Management and Types of Sport Facilities from the Viewpoint of Consumer Service

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Summary

This study takes as its subject two models of commercial swimming facilities in Japan, each of which provide different services. It describes, from the viewpoint of area service, the facility provision and management process that exists within these two facilities, on a technical level.

This description is dependent upon a comparative analysis of the consumers' facility-use objectives, and levels of satisfaction, in both facilities.

Objectives

When enumerating those sport facilities which support the current "Lifetime Sport" movement in Japan, school sport facilities, local public sport facilities, and sport facilities in the workplace figure prominently, but, the great variety of commercial sport facilities must also be included.

The sharp rise since 1985 in such commercial facilities as golf driving- ranges, tennis-schools and fitness- clubs, for example, has been particularly striking.

One factor in this sudden increase is the move in Japan at the moment to spread social awareness of Lifetime Sport. A further major factor, however, has been the great number of speculative ventures which were set up during the years of Japan's recent economic boom.

However, more recently, there has been a weeding- out of those ventures unable to survive in the current recession, and the focus has shifted to those surviving facilities which are truly concerned with the spread and promotion of Lifetime Sport, and which are now confronted with the need for urgent restructuring.

Mindful of the immediacy of this problem, this research looks at the management of commercial sport facilities, and analyses these facilities' consumer needs, with the objective of establishing a pattern analysis method that will aid the study of commercial sport facilities' management in the future.

Research Method

Establishing a general model

The realization of sporting activity involves an intricate interplay between such independent factors as the consumer's (the individual partaking in sporting activity) sense of his/her own desires and prerequisites; his/her attitude to, and experience of sport; and the social and environmental conditions that form the background to these factors.

Amongst these factors are those which can exert direct control on the realization of sporting activity, from a position within the sporting organization such as a school or commercial sport facility.

For example, it would be very difficult to provide extra time for those people who are too busy to partake regularly in sport. However, it is comparatively simple to provide them with a location in which sport can take place, and with a group of people with whom they can partake in sporting activity.

Udo, in his research in the field of sport serv-

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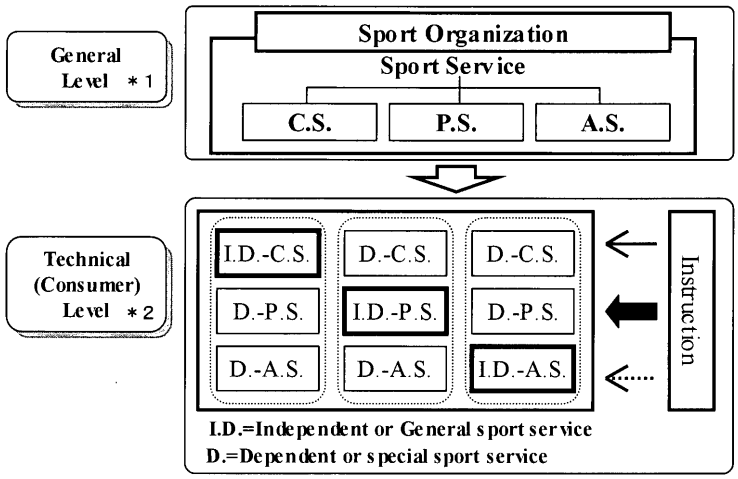

references:
**1)Udo,M.Sport Administration and Management Taishu-kan Bookshop Publishing Co.,1970,P.50*
**2)Chelladurai,P.Dimensions of Fitness Services:Development If a model, Journal of Sport Management,1897.P.163,Fig.1*

Fig.1 General Model of Sport Service

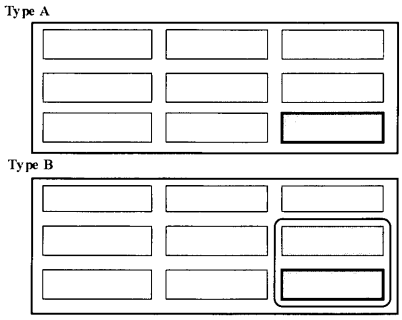

Fig.2 Facilities Type

ice provision, identifies three conditions which are direct prerequisites for the realization and support of sporting activity. These are area service (A.S.) - the management of sport facilities and equipment; club service (C.S.) - the training and education of sports' groups; and program service (P.S.) - the provision of sporting opportunities. These three conditions are all able to exert direct control on the realization of sporting activity from a position within the sporting organization, and Udo has introduced the concept of "physical education service, sport service", as the general term for the management process that regulates the three conditions.

