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Sport Management Research on Motivation, Total Quality Management and satisfaction

Chao- Sen Wu

Trans World University, Department of Tourism and Hospital, Associate Professor

**Corresponding Author：Chao-Sen Wu*

ABSTRACT: - *This research mainly explored the application of Total Quality Management (TQM) to road running competitions, as well as the correlation and influence between the participation motivation and satisfaction of road runners. This research conducted questionnaire survey, distributed 800 copies of questionnaire. The recovery rate was 82.125%. The results show that the participation motivation of road runners will enhance their satisfaction. Furthermore, participation motivation has a positive and significant influence on TQM. And TQM has a positive and significant influence on satisfaction. This research verified the correlation among participation motivation, TQM, and satisfaction and concluded that TQM serves an intermediary role among the three variables. Through the creation of value of road running, road running competition organizers shall introduce the benefits of TQM, strengthen the quality of service, enhance the effectiveness of competitions, and prevent emergencies, which will increase the satisfaction of road runners and event participants with the overall events.*

Keywords- *Participation Motivation; Total Quality Management (TQM); Satisfaction*

I. INTRODUCTION

Road races or marathons are popular with the general public and become a major event attracting tourists from all over the city or area, attracting tourists even more than niche sports events.[28].According to the U.S. [34], more than 8 million runners worldwide participate and complete events each year, and many travel activities occur as a result of road race events. [23] announced the "Sports for All White Paper" campaign, which will popularize people's sports participation in the sports of expanding regular sports population, raise 3% of the current regular sports population, march into the advanced countries as the core indicator, and run The event is one of the most suitable for promoting universal sports.[31]found that running is one of the easy-going and fun leisure activities that have the added benefit of personal prestige and good health, and have chosen to take part in running.

Motivation is the stimulus or drive that people produce to meet their needs, and it is also an important factor that affects human behavior. [24]. [32]motivation in sports consumption motivation scale is divided into push and pull two factors.[15]argues that motivation is a demand that motivates people to take actions as well as individual thoughts, which can produce running behaviors by gradually increasing motivation, and how

runners transform the idea of participation into the motivation of participation and participate in the competition, Is one of the researchers' purposes.[16]refer to the pleasure experienced by individuals from the perception of the result and the expectations of the product. Whether as a consumer or participant, the actual feelings of the purchased products and the participating activities are compared with the feelings of the inner expectations to get the evaluation and feelings about the products and activities.[7]study the behavior of individuals with internal motivation to engage in activities, according to their own choices, in a pleasant mood self-determination attitude control behavior. Externally Motivated Individuals engaged in activities, subject to a variety of external circumstances, to produce internalized and self-determined perceptions of their actions, are individuals' internal drive that prompts individuals to act to meet particular needs.

How the organizers can understand the needs of runners during the booming marathon?To create a market for the marathon, improve the motivation of the runners to participate in the event, so that runners can meet the requirements of leisure benefits.Increase satisfaction is a key factor in promoting the marathon.[21].[22] that tourist satisfaction is the key to the success of sports events.[5] ,[33], [21] , their research in marathon suggests that there is a significant correlation between motivation and satisfactionThe competition will meet the motivation of the participants and the satisfaction will also improve.

Thus, service quality is a vital factor in the operation and management of sports and leisure service industry [17]. Total quality management (TQM) is a systematic activity, centering on customer satisfaction, focusing on social responsibility and corporate governance, and stressing constant improvement and innovation [18]. [36] argued that, total quality management means that, all the units and members of an organization continuously devote to the production and improvement of products, endeavor to offer products with high quality and services, meet customer requirements, and achieve sustainable operation of the organization. [35]stressed that customer orientation is an essential condition for the success of competitions. The most important idea to promote TQM is to improve constantly to improve the quality of service.[12]pointed out that, like enterprises, competitions should stress the basic dimension of product quality, because the satisfaction of customers and participants are conditions for the success of competitions.

In light of the above views of scholars in the past, this study holds that TQM can be applied to the main framework of competition, enhance the overall quality of road running activities, improve the satisfaction, and has adaptability, originality, and value. It is one of the objectives of this study to link participation motivation and satisfaction of participants in sports.

