ARTICLE TITLE	ASSESSMENT OF THE QUALITY OF LEISURE PARKS USING THE IPA-KANO INTEGRATIVE APPROACH TO SATISFACTION, CASE TITO PARK, ALGERIA
ARTICLE INFO	Soraya Kentache, Aicha Boussoualim. (2024) Assessment of The Quality of Leisure Parks Using The Ipa-Kano Integrative Approach to Satisfaction, Case Tito Park, Algeria. *International Journal of Innovative Technologies in Social Science*. 4(44). doi: 10.31435/ijitss.4(44).2024.2973
DOI	https://doi.org/10.31435/ijitss.4(44).2024.2973
RECEIVED	12 October 2024
ACCEPTED	05 November 2024
PUBLISHED	09 November 2024
LICENSE	The article is licensed under a **Creative Commons Attribution 4.0 International License.**

ASSESSMENT OF THE QUALITY OF LEISURE PARKS USING THE IPA-KANO INTEGRATIVE APPROACH TO SATISFACTION, CASE TITO PARK, ALGERIA

Soraya Kentache (Corresponding Author)
LAE architecture and environment laboratory, Polytechnic School of Architecture and Urban Planning EPAU, Algiers, Algeria

Aicha Boussoualim
LAE architecture and environment laboratory, Polytechnic School of Architecture and Urban Planning EPAU, Algiers, Algeria

ABSTRACT

Leisure parks provide innumerable benefits in terms of social well-being and economic advantages, hence the importance for managers to assess their condition and determine the beneficial actions to be taken. The physical and functional attributes of parks are key indicators of quality; especially, if they are inspected from the perspective of user satisfaction. Although previous studies have incorporated satisfaction, few have used management tools together in developing countries. This paper proposes the simultaneous use of importance-performance analysis (IPA) and the Kano model as an integrative approach to satisfaction to assess the quality of recreational parks. Tito Park in Algiers used as a case study, was the subject of two methods: first qualitative-exploratory by 116 interviews (2016-2017) on the sociocultural variables of visitors, and quantitative-empirical by IPA-Kano statistical analysis against 36 attributes hierarchized in 7 families of quality criteria. The results reveal a divergence of visitors' opinions against these attributes within the same family of criteria; this is reinforced by a disparity between the degrees of importance and satisfaction that users allocate to them. This research offers a pragmatic tool to help with targeted and optimized decision-making and design as a means of requalification of the landscape. Because it elucidates the state of the recreational offer and points out the contextual characteristics to be promoted in order of priority by integrating the dimensions: perceptual and time. In the future, two or more parks can be compared using these or other tools by aggregating more attributes.

Introduction.

Today, in the era of economic peak and societal development, access to leisure and nature is becoming a necessity to ensure well-being in the city (Mansfield et al., 2020; Sirgy et al., 2017). Recreational areas as an aesthetic and attractive landscape are real insights (Qiu et al., 2013). They generate countless benefits (Henderson, 2014; Colman et al., 2022) especially in the tourism sector, as they attract millions of visitors (Pine & Gilmore, 2013). So much research in different academic sectors: social, economic and tourism is continually progressing to achieve relevant tools for evaluating the quality of leisure parks (Kessel et al., 2009; Oliphant et al., 2019). However, most are faced with the challenge of the complex and multidimensional nature of these spaces, which combine a multitude of factors that are often difficult to quantify and prioritize (Del Giudice et al., 2021). On the one hand, they must be a careful response to: the needs and practices of visitors, focusing on the satisfaction parameter (Zolfaghari & Choi, 2023). On the other hand, they must effectively

guide the planning and management of these spaces (Gowda et al., 2008). The exploration of the literature has shown that on a global scale, and over the last decade, there is increasing research in various fields that integrate generic quality tools taking into account satisfaction (Cavnar et al., 2004; Kaczynski et al., 2016; Bahriny & Bell, 2020).

The satisfaction approach used in environmental assessment generally takes place at various scales ranging from the urban landscape to the smallest public space and addresses one or more parameters (F. E. Kuo et al., 1998). This approach explores the perception of visitors during their interactions with the leisure space to determine their needs and expectations (Arabatzis & Grigoroudis, 2010). Satisfaction with an environment, such as a leisure park, depends on the conformity of its attributes to social and cultural dimensions (R et al., 2011); and also to the perceived needs of its visitors (Huai & Van de Voorde, 2022; Kong et al., 2022). (R. Liu & Xiao, 2021) consider that satisfaction is directly influenced by two types of factors: internal, which are the physical characteristics of the parks (facilities, management and maintenance), and external, which are related to users and their negative or positive impressions. The adequacy of these two physical characteristics and services to the real needs and expectations of users therefore informs on the quality of open leisure spaces (B. Chen et al., 2009). In this sense, (Wade & Eagles, 2003) invite to detect the order of importance of the most sought after and motivating attributes and to estimate the gaps and gaps in the quality offered. While (Theodorakis et al., 2013) orient towards the examination of the offer and the discovery of the opportunities that generate the desire to stay longer and the motivation to revisit the space; or even the force to attract and retain consumers (Bhattacharyya & Rahman, 2004). (Hansen & Hennig-Thurau, 1999) consider that the evaluation of user satisfaction even before the creation of the product is very feasible because it allows to reduce costs and to quickly provide satisfactory products for users. This helps not only to estimate the program and design elements of a leisure space; but also to generate effective strategies for long-term planning and management of leisure parks.

In this article, the approach to evaluating leisure parks takes into account its performance in satisfying its users (Praliya & Garg, 2019). Several service quality evaluation models have been developed in the field of strategic marketing. They particularly deal with the process of customer interaction with the proposed product to measure the quality of services and identify the gap between the offer and the perception; this is the case of the models: SERVQUAL, SERVPERF (Parasuraman et al., 1988; Cronin & Taylor, 1994). In this paper, interest is given to the simultaneous use of IPA and Kano (Y.-F. Kuo et al., 2012; Yin et al., 2016; S.-C. Chen & Liu, 2023; Jiang et al., 2023). Recents similar research has addressed the quality assessment of different park typologies such as: zoo (Lee, 2015), theme parks (S. Li et al., 2020), national park (W.-Y. Liu et al., 2023). However, this field of study remains very little explored in developing countries such as Algeria. The political will to promote and renovate urban parks to improve the well-being of citizens while maintaining the ecological and climatic balance exists (Boudab et al., 2023), but taking into account the satisfaction and real needs of users is not clearly defined. Although much research at the local level has addressed the concept of satisfaction (Hafsi, 2024), most of it is based on recommendations that are sometimes very subjective and without effective decision-making consequences. This study aims to fill the gaps in the existing literature by proposing an integrated approach that combines importance-performance analysis (IPA) (Martilla & James, 1977) and the Kano model (Kano et al., 1984) to assess the quality of amusement parks. The main objective is to provide an effective tool to support the design and management of amusement parks to assess real attributes based on visitor satisfaction and to point out avenues for quality improvement.

This study falls within the field of research-application. The spatial components taking into account the perception of users are recorded on site, then analyzed and statistically processed. This article proposes to verify the quality of the park by its real attributes: physical and functional. The main question of this research is therefore: how could the integration of user satisfaction in the IPA-Kano tools help to evaluate the quality of leisure parks and guide requalification actions? Several hypotheses have been put forward:

1) The holistic evaluation of the leisure park can be approached by questioning the various types of users on the level of their satisfaction with the divergent attributes;

2) The hierarchical attributes of the park have a non-linear impact on user satisfaction, only the managerial approach such as IPA-Kano is able to weight to inform on the significant gap in quality;

3) IPA-Kano can together guide and confirm the requalification actions of the leisure park, while reconciling users and managers.

Objectives to be achieved:

1) Define the conceptual framework for assessing the quality of leisure parks including: the status of users and their practices, the quality criteria and the attributes derived from them;

2) Apply the combined IPA-Kano analysis to the case study, and identify satisfaction and quality gaps for each attribute;

3) Confirm by the concordance of the IPA-Kan results, the quality status of each attribute and the order of priority of the requalification actions to be undertaken to satisfy users.

Methods and Materials.

