported that one of the reasons that runners travel to more events was the quality of destination, which in other words, location choice. Nevertheless, the sample for this measurement scale development was only 109 correspondents and data has been collected from only one type of running, road run. Therefore, the future research should include more type of running event, such as trail run or triathlon which, perhaps, might increase understanding about this particular running event type.

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