This study makes the observation that, when seen from the general level of management structure, facilities defined as: area service (the provision and management of sport facilities and equipment), and as exemplified by infants' playgrounds or sports grounds for local residents; facilities within the program service grouping, as exemplified by facilities built for the Olympic Games; and club service facilities, that is, those operated within the context of a town club franchise; that all these facilities might be taken as illustrations of area service facilities, However when seen from the technical level of the management process, it was observed that they do, in fact, show definite differences in facility provision and management. In accordance with these observations, this study has established the general model for sport service provision, as is displayed in Figure 1.

In short then, this study presents a general model that is derived from the facilities oriented theory of sport service provision, and introduces the distinction between, on the one hand, sport facilities characterized by a reliance on the attractiveness of the facilities themselves to secure custom, and therefore to realize sporting activity; and, on the other hand, sport facilities, which have as their underlying feature, the provision of program service and club service, these services acting as the primary motives for the realization of sporting activity.

The first model is then labeled as a general, or independent sport service, and the second model as a special, or dependent sport service.

Defining the subjects of the survey

This study takes as its subject, therefore, two commercial swimming facilities which, in gen-

eral terms, could both be defined as commercial sport facilities of the area service type. The study analyzes them from the viewpoint of each facility's characteristics, which differ in that, on a technical level, Type-A (see figure 2), is a swimming facility run according to the independent, area service pattern, aiming to secure its customer base through the provision of attractive facilities and a pleasant environment. Type- B, in contrast, (also see figure 2), is a swimming facility run with the program service pattern as its fundamental condition, this being displayed in the provision of effective coaching and education, and such extra services as advice on fitness and diet. This study seeks to undertake a comparison, on a technical level, of the facility provision and management processes that exist in both facilities, with this comparison concentrating on consumers' objectives and levels of satisfaction.

Subjects of the survey

130 users of the independent, commercial sport facility, (hereafter referred to as Type-A), were asked to fill in a questionnaire.
76 questionnaires were returned, a response rate of 58.4%.

130 users of the dependent, commercial sport facility, (hereafter referred to as Type- B), were asked to fill in the same questionnaire. 75 questionnaires were returned, a response rate of 57. 6%.

The gender distribution of the users who completed the questionnaire was 50 males and 101 females. Their age distribution was 36 users between ages 20 and 29; 21 users between ages 30 and 39; 42 users between ages 40 and 49; and 50 users between ages 50 and 59.

The distribution of years of use of the facility was 49 users who had been attending the facility for less than a year; 55 users who had been attending the facility for between one and two years; and 47 users who had been attending the facility for over 2 years.

The following five choices were given in the category entitled, "Objectives of facility use" ; 1: "I want to use attractive facilities"; 2: "I come to enjoy swimming"; 3: "I come to maintain and improve my fitness"; 4: "I want to make new friends"; 5: "I come to improve my technique"

The following fourteen choices were given in the category entitled, "Level of satisfaction with the facilities"; 1: "Members of staff are polite and helpful"; 2: "There is adequate provision of space for members' socializing and interaction"; 3: "Event information and other notices are given politely and accurately"; 4: "Many events are staged"; 5: "Events are attractive to the consumer"; 6: "Goods' provision in the Pro- shop is satisfactory"; 7: "Any trouble is dealt with promptly and effectively"; 8: "The passport system and other payment methods are convenient to use"; 9: "Locker- rooms are user- friendly"; 10: "Shower- facilities and changing rooms are clean and user-friendly"; 11: 'Toilets are kept neat and clean" 12: "The facility's notice-board is clear and easy to read"; 13: The pool's water purity is suitably controlled"; 14: "Transportation facilities are good".