This paper adopts three interconnected approaches : The first approach is done by characterizing the components and forms of the space; the second focuses on identifying visitors' judgments; and a final prospective stage of concretizing the objectives is proposed (Fig. 1):
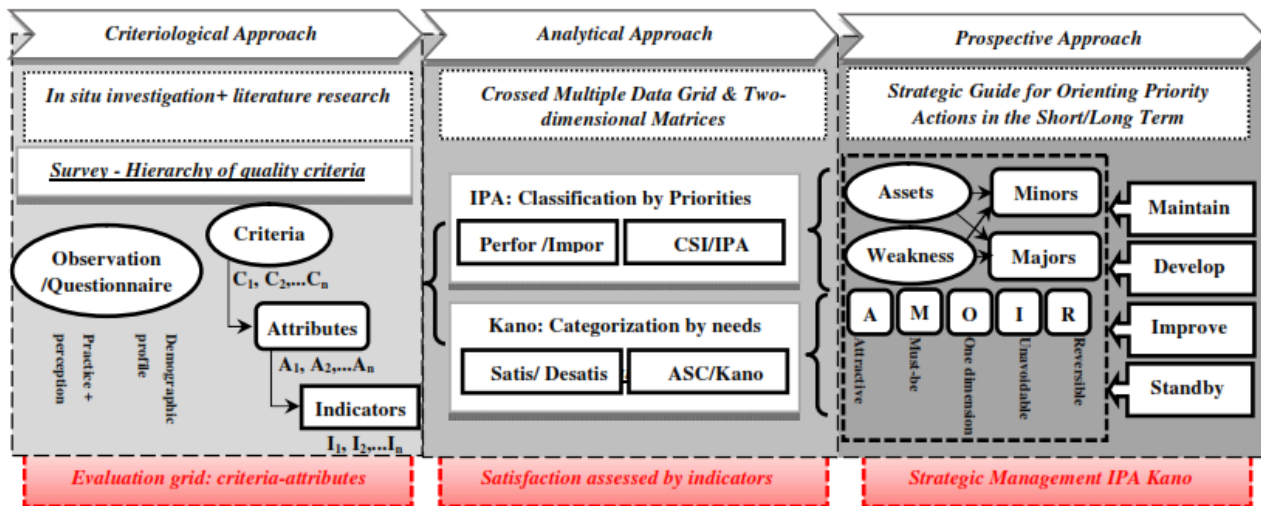

Fig. 1. Approaches used for quality assessment of leisure parks by IPA-Kano

1. The criterion approach.

An inventory of the characteristics of Tito Park and the mode of its attendance is made by observation. To collect data on the socio-demographic profile of the subjects as well as their opinions/expectations, a representative sample (N = 116 users) was the subject of a survey by direct interviews with closed questions. In order to integrate various temporalities, this survey took place in two phases: summer–fall 2016, and winter–spring 2017; with a repeated variation of time: hours, days, seasons and with a diversification of the subjects in: gender, composition, places and practices. This made it possible to determine: the categories of visitors, the occasion of attendance, the radius of influence of the park, the activities practiced. The observation and the literature review were used to prepare an evaluation grid of seven families of criteria derived hierarchically from 36 attributes (Table 4). Subsequently, users were approached on: the degrees of satisfaction/importance and the five Kano needs of these attributes.

2. The analytical approach

During the questionnaire, users were asked to give their opinion on 36 attributes of the park. The responses were statistically processed by scores and percentages on SPSS and Excel; in order to identify the matrices of multiple variables as well as the IPA-KANO diagrams.

the Likert scale of 5 to separate the responses and determine the averages Mean in score/percentage of satisfaction and importance by attribute, are proposed:

- Five responses/scores on the level of satisfaction: very dissatisfied = 1, dissatisfied = 2, neutral = 3, satisfied = 4, very satisfied = 5.
- Five responses on the level of importance: very little important = 1, little important = 2, neutral = 3, important = 4, very important = 5.

By ranking the average scores find the Rank Ranks of each attribute (table 1). The highest score indicates the primacy of the attribute in performance or importance

- The standard deviation or standard deviation S.D here informs about the dispersion of opinions from each other. The use of this index helps to point out where the defects reside and reduce the variations to ensure that the expected average is approached. The more SD increases, the more the defects decrease.
- Compare the T.Test one-sample-t-test t calculated for each attribute to the T-Test of the reference table equal to 1.984 for the sample N = 116 and two-tailed test (ρ<0.05). If the absolute T-Test calculated are larger, this implies that there is a statistical significance of the responses and otherwise, there is no statistical significance;
- Detect the justified meaning of the scores for each attribute, that is, the level of satisfaction/importance according to the membership of the mean to which column below.

Table 1.
Likert scale defined by levels and meaning of scores according to the fields

Levels meaning answers	Low		Moderate	Hight	
Meaning of scores attributes	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied,
	Not at all essential	Non-essential	Neutral	Essential	Very Essential
Average mean*	1.8 - 1	1.8- 2.6	2.6 - 3.4	3.4 - 4.2	4.2 - 5

* 0.8 coefficient of variation = highest value (5) - lowest value (1)) / highest value (5).

- Determine the relationships between the level of performance and importance by calculating the bivariate correlations of the means of the two variables for each attribute to discover the hidden trends in the respondents' data. Here, it is the value of the correlation coefficient r (the Pearson index, for α= 0.05) that reveals the gap by respecting the inequality $+1 \geq r \geq -1$.
- Calculation of the Z-test for the different gaps between performance and importance
- Plot and analyze: the histogram of the variations in the importance/performance percentages
- Visualize on the quadrant graph or Matrix Grid Importance/Performance:
- Use the Kano questionnaire where each attribute has a pair of questions: functional (If the attribute meets your expectation, what is your impression?) and dysfunctional (If the attribute does not meet your expectation, what is your impression?) (table 2)
- Use the Kano filter table or analysis grid to objectively and systematically divide users' responses into categories of needs (by crossing the possible responses (Matzler & Hinterhuber, 1998) using the Likert scale of 5: I like it, I don't like it, I'm happy with it, I'm indifferent, it must be like that.

Table 2.
Kano's evaluation table (Berger et al., 1993)

Functional	Dysfunctional				
	Like	**Must-be**	**Neutral**	**Live-with**	**Dislike**
Like	Q	A	A	A	O
Must-be	R	I	I	I	M
Neutral	R	I	I	I	M
Live-with	R	I	I	I	M
Dislike	R	R	R	R	Q

(**A** : Active, **M** : Must have, **O** : One dimensional, **I** : Indifferent, **R** : Reverse)

• Determine the statistical significance of the Kano results by Fong's test, to decide the belonging of the attributes to the category with the highest score, but on condition of the fulfillment of the inequality:

$$|a - b| < 1,65\sqrt{\frac{(a+b)*(2n-a-b)}{2n}} \tag{1}$$

a total frequency of the most frequently given category

b total frequency of the category in second position

n total sum of the responses/respondents included (s).

- The strength of a category shows to what extent a category is distinct from the others. The balance technique is carried out by a comparison between positive and negative evaluations. The positive encompasses the categories: enthusiasm, performance and threshold attributes, while doubtful, indifference and rejection categories are negative

-

$$CSt = \% \; most \; frequent \; responses \; (1st - 2nd) \tag{2}$$

Category Strength : CSt > 5% required to confirm that the attribute is unequivocally in the category and distinct from the other

$$TSt = \% \; (A + O + M) \tag{3}$$

If **total Strength** TSt >50%, implies the attribute is distinct and important,

If (A + O + M) > (I + R + Q), take the higher value between A , O or M .

If (A + O + M) < (I + R + Q), we take the highest value between I, R or Q

If A=O=M, or the difference, the result is less precise, so apply the weighting

If A>O>M, the same attribute is classified in the three categories

- Illustrate with a Frequency Distribution graph the variability of the categories of needs by attribute. Identify especially the critical cases where the total force is

- Calculate statically standard deviation S.D of the needs to identify the dispersions of the responses

- Calculate the coefficient of satisfaction CS, the coefficient of dissatisfaction CD and the average satisfaction ASC This, using three formulas of variables based on the primacy of certain attributes over others:

$$CS = \frac{(A+O)}{(A+O+M+I)} \tag{4}$$

This coefficient of Satisfaction CS (equation 4) varies from zero to one, if its value approaches zero, this means that the requirement has less influence on user satisfaction; in the case where this value is close to one, that is to say that the total gap is significant and the satisfaction is remarkable. This coefficient reveals the limits of influence of the variation of satisfaction between compliance with prerequisites and avoidance of disappointment.

$$CD = \frac{(O+M)}{(A+O+M+I)} * (-1) \tag{5}$$

Here, dissatisfaction is generated the more important the interval is between the essential and one-dimensional attributes with the other variables (equation 6). This coefficient varies from zero to minus one, and indicates the two limits of the dissatisfaction of the requirements. While the values of the requirements that tend towards minus one, inform about their great impacts on the dissatisfaction of the users, and therefore not to include them. Those that are close to zero have less impact on the dissatisfaction, but those with a zero score have no impact on the satisfaction of the users and it does not matter whether the requirement is satisfied or not.

$$ASC = \frac{(|CS|+|CD|)}{2} \tag{6}$$

The two coefficients CS and CD illustrate the different impacts of the attributes on user satisfaction and dissatisfaction. For any future improvement, it is advisable to focus on the attributes that most stimulate satisfaction and reduce dissatisfaction.