II. LITERATURE REVIEW

2.1. Participation Motivation

There are many factors that attract people to engage in a particular activity. Motivation is definitely a very important topic for discussioni. [20]. [15] argues that motivation is a requirement that adequately motivates people to act. [30]examines motivation for first-time participation in marathon runners, pointing out that there is a positive correlation between increased self-efficacy levels and positive outcome expectations and marathon outcomes. [2]analysis the Honolulu marathon's motivation to pay for expectation of reward, attractiveness of this competition, enhancement of health and marathon ability and invigoration of life.[21]pointed out that runners get

different leisure experiences and feelings through the participation of marathon activities. In the continuous participation in the competition process, runners can feel the satisfaction of the inner soul, gain a sense of accomplishment, belonging, and enhance self-confidence.

2.2.Total Quality Management

Service is a series of more or less invisible activities[9]. Total quality management (TQM) is a systematic activity, centering on customer satisfaction, focusing on social responsibility and corporate governance, and stressing constant improvement and innovation [18]. [29]believed that the term TQM can be interpreted separately. "Total" means that, when an organization endeavors to make improvement, all its members participate in it. "Quality" refers to the expectations of all customers, including consumers and internal employees. "Management" means the leaders of an organization. [10]argued that TQM is a management approach that is customer-oriented, adheres to quality, makes good use of scientific methods, and stresses long-term commitment to quality, continuous improvement, education and training, self-management, long-term and consistent goals, all staff participation, and autonomous right.[27]assumed that, the spirit of TQM focuses on continuous improvement in quality and requires managers to constantly improve. [3]asserted that, the core values and concepts of TQM shall include vision leadership, customer-driven excellence, organization and personal learning, attention to employees and partners, sensitivity, concentration on the future, management for innovation, management based on facts, emphasis of results and creation of value, and systematic view. [6]mentioned that the effective implementation of total quality management is one of the sources of competitive advantages for service industries.

2.3 Satisfaction

[25]argues that consumer satisfaction refers to the immediate response to the level of value that a given service or product is using in the context of a particular product or service. [14]argues that customer satisfaction is the consumer's perception of the functional characteristics of a product and the individual's expectation of the product. The two are compared to form a level of satisfaction, which is the difference between perception and expectation. In other words, satisfaction is the difference between self-perception of service or product before and after use.[1]. [13] argues that satisfaction is a measure of the product and service based on past experience of the customer, an assessment of the overall consumer experience. Taken together, satisfaction represents a kind of leisure activities that fulfill the perceived value of personal subjective expectations.[26].

III. METHODOLOGY

3.1Research Framework

Based on the above motives, purposes and literature review, research framework is constructed, as shown in Figure 1.

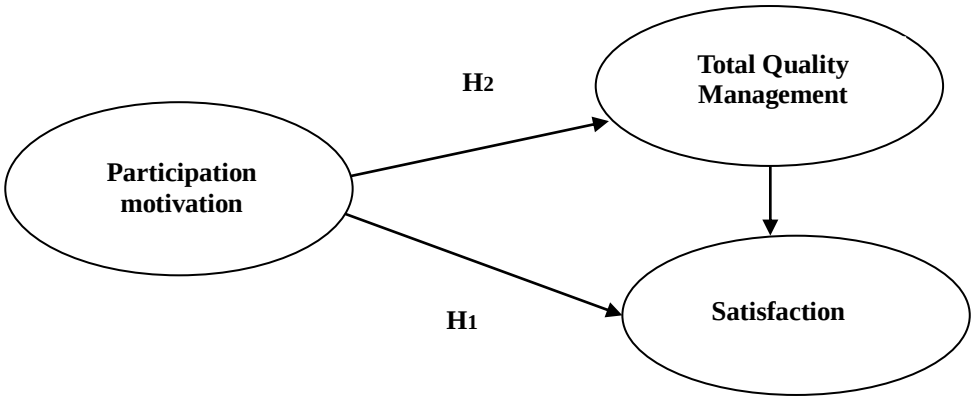

Figure1. Research Framework

3.2 Research Hypotheses

H1 : Participation motivation of participants has a significant and positive impact on their Satisfaction.

H2 : Participation motivation of participants will influence their Satisfaction through the intermediary role of TQM.

3.3 Measurement of Research Variables

This research analyzed the three variables, and the measurement of each variable is as follows.

(1) Participation motivation

The study scale is mainly based on the structure proposed by[22]. It contains four dimensions (including health &fitness, life incentives, social networking, stress relieving, leisure experience &achievement pursuit) and 12 questions to assess road runners after the introduction of participation motivation.