Analysis method

1: Using the Primary Data Analysis Method, the basic data of each choice offered in the questionnaire was calculated. A cross table of the choices was then constructed, and, using the chi- square test, a comparison was made of the responses to the questions concerning objectives of use of each facility, and also of the responses to the questions concerning levels of satisfaction at each facility.

2: Using the Multivariate Analysis Method, categorization of the choices offered for user objectives at both facilities, and of the choices offered for users' levels of satisfaction was carried out, and a discriminant analysis was also undertaken, which attempted to categorize consumers as either Type- A users or Type-B

users. The relevant sections of the Multivariate Analysis Method are "Hayashi's Quantification Method of the 3rd Type" (which corresponds to a factor analysis of quantitative variables), and also "Hayashi's Quantification Method of the 2nd Type" (which corresponds to a discriminant analysis of quantitative variables).

Results

Analysis of the subjects of the survey

An outline of the two facilities which were used as subjects in the survey, that is to say, the facilities that act as model types in this study (Type- A; Type-B); is shown in Table 1.

It can be seen that the pattern of use at Type-A facility is completely different to that which exists at Type-B facility, with pattern of use covering such factors as method of payment, type of use, and type of user.

As is shown in Table 2, this survey counted only adults amongst its subjects. An analysis of the survey's results points to a significant difference in the gender distribution of users of both facilities, and also in the number of years they have been attending the facility.

Comparative analysis of users' objectives

When the objectives of users of both facilities are compared, it is clear that the primary objective for users of both facilities is choice 3, "I come to maintain and improve my fitness". However, large differences can be seen in users' response to choice 1, "I want to use attractive facilities", which figures strongly as an objective for Type-A users; and also in choice 2, "I come to enjoy swimming", and choice 5, "I come to improve my technique", both of which are more popular amongst Type-B users. These differences can be seen in Table 3.

One conclusion that can therefore be made, is that, from the viewpoint of area service, the differences that exist between the characteristics of each facility do influence users' objectives.

Table 1. Charges for A and B facilities

A facility:Entrance

Time		1.5hours	3hours	No limit	Late-night use <9:00p.m.~
non members	Adult	1000yen	1800yen	2000yen	1000yen
	Child	800yen	1200yen	1500yen	800yen
non members	Adult	700yen	1260yen	1400yen	700yen
	Child	560yen	840yen	1050yen	560yen

Bfacility:Membership

Monthly Membership.Fee			
Infants/Kindergaten pupils Elementary-school stuents /WaterBabies	Week1 ···5500yen Week2 ···7000yen	Maternity Class	Week1 ···6000yen Week2 ···7000yen
		Youth Class	Week1 ···5000yen Week2 ···6500yen
Adults/ Health course/ Course For Female Non-Swimmers	Week1 ···5800yen Week2 ···7300yen	Adult Free Swim 11-visit ticket	6000yen (valid for 3months)

Comparative analysis of users' levels of satisfaction

Table 4 shows the results of a comparison between users' levels of satisfaction in the areas of

Table 2. Outline of the Survey's Sample

Item		Facility A		Facility B		chi-square test	
Gender	Male	35	46.1	15	20		
	Female	41	53.9	60	80	11.568	**
Age	20~29yrs	22	28.9	16	21.3		
	30~39yrs	9	11.8	12	16		
	40~49yrs	20	26.3	22	29.3		
	50 and over	25	32.9	25	33.3	1.4646	
Years' experience	Less than a year	27	35.5	22	29.3		
	Between 1 and 2 years	34	44.3	21	28		
	More than 2 years	15	19.7	32	42.7	9.7256	**
			(%)		(%)		

**:p<.01

Table 3. Comparison of Objective Variable

NO.	Variables	Facility A				Facility B				chi-square test
		Yes	%	No	%	Yes	%	No	%	
1)	Attractive facilities	32	42.1	44	57.9	1	1.3	74	98.7	36.7432 **
2)	To enjoy swimming	26	34.2	50	65.8	46	61.3	29	38.7	11.1317 **
3)	To maintain and improve fitness	61	80.3	15	19.7	65	86.7	10	13.3	1.1204
4)	To make new friends	8	10.5	68	89.5	12	16	63	84	0.9842
5)	To improve technique	4	5.3	72	94.7	14	18.7	61	81.3	6.4589 **

**:p<0.01

service provision, supplementary facilities and management conditions at both facilities.