- Find the meaning of the calculated ASC score and represent the results of equations: 4, 5, 6 to have an overview of the satisfaction trend by indicator (table 3)

Sens of ASC	Not satisfied	Not very satisfied	Quite satisfied	Satisfied	Very satisfied
Costumer Satisfaction Index	0,00 – 0,34	0,35 – 0,50	0,51 – 0,65	0,66 –0,80	0,81 – 1,00

Cross the results on the Kano matrix and Represent them on the Kano Graph to categorize attributes.

Prospect the decisions of: deletion, improvement, or conservation possible on the basis of the criticality of the amusement place by its visitors. Classification of functional priorities in four levels: essential quality (M) > one-dimensional quality (O) > attractive quality (A) > indifferent quality (I).
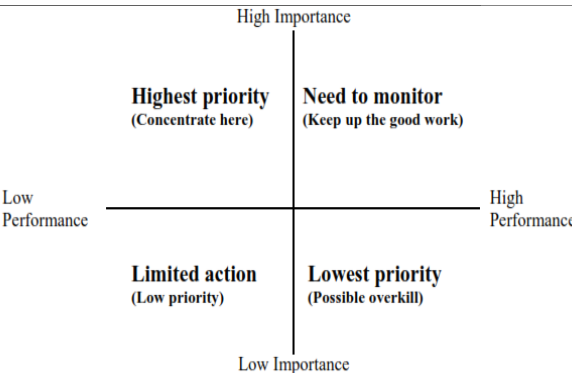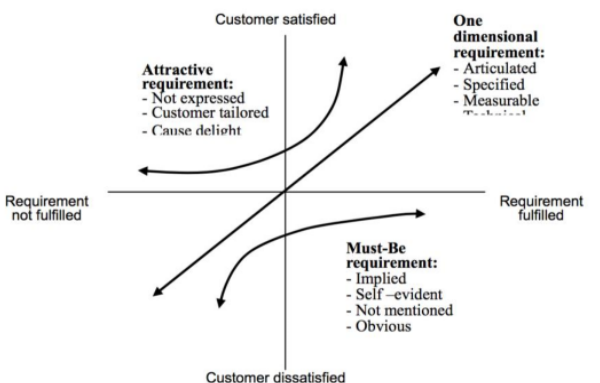
To ensure that the results of the park quality assessment are significant and credible, statistical tests are used to verify the validity and reliability of the calculated data compared to the thresholds: R of robustness with one degree of freedom (n-2 = 114), and Alpha Cronbach ≥ 0.70. This rigorous methodology has its future scope on the applicability of IPA-Kano.

3. The prospective approach IPA Vs Kano

In the interpretation phase of the results and discussions, the graphic representations on histograms and the IPA-Kano diagram indicate the category of each attribute taking into account its importance/performance and satisfaction.

The IPA-Kano tools appear complementary (table 4); they agree on the principle of identifying objective and subjective attributes from the visitors' experience to assess the quality of the park.

Table 4.
Comparison between IPA and Kano methods

	IPA (Martilla & James, 1977)	KANO (Kano et al., 1984)
IN PUT	Combines qualitative and quantitative methods (Yu et al., 2018). Integrates data from social surveys to compare users' perceived needs and expectations with their experiences (Gai et al., 2023).	Categorizes different characteristics of leisure parks according to the perceived needs and expectations of users (S.-C. Chen & Liu, 2023) - Objectives : physical and functional aspects - Subjective : perceptions (preferences and expectations).
	 Fig. 2. Hierarchical two-dimensional grid of IPA satisfaction (Martilla & James, 1977)	 *Fig. 3. Graph and Evaluation Table by Kano model (Matzler & Hinterhuber, 1998)*

OUT PUT	This Cartesian diagram composed of four quadrants (Oh, 2001) where the importance and performance scores of the attributes are measured and then reported jointly and respectively on the axes: vertical and horizontal; it results in the quadrants Q: **QI** "keep up the good work": Attributes perceived as very important and very efficient; these are the major assets of the site to be monitored regularly to maintain satisfaction; **QII** "high priority: concentrate here" these variables considered very important and with low performance; these are the major weaknesses of the site that require special attention and consolidation; **QIII** "low priority" these variables with very low importance and performance, are the minor weaknesses of the site that do not require investment of resources. **QIV** "possible overpowering" the very efficient and low importance attributes; these are the minor strengths of the site that do not require investment. Note that the position in a quadrant influences (Oh, 2001): the more an attribute is to the outer corner of the grid, the clearer the implications for action; the closer an attribute is to the center of the grid, the more ambiguous its position.	This model distinguishes five categories of quality requirements according to their impacts on the level of satisfaction and accomplishment. **A Attractive** "wow factors" curve at the top: these attributes of enthusiasm have a considerable impact on competition and satisfaction. Their presence is not explicitly expressed, but generates user pleasure. A feeling of dissatisfaction is generated in the event of their absence; over time, excitement factors tend to become essential requirements. **O One-dimensional** diagonal line: attributes whose degree of accomplishment is positively linear to the degree of satisfaction; they must be present to meet user expectations and to compare in the event of competition; **M Essential** "prerequisite minimum thresholds": basic requirements not systematically requested and without significant impact on user satisfaction, but their absence automatically leads to an exponential drop in the level of satisfaction and disinterest. hence the requirement of their presence **I Indifferent:** attributes without preference whose presence or absence does not cause any satisfaction or dissatisfaction. **R Reversible**: unwanted rejection attributes whose presence causes dissatisfaction and whose absence leads to customer satisfaction

Results and Discussions.

1. Results of the Observation of the case study

The leisure park "Josif Bros Tito" inaugurated in 1984, is located in Bab Ezzouar, Algiers Eastern Province. This park covers an area of 21.4 acres, is surrounded on these sides: North of the RN°05 leading to the international airport and passing by the Jardy hotel; East, South and West by residential cities. Note that the commune of Bab Ezzouar is known for its high density of resident population 96,597 inhabitants (ONS, 2009). Also, by its administrative, hotel and university vocation, in additional to its service in terms of road network and transport.