(2) Total Quality Management

The study scale is mainly based on the structure proposed by [37]. It contains seven dimensions (including customer relationship management, personnel training, product design management, quality information, continuous improvement, and procedure management) and 24 questions to assess road runners after the introduction of TQM.

(3) Satisfaction

The study scale is mainly based on the structure proposed by[22]. It contains three dimensions (including physical and mental, schedule, service, quality and landscape overall standard) and 9 questions to assess road runners after the introduction of participation motivation.

3.4 Research Scope and Samples

This study regarded people who had participated in running race as its subjects. Limited by this way of survey, it required the high cooperation of consumers. Convenience sampling was adopted. With the consent of the subjects, the investigation was conducted between August to November 2017. It was expected to distribute 800 copies of questionnaire.

3.5 Pre-test Questionnaire Reliability Analysis

The pre-test questionnaire sample collection was conducted on June 18, 2017, in Chiayi City. A total of 30 pre-test questionnaires were retrieved, and the reliability coefficient Cronbach's α value was used to measure the

consistency of the questions about the three variables. After reliability analysis, the Cronbach's α coefficient for participation motivation was 0.82, that for Total Quality Management was 0.88, and that for satisfaction was 0.92. According to [4], when the Cronbach's α coefficient is greater than 0.7, there is high reliability. Thus, the pre-test reliability analysis of the questionnaire showed that the research variables had reliability coefficients over 0.7, and since the scales had related literature as the theoretical foundation, the content validity was good.

IV. RESULTS

4.1 Description of the Sample Structure

Convenience sampling was employed in this study. It had distributed 800 copies of questionnaire and collected 716 copies, wherein, 59 copies were invalid, while 657 copies were valid. Hence, the recovery rate was 82.125%. It used the statistical software of SPSS to analyze sample structure. The basic data of samples covered five aspects, including gender, age, educational level, occupation, and average monthly income, whose distributions are described below in detail.

In terms of gender, most of the respondents are "male". There are 375 "males", accounting for 57.0% of the total respondents, while there are 282 females, 43.0%. With respect to age, most of the respondents are over "30-40 years old" (259 respondents, 38.5%), followed by those of "21-30 years old" (185, 27.4%), "41-50 years old" (108, 16.0%), "51-60 years old" (55, 8.2%), "61-65 years old" (42, 6.2%); and "above 65 years old (inclusive)" (26, 3.7%). In regard to educational level, most of the respondents graduated from "colleges and universities" (290, 43%), followed by those from "junior colleges" (223, 33.1%), "post-graduate schools" (132, 19.5%), and "senior (vocational) schools" (30, 4.4%). In terms of occupation, most of the respondents are engaged in "business" (229, 34%), followed by those in the service industry (185, 27.5%), "the electronic industry" (132, 19.6%), and "others" (129, 18.9%). With respect to monthly disposable income, most of the respondents have "NTD20,001-NTD35,000" (217, 32.2%),followed by"NTD35,001-NTD50,000" (172, 25.5%), "NTD50,001-NTD65,000" (136, 20.2%), "NTD65,001-NTD80,000" (95, 14.2%), "NTD80,001-NTD95,000" (34, 5.0%), and "above NTD95,001 (inclusive) (21, 3.1%)".

4.2 Reliability and Validity Analysis

This study used AMOS statistical software to carry out confirmatory factor analysis and structural equation model analysis for the dimensions of the questionnaire. First, the measurement model constructed by this study underwent testing for model fitness, reliability, and validity. In order to verify the relationship between each dimension and item, this study focused on the participation motivation, Total Quality Management, and satisfaction to engage in confirmatory factor analysis. According to [8], a composite reliability value (CR) over .6, and an average variance extracted (AVE) over .5 respectively demonstrate that the research variable scale has good convergent validity and reliability. [11]proposed that the confidence values formed by covariance and standard error do not include 1, which indicates good discriminant validity between the dimensions.