Users of both facilities recorded a high level of satisfaction in their response to choice 1, "Members of staff are polite and helpful". However, significant differences in levels of users' satisfaction at Type-A and Type- B facilities were recorded in the following instances choice 2: 'There is adequate provision of space for members' socializing and interaction"; choice 3: "Event information and other notices are given politely and accurately"; choice 4: "Many events are staged"; choice 5: "Events are attractive to the consumer"; choice 10: "Shower- facilities and changing- rooms are clean and user- friendly"; choice 11: "Toilets are kept neat and clean"; choice 12: "The facility's notice-board is clear and easy to read"; choice 14: "Transportation facilities are good".

In short, satisfaction levels are particularly high in the case of Type-A facility with regard to supplementary facilities, as shown in the high rate of response to choice 10, "Shower- facilities and changing- rooms are clean and user-friendly; and also to choice 11, "Toilets are kept neat and clean". In the case of Type-B facility, on the other hand, particularly high levels of satisfaction were recorded for choice 14, 'Transportation facilities are good".

It could, therefore, be concluded that the differences that exist between the characteristics of each facility do influence users' levels of satisfaction.

Table 3. Comparison of Objective Variable

NO.	Variables	Facility A				Facility B					
		Yes	%	No	%	Yes	%	No	%		
1	Staff behaviour	64	84.2	12	15.8	69	92.0	6	8.0	2.181	
2	Communication	16	21.1	60	78.9	40	53.3	35	46.7	16.859	**
3	Events' Information	16	21.1	60	78.9	38	50.7	37	49.3	14.411**	
4	Number of Events	2	2.6	74	97.4	20	26.7	55	73.3	17.520	**
5	Events' contents	1	1.3	75	98.7	16	21.3	59	78.7	15.140	**
6	Pro-shop	7	9.2	75	90.8	14	18.7	61	81.3	2.819	
7	Response to trouble	14	18.4	62	81.6	24	32.0	51	68.0	3.696	
8	Passport cost	42	55.3	34	44.7	40	52.2	35	46.7	0.057	
9	Locker-rooms	30	39.5	46	60.5	40	52.2	35	46.7	2.917	
10	Showers and changing-rooms	56	73.3	20	26.3	37	49.3	38	50.7	9.462	**
11	Toilets	47	61.8	29	38.2	25	33.3	50	66.7	12.298	**
12	Notice board	18	23.7	58	76.3	33	44.0	42	56.0	6.965	**
13	Water quality	31	40.8	45	59.2	41	53.7	34	45.3	2.914	
14	Transportation	30	39.5	46	60.5	58	77.3	17	22.7	22.253	**

**:p<0.01

Categorization of users' objectives and levels of satisfaction

The analysis method known as "Hayashi's Quantification Method of the 3rd Type", was used to attempt a categorization of the facility-use objectives and satisfaction levels that were examined above. The results of this categorization are recorded in Figures 3 to 6.

The first step was to divide facility-use objectives into two categories; namely, the equipment category, with "attractive facilities" as its focus; and the program category, which concentrates on "improvement of technique" and "enjoyment"

This sub- division is displayed in Figure 3. These two categories can be further defined as "equipment- oriented type" in the former case, and "program learning type" in the latter case.