This leisure area is under the supervision of the local authority "APC" of Bab Ezzouar, but the management of green spaces is subject to the EPIC EDEVAL, and waste collection is done by Extra net. Tito Park offers public features facilities such as: natural scenery, playgrounds and walking areas, semi-Olympic swimming pool, soccer field, shopping center, (figure 2). The selection of Tito Park as a representative sample is due to its manageable scale and the variety of its recreational program. The observations of the park took place throughout the years 2016/2017 at different times of day/night, seasons, and events. This exploratory survey of the state of the place provides information on tangible attributes such as facilities, and also intangible ones such as uses. To facilitate reading, these attributes have been prioritized into seven categories of key "C" quality criteria (table5).
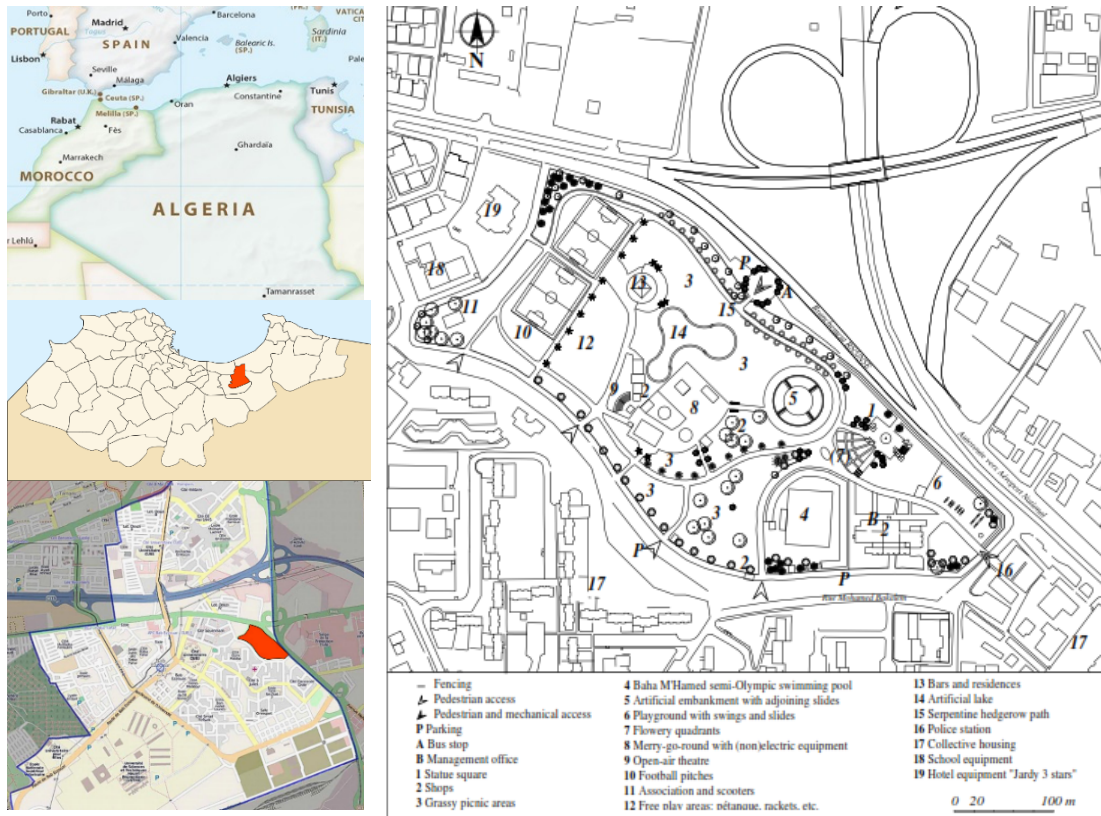
Fig. 2. Location of Tito Park and its public features facilities

C1	**Accessibility**	Mechanical tracks on 3 sides. North-East mechanical access. three pedestrian entrances South and West. internal circulation in branched loop
C2	**Security**	Metal fence. Guarded main entrance opposite the police station
C3	**Attractiveness**	High attendance: weekends, afternoons, seasonal holidays, hot weather, festive days. low attendance: too rainy and cold weather and too hot weather
C4	**Aesthetics**	Plant and topographic diversity. the most sought after shade trees, serpentine hedges, flowery and grassy areas, flat or moderate slope around the esplanade and the riding school
C5	**Functional**	Areas for different uses Esplanade and internal path with benches. Children's games on the main access side and on artificial embankment and slides Carousel with mobile shops Horse riding Sports: jogging, parkour, football, swimming (pool)
C6	**Users Comfort**	Subjects present: families, groups of women, children, groups of young men Visual control, Ambient comfort: shade, fresh air, graffiti, broken benches
C7	**Management**	Relatively clean and maintained especially on the square and shopping center side. visible waste on the swimming pool side and lake without water horse excrement on the wooded side areas partially flooded in winter

2. Results of the Questionnaire: User profiles and nature of park uses

The results of the survey (figure 3), (Table 6) indicate that Tito Park is frequented by women 55.2% slightly more than men 44.8%. The dominant age category is relatively young 56% are between 25-45 years old and 14.7% are under 25 years old, and the rest 29.3% are over 55 years old. Most of them are married people 67.2%. Regarding the level of education, most of the users, nearly 70% have a high school level and above. The survey reports show that almost 50% of the respondents work in various sectors and 30.2% are housewives. Visits to the park are mainly in groups of: 65.2% families and 25% friends; These visitors come either: on foot 50.9%, or by car 40.5%, are rare those who use other means of transport. Most users 95.7% take less than an hour to reach the leisure park, and 65.5% stay there from 1 to 4 hours. The Tito leisure park is frequented by its users throughout the year, it reaches its highest level at: the summer season records 34.3%

and spring 27.6%, then a little less in autumn 22.5% and winter 15.6%. Also, the attendance of the park reaches its peak of visits during the afternoons 28.4% and weekends 26.7% and during holiday periods 25%.
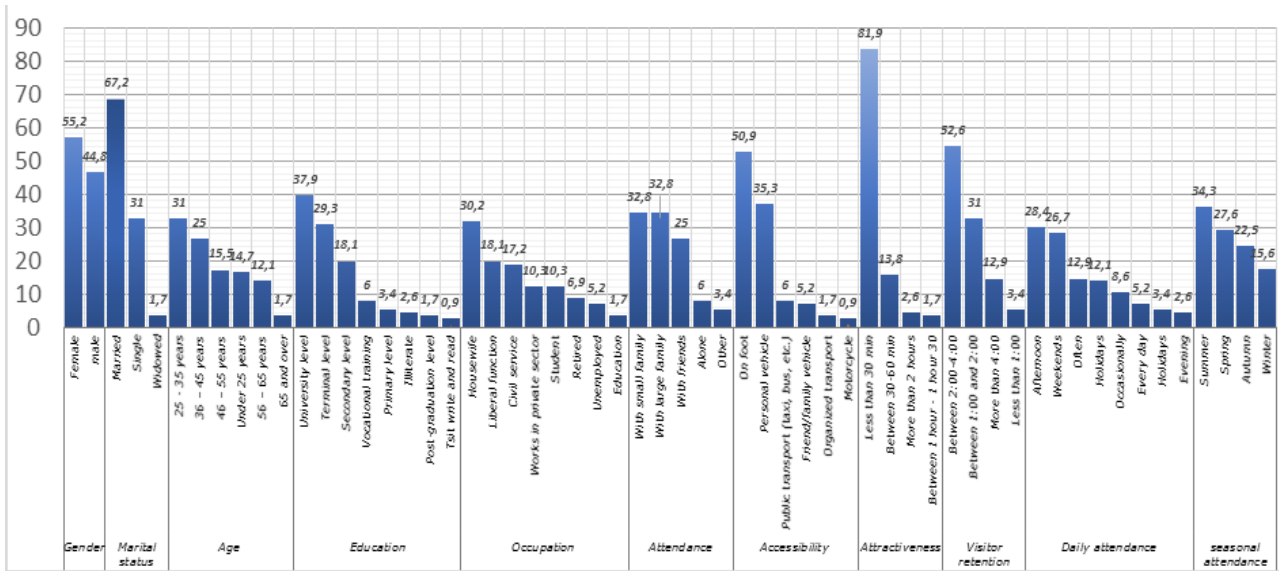
Fig. 3. Clustered bar histogram of sociodemographic data of the sample

Table 6.
Sociodemographic profiles of the sample

Index	Variables	Item	Fréquency	%	Interpretations
1	**Gender**	male	52	44.8	Attendance almost equal between men and women
		Female	64	55.2	
2	**Marital status**	Single	36	31,0	Married people occupy twice as much of the park as single people, widows rarely
		Married	78	67,2	
		Widowed	2	1,7	
3	**Age**	Under 25	17	14,7	The Park attracts more of the relatively young population, from 25 to 45 years old. Then those from 46 to 65 years old; then those under 25 years old. People over 65 years old are rare.
		25 - 35	36	31,0	
		36 – 45	29	25,0	
		46 – 55	18	15,5	
		56 – 65	14	12,1	
		65 and over	2	1,7	
4	**Education**	Illiterate	3	2,6	Almost half of the visitors to the park have a university level, followed by high school level, then those with a secondary level, people with a primary level and illiterate are rare.
		Can write and read	1	,9	
		Primary level	4	3,4	
		Secondary level	21	18,1	
		Terminal level	34	29,3	
		Vocational training	7	6,0	
		University level	44	37,9	
		Graduation post level	2	1,7	