This can be calculated as follows:

$$CR=\frac{(\Sigma\lambda_i)^2}{[(\Sigma\lambda_i)^2+\Sigma\theta_i]}$$

$$AVE=\frac{(\Sigma\lambda_i^2)}{[\Sigma\lambda_i^2+\Sigma\theta_\lambda]}$$

λ=Observe the normalized load of the variable in the potential variable
θ=Observe the measurement error of the variable'

From the convergent validity and reliability of participation motivation,, Total Quality Management, and satisfaction shown in Tables1,2,and 3, it was found that all of the completely standardized factor loadings in the scales were greater than 0.5. Each item also reached the level of significance, with the CRs between 0.806 and 0.935 and the AVEs between 0.608 and 0.758, which indicated that the three variables had good convergent validity and reliability. In addition, the potential construct discriminant validity analysis showed that the bracket formed by the covariance of participation motivation, Total Quality Management, and satisfaction variable's two dimensions and plus or minus two multiples of standard error shown in Table 4, which conformed to the standard by [11]. According to the analytical results, the dimensions of this study were obtained by weighting the factor loading of each item (the significance level of α was .05).

Table1. Convergent validity and reliability analysis of participation motivation scale

Variable	Dimensions	Number of item	Normalized factor loading	Composite reliability	Extracted variance
Participation motivation	Goal achievement	A4	.830*	.814	.612
		A5	.780*		
		A6	.834*		
	Social links	A10	.793*	.856	.686
		A11	.786*		
		A12	.751*		
	Events attract	A7	.838*	.920	.738
		A8	.829*		
		A9	.720*		
	Healthy physical fitness	A1	.777*	.832	.662
		A2	.682*		
		A3	.660*		

Note: * indicates p<.05 and it reveals significant difference;

Fitness: RMR =.017; GFI =.94; AGFI =.93; NFI =.95; CFI =.96; RFI =0.93; RMSEA=.076

Table2.Convergent validity and reliability analysis of Total Quality Management scale

Variable	Dimension	Item number	Standardized factor loading	Composite reliability	Extracted variance
Total Quality Management	Product design management	B1	.860*	.812	.680
		B2	.826*		
		B3	.796*		
		B4	.782*		
	Personnel training	B5	.812*	.821	.646
		B6	.768*		
		B7	.796*		
	Customer relationship management	B8	.880*	.935	.752
		B9	.874*		
		B10	.869*		
		B11	.856*		
		B12	.855*		
		B13	.841*		
	Procedure management	B14	.899*	.806	.608
		B15	.806*		
		B16	.807*		
		B17	.690*		
	Quality information	B18	.777*	.913	.701
		B19	.850*		
		B20	.890*		
		B21	.852*		
	Continuous improvement	B22	.737*	.895	.661
		B23	.870*		
		B24	.832*		
		B25	.812*		

Note:* p <.05, which reached a significant level;
Fitness: RMR =.016; GFI =.95; AGFI =.93; NFI =.95; CFI =.93; RFI =.96; RMSEA=.055

Table3.Convergent validity and reliability analysis of satisfaction scale

Variable	Dimension	Item number	Standardized factor loading	Composite reliability	Extracted variance
Satisfaction	overall satisfaction	C7	.859*	.843	**.738**
		C8	.854*		
		C9	.779*		
	service requirements	C1	.856*	.894	**.758**
		C2	.905*		
		C3	.841*		
	quality commitment	C4	.802*	.833	**.638**
		C5	.797*		
		C6	**.787***		

Note:* p <.05, which reached a significant level;

Fitness: RMR =.015; GFI =.94; AGFI =.92; NFI =.95; CFI =.94; RFI =.97; RMSEA=.062

4.3 AMOS Empirical Analysis Results of the Research Hypotheses

Based on the analysis results, it is found that the regression coefficient of participation motivation to satisfaction is .285 p<.05, reaching a significant level. H1 is valid. Hence, participation motivation of road runners has a positive influence on satisfaction. Besides, this research probed the application of TQM to roadrunning competitions. It finds that, in terms of the four dimensions of participation motivation, road runners attach higher

importance to "Goal achievement(.938, p<.05)" of participation motivation, followed by「Healthy

Table4.Analysis of the latent facets validity of each scale

Scale	Surface comparisons		Confidence interval
Participation motivation	Goal achievement	<–> Social links	452-.577
		<–> Events attract	.462-.561
		<–> Healthy physical fitness	466-.604
	Social links	<–> Events attract	443-.567
		<–> Healthy physical fitness	.457-.568
	Eventsattract	<–> Healthy physical fitness	486-.620
Total Quality Management	Product design management	<–>Personnel training	.620-.744
		<–>Customer relationship management	.739-.820
		<–> Continuous improvement	.731-.853
		<–> Quality information	.653-.821
		<–> Continuous improvement	.756-.833
	Personnel training	<–>Customer relationship management	.575-.641
		<–> Continuous improvement	.621-.799
		<–> Quality information	.573-.634
		<–> Procedure management	.406-.498
	Customer relationship management	<–> Continuous improvement	.585-.677
		<–> Quality information	.480-.521
		<–> Procedure management	.362-.450
	Continuous improvement	<–> Quality information	.360-.448
		<–> Procedure management	.371-.477
	Quality information	<–> Procedure management	.316-.450
Satisfaction	overall satisfaction	<–> service requirements	.376-.464
		<–>quality commitment	.575-.636
	service requirements	<–>quality commitment	.621-.811