The users' sample scores were then plotted, and the results of this step are shown in Figure 4, Scores of users of Type- A facility can be seen to be distributed largely in the domain of "equipment- oriented type", whilst those for us-

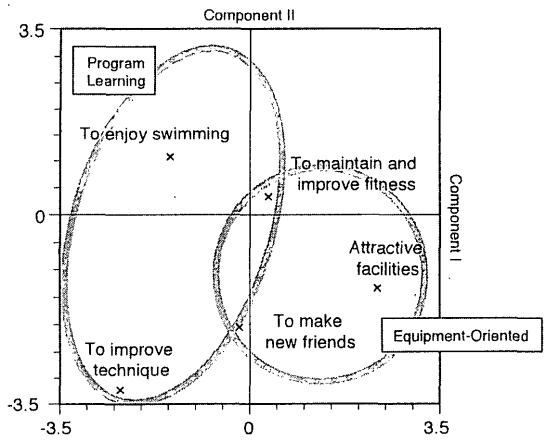

Fig.3 Distribution of the Objective's Category

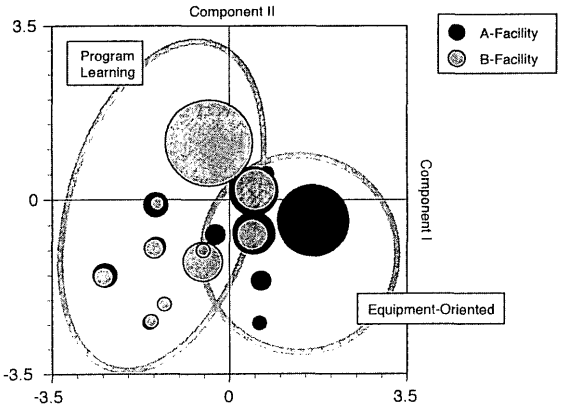

Fig.4 Distribution of the Objective's Category
(Distinguishing between Users of A and B)

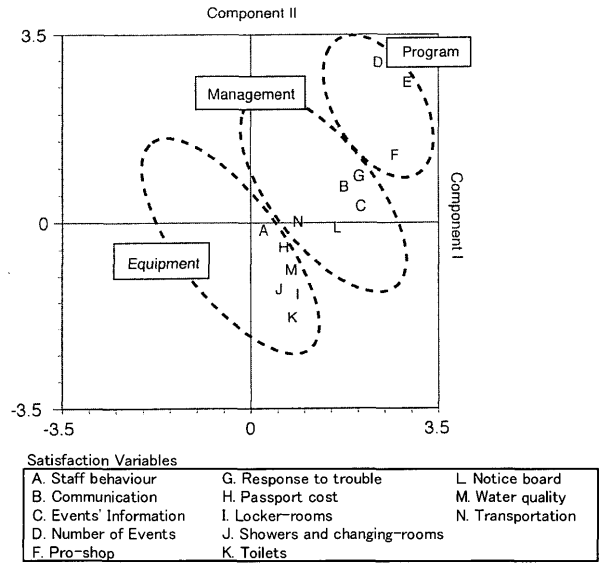

Fig.5 Distribution of the Satisfaction Category

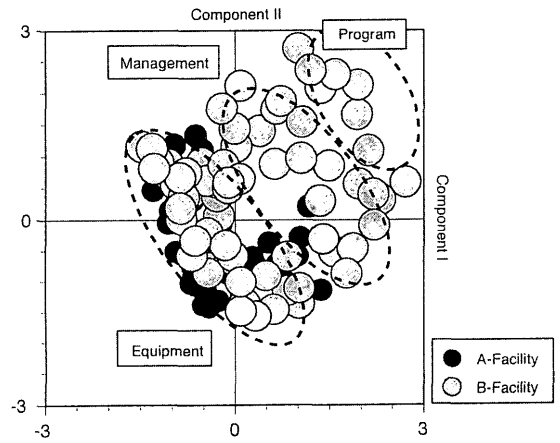

Fig.4 Distribution of the Objective's Category
(Distinguishing between Users of A and B)

ers of Type-B facility fall largely in the domain of "program learning type".

These results further confirmed that the differences that exist between the characteristics of each facility; that is to say, differences in the attractiveness of facilities and services offered; strongly influence users' objectives.