5	Occupation	Education	2	1,7	Housewives constitute more than a third of users, followed by civil servants and those who exercise a liberal function, and third by students and those who work in the private sector. Retirees and the unemployed are present in a small percentage.
		Civil service	20	17,2	
		Liberal service	21	18,1	
		Works in private sector	12	10,3	
		Housewife	35	30,2	
		Retired	8	6,9	
		Student	12	10,3	
		Unemployed	6	5,2	
6	Attendance	With small family	38	32,8	Visits to the park are made in groups of either small or large families, or between friends; those who come alone have a low percentage.
		With large family	38	32,8	
		Alone	7	6,0	
		With friends	29	25,0	
		Other	4	3,4	
7	Accessibility	On foot	59	50,9	Most visitors come on foot, followed by those who use personal vehicles. The park is not well served by public transport, which explains its very low percentage.
		motorcycle	1	0,9	
		Personal vehicle	41	35,3	
		Friend/family vehicle	6	5,2	
		Organized transport	2	1,7	
		Public transport (taxi, bus, etc.)	7	6,0	
8	Attractiveness	Less than 30 min	95	81,9	The park has a significant attraction within a 30-minute radius on foot and by vehicle, with most visitors coming from the surrounding area.
		Between 30-60 min	16	13,8	
		Between 1h00-1h30	2	1,7	
		More than 2 h00	3	2,6	
9	Visitor retention	Less than 1h 00	4	3,4	The park has a high occupant retention rate that varies from one hour to four hours.
		Between 1:00 and 2:00	36	31,0	
		Between 2:00-4:00	61	52,6	
		More than 4:00	15	12,9	
10	Daily Attendance	Every day	6	5,2	The park is visited mainly on weekends and afternoons during all seasons of the year, particularly much more in summer and much less in winter.
		Weekends	31	26,7	
		Holidays	4	3,4	
		Afternoon	33	28,4	
		Evening	3	2,6	
		Occasionally	10	8,6	
		Often	15	12,9	
		Holidays	14	12,1	
11	Seasonal	Winter	49	15,6	
		Autumn	71	22,5	
		Spring	87	27,6	
		Summer	108	34,3	

3. Results of the application of IPA

The attributes whose T-Test is lower than the absolute T-Test 1.984, do not have statistical significance. In performance, five attributes stand out: (8): 0.55, (10): 1.15, (16): 1.18, (14): -1.69, (25): -1.77; In importance, it is the attribute (22): -1.11. The comparison of the means of performance and importance calculated by attributes made it possible to detect their levels of performance and importance and to order them in ranks (table 7).

The attributes with the highest levels of performance: (6): mean 5, std 1.45; (2): mean 4.68, std 1.324; (1): mean 4.51, std 1.203; (33): mean 4.46, std 1.269; (11): mean 4.37, std 0.977. These so-called high-performance attributes derive from the criteria of: attractiveness, accessibility, and safety. The attributes with the lowest levels of performance: (36): mean 4.89, std 0.419; (25) mean 2.57, std 0.727; (20): mean 2.74, std 0.877; (31): mean 2.78, std 0.899; (23): mean 2.81, std 0.673. These so-called lower-performance attributes derive from the criteria of: management, function, aesthetics, and comfort of use.

The attributes with the highest levels of importance: (16): mean 4.89, std 1.28; (3): mean 4.79, std 1.629; (6): mean 4.77, std 1.495; (33): mean 4.73, std1.438; (32): mean 4.72, std 1.445. These so-called more important attributes arise from the criteria of: comfort of use, management, function, aesthetics. The attributes with the lowest levels of importance: (4): mean 1.93 and std 0.465; (23): mean 2.94, std 0.587; (25): mean 3.36, std 0.507; (12): mean 3.38, std 0.566; (31) mean 3.4, std 0.606. These so-called less important attributes arise from the criteria of: accessibility, function, safety, and comfort of use.

The standard deviation σ of the responses with respect to the satisfaction mean, informs by its magnitude on the normal dispersion of opinions around the attributes of: (6), (2), (33), (1), (9), (28), (24), (30). Attribute (19) records the smallest std value σ, therefore more or less uniform satisfaction opinions. The standard deviation σ of the responses with respect to the importance mean, announces the normal dispersion of opinions around the attributes of: (3), (28), (2), (6), (32), (33), (34), (16), (26). Attribute (14) takes the smallest value of the standard deviation σ, therefore fairly homogeneous opinions on its importance.

Most of the Correlation variables r obtained for α = 0.05 are located in the field +1 ≥ r ≥ -1; with the exception of two attributes: (9): r=0.047 and (36): r=1.216. These data reveal that there is a very strong direct positive linear correlation between the levels: of performance and of importance, in synchronic evolution.

Table 7.
IPA Importance-Performance Analysis of Tito par

| Criteria | Attributes /Items | N° | Performance | | | | | | | | | | Importance | | | | | | | | | | Ecart |
			Rank	Sig T.test	STDDev Coef dif	Mean N %	VD 1 N %	D 2 N %	N 3 N %	S 4 N %	VS 5 N %	Rank	Sig T.test	STDDev Coef dif	Mean N %	NE 1 N %	LE 2 N %	N 3 N %	E 4 N %	VE 5 N %	Correlation
Accessibility	Ease of access by vehicle/par king	1	3	VP 13,49	1,203 26,7	4.51 90,1%	0 0%	0 0%	0,40 13,6%	0,88 22%	3,22 64,4%	18	VE 15,37	0,904 21,06	4,29 85,8%	0 0%	0 0%	0,96 32%	2,28 57%	1,05 1%	0,10
	Ease of access on foot	2	2	VP 13,64	1,324 28,31	4,68 93,5%	0 0%	0 0%	0 0%	1,28 32.2%	3,39 67,8%	26	E 6,27	1,559 39,89	3,9 78,1%	0 0%	0 0%	0,58 11,6 %	0,52 10,4 %	3,9 78%	0,38
	Ease of movement inside	3	10	P 13,28	0,744 18,99	3,92 78,3%	0 0%	0,30 15,3%	0,25 8,50%	1,83 45,8%	1,52 30,5%	2	VE 11,83	1,629 34	4,79 95,8%	0 0%	0 0%	0,15 5%	0,44 11%	4,2 84%	0,4
	Transport service	4	17	N 8,22	0,443 13,29	3,34 66,7%	0,03 3,40%	0,37 18,6%	1,22 40,7%	0,61 15,3%	1,1 22%	36	LE -31,6	0,365 18,91	1,93 38,5%	0,42 42%	0,43 21,6 %	1,02 34,1%	0,03 0,90%	0,02 0,40%	0,70
	Degrees of openness to the public	5	6	P 16,55	0,696 17,1	4,07 81,4%	0,03 3,40%	0,30 15,3%	0,40 13,6%	1,14 28,7%	1,95 39%	27	E 21,53	0,44 11,34	3,88 77,6%	0,002 0,20 %	0,19 9,80 %	0,39 13,3%	2.16 54,1%	1,13 22,60%	0,09
Attractiveness	Favorable location	6	1	VP 14,84	1,45 29,01	5 100%	0 0	0 0	0 0	1,27 25,4%	3,73 74,6%	3	VE 12,74	1,495 31,34	4,77 95,4%	0 0	0 0	0 0	0,91 22,8%	3,86 77,20%	0,1
	Attractiveness of structures (swimming pool, sports)	7	8	P 15,3	0,655 16,67	3,93 78,6%	0 0	0 0	1,06 35,6%	1,42 35,6%	1,44 28,8%	11	VE 16,91	0,96 21,29	4,5 90,14 %	0,01 1,20 %	0,18 9,10 %	0,63 11,2%	0,98 24,6%	2,695 53.9%	0,28
	Supply of equipment (games)	8	29	N 0,55	0,769 25,31	3,04 60,8%	0,03 3,40%	0,17 8,50%	2,03 67,8%	0,80 20,3%	0 0	28	E 8,08	1,089 28,52	3,81 90,14 %	0 0	0,23 11,9 %	0,15 5,10%	2,91 72,9%	0,51 10,20%	0,38
	Animation and variety. recreation	9	9	P 9,02	1,116 28,37	3,93 78,7%	0 0	0,10 5,10%	0,25 8,50%	2,98 74,6%	0,59 11,9%	23	E 13,37	0,83 20,58	4,03 80,6%	0,10 1,05 %	0,31 15,7 %	0,55 18,4%	0,92 23%	2,142 42 ,8%	0,04
	Evolution of the offer	10	27	N 1,15	0,79 25,61	3,08 61,7%	0,23 23,7%	0,20 10,2%	2,16 54,2%	0,47 11,9%	0 0	25	E 13,31	0,825 20,51	4,02 80,4%	0,01 1,10 %	0,11 5,60 %	0,63 21,3%	0,96 24,1%	2,295 45,90%	0,46
Security	Visibility through the Fence	11	5	VP 15,16	0,977 22,33	4,37 87,5%	0 0	0 0	0,30 10,2%	1,69 42,4%	2,37 47,5%	22	E 13,62	0,917 22,04	4,16 83,2%	0 0	0,17 8,90 %	0,52 17,4%	0,9 22,5%	2,56 51,20%	0,10
	Access Control	12	26	N 2,1	0,594 19,08	3,11 62,3%	0 0	0,37 18,0%	1,62 54,2%	0,94 23,7%	0,17 3,40%	33	NE 7,2	0,566 16,75	3,38 67,5%	0,1 10%	0,28 14,4 %	0,53 17,9%	1,72 43,1%	0,73 14,60%	0,13