physical fitness(.910, p<.05)」for road runners to participate in the motivation of a higher level of attention. Among the six dimensions of TQM, road runners attach the highest importance to "customer relationship management, followed by "personnel training (.922, p<.05)" and "product design management (.907, p<.05)". Among the three dimensions of satisfaction, road runners attach the highest importance to "overall satisfaction (.922, p<.05)", followed by "service requirements (.909, p<.05)".

Figure 2 implies that participation motivation has a positive influence on TQM and satisfaction, respectively (.865;.285, p<.05). And TQM has a positive influence on willingness of re-participation (.496, p<.05). Therefore, this study further examined the intermediary role of the above variables. According to Tyson (2008), when the direct effect among variables is less than the indirect effect, intermediary variables are

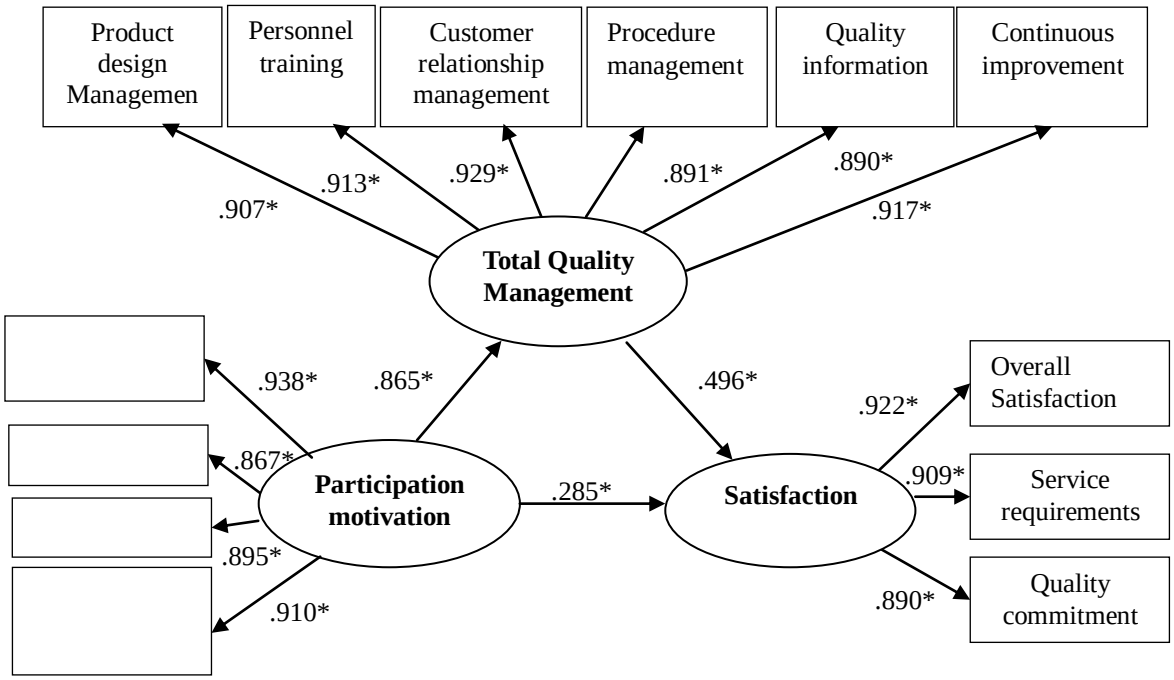

Figure2. Initial structural equation model

influential and shall be stressed. It is found that the effect value of participation motivation on satisfaction is .285. However, its indirect effect through TQM (regression coefficient, .865) and satisfaction(regression coefficient, .496), the indirect effect value is equal to .865×.496＝.429 >.285. It can be seen that participation motivation has an intermediary role in the path of influence of TQM on satisfaction. Therefore, H2 is valid. Participation motivation, through the intermediary role of TQM, affects satisfaction.