Similarly, an analysis was attempted of the levels of users' satisfaction at both facilities. The results of this analysis can be seen in Figure 5, where a rough classification into three groups is evident.

Group 1 consists of choice D, "Many events are staged"; choice E, "Events are attractive to the consumer"; and choice F, 'Goods' provision in the Pro- shop is satisfactory".

Group2 is made up of choice G, "Any trouble is dealt with promptly and effectively"; choice B, 'There is adequate provision of space for members' socializing and interaction"; choice C, "Event information and other notices are given politely and accurately"; choice L, 'The facility's notice board is clear and easy to read"; and choice N, "Transportation facilities are good". Finally, group 3 includes choice K, "Toilets are kept neat and clean" choice I, "Locker- rooms are user- friendly"; choice J, "Shower- facilities and changing rooms are clean and user friendly" choice M, "The pool's water-purity is suitably controlled"; choice H, "The passport system and other payment methods are convenient to use"; and choice A, "Members of staff are polite and helpful".

For the purposes of this study, these three groups were categorized as "Program Item" for group 1; "Management Item" for group 2; and "Equipment Item" for group 3. The next step was to plot these items together with the users' sample scores. This step is recorded in Figure 6 It was found that users of Type- B facility clearly fall within the domain of "Program Item", whilst users of Type-A facility fall largely within the domain of "Equipment Item".

Extraction of primary factors in users' levels of satisfaction.

The Factor Analysis Method was used to analyze the items regarding users' levels of satisfaction with the facilities. This analysis can be seen in Table 5. "Program Principal Factor" has been extracted as factor 1; "Management Principal Factor" as factor 2; and finally "Equipment Principal Factor" as factor 3.

Primary factors in stipulating a distinction between Type-A and Type-B

The items regarding users' levels of satisfaction, as outlined above, were analyzed according to "Hayashi's Quantification Method of the 2nd Type". The aim was to attempt a theoretical distinction of consumers as either Type- A or Type-B users.

The results of this analysis are shown in Table 6, and show that the theoretical distinction based on users' responses to user- satisfaction items, that is, what items contribute to their satisfaction with the facilities, proved to be correct in 80% of cases when compared with those consumers' actual membership of Type-A or Type- B facility.

It was therefore concluded that the distinction of consumers according to factors contributing to their levels of satisfaction with a facility, is closely linked to the distinction of facility according to those characteristics which are influential in customer attraction.

In other words, it can be said that, as far as area service is concerned, for a service-type which focuses on facility and equipment management, an analysis of users' levels of satisfaction with the facilities is indispensable to management policy- making and decision- making.

In addition, Table 7 shows the results of a Primary Factor Analysis which used the user satisfaction items listed above (concrete technical items) and which helps to explain use of both facilities; and also their category coefficients (satisfaction; dissatisfaction), these category

Table 1. Charges for A and B facilities

NO.	Name of Variable	F1	F2	F3	h
	[Program Factor]				
5	Events' contents	0.8142			0.6676
4	Number of events	0.8026			0.6775
6	pro-shop	0.4469			0.2901
	[Management Factor]				
12	Notice boardc		0.623		0.4884
3	Events' information		0.5595		0.5761
2	Communication		0.5105		0.4505
14	Transportation		0.4952		0.2404
7	Response to trouble		0.4391		0.3532
	[Equipment Factor]				
11	Toilets(B)			0.712	0.5304
10	Showers and changing-rooms(A)			0.6396	0.4402
9	Locker-rooms			0.4457	0.3498
13	Water quality			0.4258	0.1873
	Proportion (%)	18.0989	13.925	11.737	
	Cumulative proportion (%)	18.0989	32.0239	43.7609	

Table 6. Discrimination Rate

practical Values \ Theoretical Values	Facility A	Facility B	Total
Facility A	61	15	76
Facility B	13	62	75
	74	77	