Cat.	Indicator	№	№	Code	CV/t	Mean/SD	%	c1	c2	c3	c4	c5	№	Code	CV/t	Mean/SD	%	c1	c2	c3	c4	c5	Fin
	Presence of security agents	13	22	N	0,715	3,2		0	0,22	1,72	1,26	0	13	VE	0,546	4,44		0	0	0,31	1,40	2,71	0,61
					3,08	22,33	64,1%	0	11%	57,5%	31,5%	0			28,42	12,28	88,8%	0	0	10,5%	35,2%	54,30%	
	Safety and Security of the areas	14	31	N	0,75	2,88		0,03	0,3	2,03	0,47	0	8	VE	1,245	4,62		0	0	0	1,49	3,13	0,87
					-1,69	26,04	57,6%	3,40%	16,9%	67,8%	11,9%	0			14,06	26,92	92,5%	0	0	0	37,4%	62,60%	
Aesthetics	Proportional in size and Scale	15	15	P	0,826	3,61		0	0,06	1,11	2,16	0,25	24	E	0,723	4,02		0	0,12	0,57	1,66	1,647	0,20
					7,94	22,89	72,2%	0	3,40%	37,30%	54,20%	5,10%			15,18	17,98	80,3%	0	6,14%	19,2%	41,7%	32,95%	
					3,57	23,74	65,1%	10,2%	1,70%	40,7%	47,5%	0			15,96	26,13	97,94%	0	0	3,50%	38,3%	65,20%	
	Adaptation of the layout to the needs	16	28	N	0,634	3,07		0,10	0,20	1,27	1,49	0	29	E	1,034	3,66		0	0	1,01	2,64	0	0,29
					1,18	20,65	61,4%	10,2%	10,2%	42,4%	37,3%	0			6,88	28,24	73,22%	0	0	33,9%	66,1%	0	
	Quality and Style of the design/ Beauty	17	24	N	0,677	3,19		0,05	0,23	1,27	1,62	0	17	VE	0,959	4,32		0	0	0,25	2,03	2,035	0,56
					3	21,23	63,7%	5,10%	11,9%	42,4%	40,7%	0			14,84	22,19	86,44%	0	0	8,50%	50,8%	40,70%	
	Balance between Artificial/natural	18	25	N	0,346	3,13		0,09	0,40	0,87	1,08	0,67	16	VE	0,966	4,34		0	0	0,49	1,3	2,55	0,60
					4,26	11,03	62,7%	9,90%	20,4%	29,2%	27,1%	13,40%			15	22,22	86,9%	0	0	16,5%	32,5%	51%	
	Suitable materials	19	34	N	0,877	2,74		0,05	0,33	2,28	0,06	0	20	VE	0,811	4,23		0	0,08	0,65	1,34	2,15	0,74
					-3,11	31,96	54,9%	5,10%	16,9%	76,3%	1,70%	0			16,42	19,13	84,7%	0	4,10%	21,9%	33,7%	40,30%	
Functional	Furnishings and furniture	20	12	P	0,745	3,75		0,08	0,17	0,25	1,96	1,27	21	VE	0,862	4,22		0	0,03	0,60	1,28	2,29	0,23
					10,8	19,88	74,9%	8,50%	8,50%	8,50%	49,2%	25,4%			15,26	20,41	84,4%	0	1,70%	20,3%	32,2%	45,80%	
	Diversity and Versatility of the spaces	21	11	P	0,709	3,91		0	0,06	0,78	1,89	1,17	14	VE	0,967	4,43		0	0	0,20	1.76	2,46	0,25
					13,83	18,13	78,2%	0	3%	26,3%	47,3%	23,4%			15,92	21,82	88,6%	0	0	6,80%	44,1%	49,20%	
	Quality of the functional organization	22	32	N	0,673	2,81		0,10	0,27	1,88	0,47	0,08	35	NE	0,587	2,94		0,07	0,32	1,70	0,62	0,22	0,06
					-2,94	23,92	56,3%	10,2%	13,6%	62,7%	11,9%	1,70%			-1,11	19,96	58,7%	7,20%	16%	56,8%	15,6%	4,40%	
	Signal elements and information	23	7	P	1,091	3,98		0	0,10	0,20	2,91	0,76	12	VE	0,96	4,5		0,01	0,18	0,63	0,98	2,695	0,26
					9,73	27,38	79,7%	0	5,10%	6,80%	72,9%	15,3%			16,91	21,29	90,1%	1,20%	9,10%	11,2%	24,6%	53,90%	
	Telephone field and internet	24	35	D	0,727	2,57		0,10	0,47	1,93	0,06	0	34	NE	0,507	3,36		0,03	0,20	1,39	1,03	0,69	0,39
					-6,27	28,23	51,5%	10,2%	23,7	64,4%	1,70%	0			7,71	15,07	67,2%	3,50%	10,2%	46,6%	25,9%	13,80%	
	Medical Emergencies	25	30	N	0,613	2,9		0,05	0,40	1,77	0,40	0,255	19	VE	1,242	4,25		0	0	0,66	1,22	2,365	0,67
					-1,77	21,16	57,9%	5,10%	20,3%	59,3%	10,2%	5,10%			10,83	29,23	85%	0	0	22,2%	30,5%	47,30%	
Use Comfort	Retention of the space: Desire to stay	26	21	N	0,773	3,25		0,102	0,034	1,221	1,9	0	1	VE	1,28	4,89		0	0	0,105	1,532	3,26	0,82
					3,57	23,74	65,1%	10,2%	1,70%	40,7%	47,5%	0			15,96	26,13	97,9%	0	0	3,50%	38,3%	65,20%	
	Visual balance: Intimacy/.exposure	27	20	N	0,757	3,29		0	0,13	1,72	1,42	0	30	E	0,565	3,61		0,06	0,26	0,54	1,54	1,204	0,16
					4,09	23,04	65,76%	0	6,80%	57,6%	35,6%	0			11,73	15,63	67,2%	6,07%	13%	18,1%	38,7%	24,09%	
	Pleasant in atmospheres: wind, sun	28	13	P	1,092	3,74		0	0	0,81	2,84	0,08	6	VE	1,564	4,69		0	0	0,12	0,9	3,6	0,67
					7,35	29,17	74,9%	0	0	27,1%	71,2%	1,70%			14,42	30,7	85,84%	0	0	4%	22,5%	73,50%	
	Balance between Restful/stimulating	29	19	N	0,906	3,3		0	0,03	0,81	2,37	0,08	31	E	0,971	3,61		0	0	1,17	2,44	0	0,15
					3,61	27,44	66,0%	0	1,70%	27,1%	59,3%	1,70%			6,76	26,9	72,2%	0	0	39%	61%	0	
	Level of civic-mindedness	30	14	S	1	3,68		0	0,20	0,50	2,71	0,25	10	VE	1,191	4,52		0	0,03	0,22	1,13	3,14	0,42
					7,29	27,22	73,5%	0	10,2%	16,9%	67,8%	5,10%			13,77	26,33	90,4%	0	1,50%	7,40%	28,3%	62,80%	
	Harmony between Plants/water	31	33	N	0,899	2,78		0,03	0,33	2,34	0,06	0	32	E	0,606	3,4		0,09	0,21	0,69	1,80	0,595	0,31
					-2,63	32,37	55,6%	3,40%	16,9%	78%	1,70%	0			7,1	17,82	68%	9%	10,9%	23,0%	45,1%	11,90%	
Management	Management of the areas	32	20	N	0,607	3,26		0	0,272	1,779	0,612	0,595	5	VE	1,445	4,72		0	0	0,075	0,896	3,755	0,73
					4,57	18,64	65,1%	0	13,6%	59,3%	15,3%	11,9%			12,86	30,57	94,52%	0	0	2,50%	22,4%	75,10%	
	Free/Affordable	33	4	N	1,269	4,46		0	0	0	1,4	3,22	4	VE	1,438	4,73		0	0	0,03	0,97	3,725	0,05
					13,74	27,48	92,4%	0	0	0	35,6%	64,4%			12,97	30,38	94,6%	0	0	1,20%	24,3%	74,50%	
	Maintenance of green spaces and furniture	34	16	N	0,703	3,39		0	0,068	1,932	0,88	0,51	7	VE	1,297	4,65		0	0	0,024	1,312	3,32	0,63
					5,97	20,74	67,8%	0	3,40%	64,4%	22%	10,2%			13,75	27,85	93,1%	0	0	0,80%	32,8%	66,40%	