V. CONCLUSION AND SUGGESTIONS

5.1 Conclusion

5.1.1 Influence of Participation Motivation on Satisfaction

According to the results of this study, participation motivation of road runners will increase their satisfaction. In other words, when road runners have higher participation motivation, they will be more willing to satisfaction in future sports events. Figure 2 demonstrates that, among the assessment dimensions of participation motivation, the effect of "goal achievement " is the most prominent,followed by "healthy physical fitness". Among the assessment dimensions ofsatisfaction, the effect of " overall satisfaction " is the most obvious,followed by " service requirements " . Hence, road runners attach more importance to psychological

dimensions than physical ones. The results of this study imply that, the improvement of sports involvement of participants, local attractions, and value and fun of events can enhance the recognition of road running races of the participants, and deepen the professional quality of road running, especially, the factor of service requirements in the dimension of satisfaction.

In addition to the participation of sports to improve physical and mental health, coupled with high local attractions, Attracting runners to participate in the competitions can be engaged in tourism activities in the tournament is also one of the incentives to participate in the motivation.In addition, the creation of value sharing of road running, and event planning and activity arrangements, road runners will resonate with road running. Participants who are enthusiastic about and interesting in road racing will be attracted. And the impression of and attitude toward road running of the public will be changed.

5.1.2Influence of Participation Motivation and TQM on Satisfaction

The results of this study indicate that, participation motivation has a positive and significant influence on TQM. And TQM has a positive and significant influence on satisfaction. Then, this study verified the correlation among participation motivation, TQM, and satisfaction and concluded that TQM serves an intermediary role among the three variables. We can see that the important spirt of TQM is constant improvement of quality and service, meet changeable demands of consumers anytime, and competitiveness of organization [19]. Thus, road running competitions introduce TQM to enhance competition quality and satisfaction of road runners.

Road running competitions can strengthen quality management of competitions and the involvement of runners, attract the attention of the public, create positive value of road running, and improve the recognition of runners to road race. Through the creation of value of road running, road running competition organizers shall introduce the benefits of TQM, strengthen the quality of service, enhance the effectiveness of competitions, and prevent emergencies, which will increase the satisfaction of road runners and event participants with the overall events.

5.2 Suggestions

Road runnersgoal achievement and healthy physical fitness factors of participation motivation. The dimensions of satisfaction include overall satisfaction, service requirements, and quality commitment. It is suggested that sports organizers can cooperate with surrounding enterprises engaged in sightseeing and leisure industry. The characteristics of sports events and tourist attractions shall be combined to market local features, develop sports tour package. When sports events end, deep leisure and travel activities can be arranged. In addition to exercise, participants can experience local customs and alleviate pressure.

This research holds that, in terms of product design management at the beginning of competition design, the demands of participants shall be analyzed. Through customer relationship management system, activities and commodities in line shall be designed based on the characteristics and needs of different road running participants. With respect to personnel training, volunteers can be recruited. Through pre-training, volunteers will understand their service subjects so as to better support sports events. During sports events, quality information shall be provided. In the face of complaints of participants, professional knowledge and rapid response shall be leveraged on to address the problems raised by participants. When sports events end, for the purpose of continuous

improvement, relevant communication shall be collected regularly via Facebook or relevant network communication software to serve as the basis for the improvement of quality of sports events.

Then, with respect to TQM, road running competitions shall focus on customer relationship management and effectively control competition procedure management and personnel training in order to improve the satisfaction of sports participants. Second, road running competitions shall enhance the interaction with participants to learn their demands and establish correct standards for the quality of service of competitions.

To sum up, if they can marketing manage or conduct TQM well before providing service, sports organizers will definitely meet the demands of road runners, improve their perceived value, reduce the occurrence rate of service and quality gap, and enhance participants' satisfaction.

5.3 Research Limitations

This research asked the respondents to fill in questionnaire. Affected by environment, emotion, attitude, subjective cognition, or external factors, they may have reservation in their answers. This research investigated participants of road running competitions. Then, this research adopted convenience sampling to select respondents of questionnaire. The demographic variables had not been evenly distributed. It is suggested that stratified sampling can be adopted for follow-up researches. The applications of its results to other sports events are limited.

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**Corresponding Author: Chao-Sen Wu*

Associate Professor, Department of Tourism and Hospital Trans World University, Taiwan