Percentage of correct classification 81.457%

Table 7. Function Coefficient of the Satisfaction Valiables

(criteria)=Type A and Type B Facility

No.	Item	Category	category score	Range	Order	B-Facility -0.5	A-Facility 0.5
1	Staff behaviour	Satisfaction Dissatisfaction	-0.02719 0.20097	0.22816	11		
2	Communication	Satisfaction Dissatisfaction	-0.34436 0.20299	0.54735	5		
3	Events' Information	Satisfaction Dissatisfaction	-0.24115 0.13424	0.37539	8		
4	Number of Events	Satisfaction Dissatisfaction	-0.20839 0.03554	0.24393	10		
5	Events' contents	Satisfaction Dissatisfaction	-0.66392 0.08423	0.74815	3		
6	Pro-shop	Satisfaction Dissatisfaction	-0.06040 0.01066	0.07670	14		
7	Response to trouble	Satisfaction Dissatisfaction	0.12246 -0.04118	0.16364	12		
8	Passport cost	Satisfaction Dissatisfaction	0.13949 -0.16577	0.30526	9		
9	Locker-rooms	Satisfaction Dissatisfaction	-0.19855 0.18023	0.37878	7		
10	Showers and changing-room	Satisfaction Dissatisfaction	0.29727 -0.31631	0.61358	4		
11	Toilets	Satisfaction Dissatisfaction	0.47796 -0.43561	0.91357	2		
12	Notice board	Satisfaction Dissatisfaction	0.10377 -0.05291	0.15668	13		
13	Water quality	Satisfaction Dissatisfaction	-0.19966 0.18197	0.38163	6		
14	Transportation	Satisfaction Dissatisfaction	-0.38257 0.53439	0.91696	1		

coefficients acting as function coefficients. The criteria for this analysis were the same Type- A and Type- B facility as were used as subjects in this study's survey.

To summarize then, those items which were found to be very influential in determining distinction as a Type-A or Type-B user, (their influence rating being dependent upon the extent of disparity between coefficients), were, in descending order of influence; choice 14, "Transportation facilities are good"; choice 11, 'Toilets are kept neat and clean"; choice 5, "Events are attractive to the consumer" and choice 10, "Shower-facilities and changing- rooms are clean and user-friendly".

The conclusion can therefore be made, that consumers' sense of satisfaction or dissatisfaction regarding those items categorized as user- satisfaction items, strongly influences membership of Type-A facility or of Type- B facility.

Conclusions

In conclusion, then, an attempt was made to identify ways of improving, on a technical level, future management processes at Type-A facilities, (the general, independent facility), and at Type-B facilities, (the special, dependent facility), thus distinguished by reference to characteristics of the facilities which attract the consumer. The recommendations that follow are based on the various analyses described above.

In the case of Type-A facilities, since custom is secured through the attractiveness of the facilities themselves, with this quality facility provision being the main impetus for the realization of sporting activity, the most important point that needs to be addressed at this facility is development of a management plan for improving transport provision. Any plan should be directly experienced by the consumer both on a psychological level and a physical level.

However, this kind of change in a facility's location cannot easily be brought about, and therefore, in the first instance, a management plan for improvement within the framework of the existing location and transport conditions should be considered. This plan should take into account the Program Item and Management Item conditions that are primary factors influencing levels of satisfaction at Type B facility.

In the case of Type B facilities, a provider of swimming lessons and group-use facilities, there should, of course, be ongoing review and improvement of Program Service, such as the organization of events. At the same time, however, improvements in Area Service must be introduced as soon as possible. These would focus primarily on the Equipment Item of area service, and would include improvements to shower-facilities and toilets, for example, which are indispensable to post-activity enjoyment.

This study has shown, therefore, that, for the purposes of management of commercial sport facilities defined as being in the Area Service category, consideration of the results of a comparative analysis of consumers, as regards their evaluation of the facilities' characteristics, is of far greater help in effecting improvements in equipment provision and management, when this comparative analysis is approached from a technical level.

When approached simply from a general level, the results of the comparative analysis prove to be difficult to include as factors in management planning.

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