Cleanliness of the areas	35	18	N	0,752	3,34	0	0,06	1,88	1,22	0,17	9	VE	1,138	4,53	0	0	0,01	1,82	2,695	0,59
			4,85	22,53	66,7	0	3,40%	62,7%	30,5%	3,40%		14,51	25,1	90,6%	0	0	0,50%	45,6%	53,90%	
Toilets/changing rooms/water point	36	36	VD	0,419	1,92	0,25	1,11	0,55	0	0	15	VE	0,989	4,36	0	0	0,20	2,03	2,125	1,21
			-27,5	21,8	38,5%	25,4%	55,9%	18,6%	0	0		14,79	22,68	87,1%	0	0	6,70%	50,8%	42,50%	
Weighted averages	Σ		N	0,815	3,482							E	0,9857	4,125						r=0.291
			6,29	23,44	69,64%							12,29	23,87	82,77%						

Fig. 4 illustrates the variation in the percentages of importance and performance perceived by users of the fleet evaluation attributes. No linearity between attributes is visible; on the other hand, the higher the percentage of importance, the better the performance is perceived. The performance and importance scores therefore suggest that most attributes have relatively above average satisfaction and importance levels except (36) and (4). The most satisfied attributes are: (6), (33), and the most important are: (16), (6), (3), (33), (34), (32).

To detect the importance of attributes, the (figure 4) ranks them in descending order of visitor satisfaction. Respondents generally stated that they were very satisfied with their visit experiences, only 2% of respondents expressed dissatisfaction.
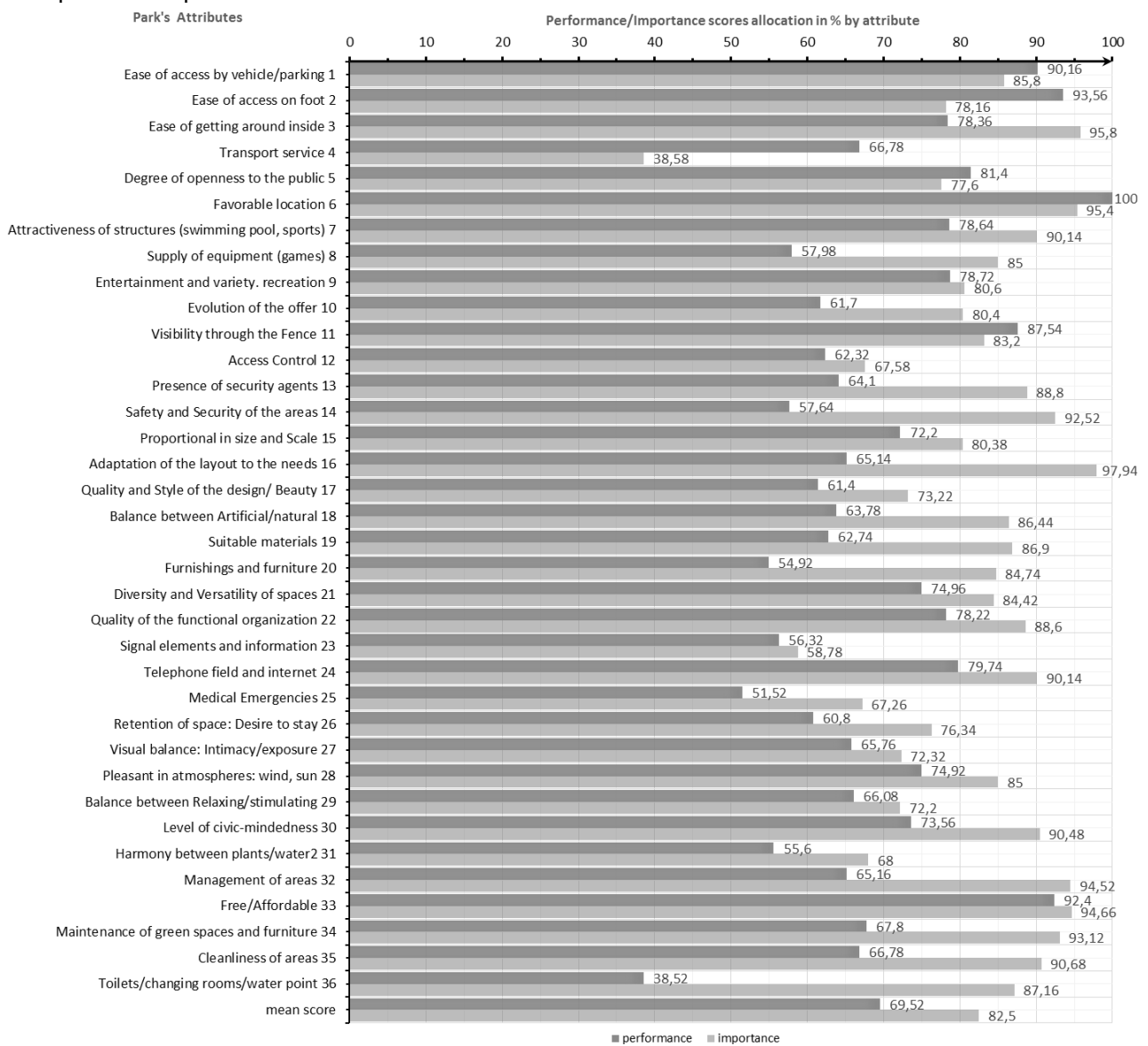

Fig. 4. Clustered bar histogram of variation: importance/performance

The attributes that respondents were most satisfied with were probably the main attractions: (3), (9), (21). Attributes considered important but are not supported like (36). Some attributes generated by management and use are highly appreciated (35), (34), (30), while others are very poorly appreciated, in particular: (34). This is where the apparent need lies and where the future development and management objectives of the park should be concentrated.

In accordance with the correlation results, there are some attributes; where there are significant gaps between the levels of: performance and importance: (36), (14), (16), (20), (32), (4), etc. these attributes require immediate management.
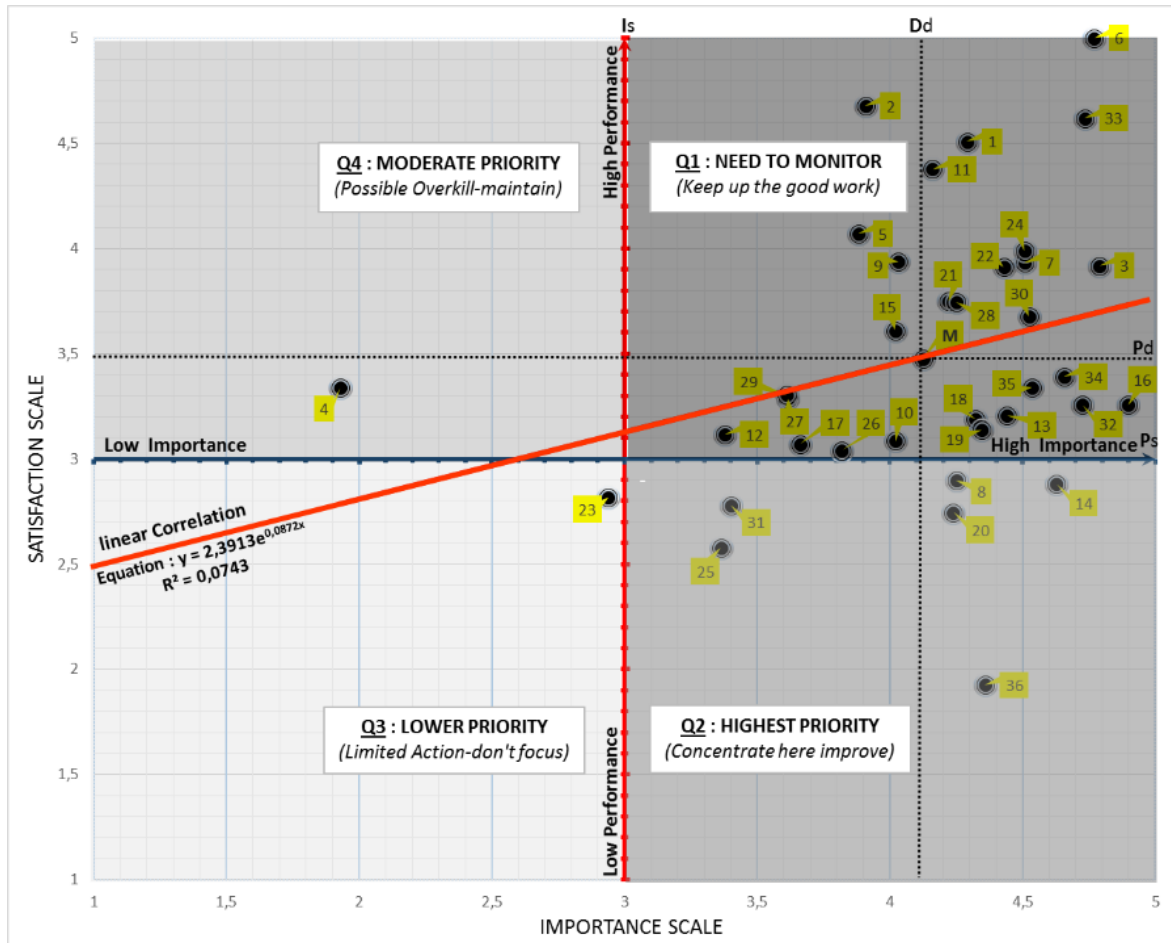

Fig. 5. Importance-Performance Matrix Grid of Tito Park

The IPA graphic results are presented in the form of a Cartesian diagram (figure 3) consisting of two scales of importance and satisfaction. It mainly displays the position of each attribute taking into account its calculated average of importance and satisfaction. Depending on the circumscription of the attributes on one of the four quadrants: Q1, Q2, Q3, Q4, the action to be taken will be decided.

The attribute: (23) in Q3 by its low: importance and performance at a very low priority for short-term investment. Comparing to (4) in Q4 fields of moderate priority by its high performance and low importance. On the other hand, the Q2 attributes: (14), (20), (8), (31), (25). (36), indicate high importance and low performance by users, are priority strategic areas to be improved urgently. While the rest of the 28 attributes placed mostly in Q1 thanks to their high: importance and importance, require to be maintained and continue to work while making a permanent control. In this same field Q1, the attributes: (16), (32), (34), (35), (13), (18), (19), (10), (26), (17), (27), (29), (12), slightly lower than the average satisfaction, despite their great importance, require to be taken care of at the risk of deviating towards the field Q2.

The IPA analysis used informs about the levels of perceived quality and suggests the attributes to be maintained and those in which it is necessary to invest to improve a specific aspect of the quality criteria.

4. Results of the application of the Kano models

The analysis of the Kano results in (Table 8) was carried out by classification matrix of user needs according to the frequency of their responses. The highest frequency necessarily grants the attribute the category of needs to which it is affiliated.

Table 8.

Kano matrix models of the Tito park

Criteria	Attributes /Items	N°	STDDev	Total Strenght	Categories of Needs					Categorie	Satisfaction			Correlation	Significations	Decisions
					A	M	O	I	R		CS	CD	ASC			
Accessibility	Ease of access by vehicle/parking	1	23,18	100,00	63	25	28	0	0	A	0,784	-0,457	**0,621**	0,632	Fairly Satisfied	To maintain
	Ease of access on foot	2	30,97	100,00	81	5	30	0	0	A	0,957	-0,302	**0,629**	0,632	Strongly Satisfied	To maintain
	Ease of movement inside	3	24,94	100,00	32	17	67	0	0	O	0,853	-0,724	**0,789**	0,630	Very Satisfied	To Improve
	Transport service	4	14,68	77,59	46	20	24	26	0	A	0,603	-0,379	**0,491**	0,624	Satisfied	To maintain
	Degrees of openness to the public	5	18,38	86,21	57	16	27	11	5	A	0,757	-0,387	**0,572**	0,628	Fairly Satisfied	To maintain
Attractiveness	Favorable location	6	34,17	100,00	88	0	28	0	0	A	1,000	-0,241	**0,621**	0,629	Strongly Satisfied	To maintain
	Attractiveness of structures (swimming pool, sports)	7	16,52	84,48	54	21	23	11	7	A	0,706	-0,404	**0,555**	0,625	Fairly Satisfied	To maintain
	Supply of equipment (games)	8	18,54	94,83	22	47	41	0	6	M	0,573	-0,800	**0,686**	0,627	Satisfied	Urgent action
	Animation and variety. recreation	9	17,59	87,93	53	17	32	4	10	A	0,802	-0,462	**0,632**	0,624	Fairly Satisfied	To maintain
	Evolution of the offer	10	12,35	81,03	27	44	23	8	14	M	0,490	-0,657	**0,574**	0,623	Satisfied	Urgent action
Sécurity	Visibility through the Fence	11	22,48	100,00	59	21	36	0	0	A	0,819	-0,491	**0,655**	0,625	Fairly Satisfied	To maintain
	Access Control	12	15,22	64,66	23	38	14	41	0	I	0,319	-0,448	**0,384**	0,622	Not Satisfied	To Discuss
	Presence of security agents	13	19,46	100,00	32	46	38	0	0	M	0,603	-0,724	**0,664**	0,630	Satisfied	To Improve
	Safety and Security of the areas	14	16,49	93,97	32	41	36	0	7	M	0,624	-0,706	**0,665**	0,629	Satisfied	To Improve
Aesthetics	Proportional in size and Scale	15	18,18	94,83	50	28	32	6	0	A	0,707	-0,517	**0,612**	0,627	Very Satisfied	To maintain
	Adaptation of the layout to the needs	16	20,65	93,10	22	60	26	0	8	M	0,444	-0,796	**0,620**	0,627	Satisfied	Urgent action
	Quality and Style of the design/ Beauty	17	16,67	89,66	20	44	40	0	12	M	0,615	-0,808	**0,712**	0,626	Satisfied	Urgent action
	Balance between Artificial/natural	18	17,30	90,52	29	4	25	0	11	M	0,514	-0,724	**0,619**	0,621	Satisfied	Urgent action
	Suitable materials	19	17,02	87,07	17	49	35	0	15	M	0,515	-0,832	**0,673**	0,621	Satisfied	Urgent action
	Furnishings and furniture	20	18,15	95,69	26	46	39	5	0	M	0,733	-0,560	**0,647**	0,616	Very Satisfied	Urgent action
Functional	Diversity and Versatility of the spaces	21	18,69	93,97	52	35	22	4	3	A	0,655	-0,504	**0,580**	0,614	Satisfied	To maintain
	Quality of the functional organization	22	21,55	100,00	53	42	21	0	0	A	0,638	-0,543	**0,591**	0,616	Satisfied	To maintain
	Signal elements and information	23	23,28	31,90	5	15	17	69	10	I	0,208	-0,302	**0,255**	0,618	Not Satisfied	To Discuss
	Telephone field and internet	24	20,19	89,66	56	37	11	2	10	A	0,632	-0,453	**0,542**	0,637	Satisfied	To maintain
	Medical Emergencies	25	20,60	37,93	17	14	13	64	8	I	0,278	-0,250	**0,264**	0,644	Not Satisfied	To Discuss
Use Confort	Retention of the space: Desire to stay	26	14,99	87,07	23	42	36	15	0	M	0,509	-0,672	**0,591**	0,667	Satisfied	Urgent action
	Visual balance: Intimacy/.exposure	27	18,30	92,24	28	25	54	5	4	O	0,732	-0,705	**0,719**	0,674	Fairly Satisfied	To Improve
	Pleasant in atmospheres: wind, sun	28	20,41	100,00	51	27	38	0	0	A	0,767	-0,560	**0,664**	0,669	Very Satisfied	To maintain
	Balance between Restful/stimulating	29	19,43	93,10	33	20	55	8	0	O	0,759	-0,647	**0,703**	0,669	Very Satisfied	To Improve
	Level of civic-mindedness	30	25,64	100,00	31	16	69	0	0	O	0,862	-0,733	**0,797**	0,663	Very Satisfied	To Improve
	Harmony between Plants/water	31	15,98	92,24	29	43	35	2	7	M	0,587	-0,716	**0,651**	0,637	Satisfied	Urgent action

Management	*Management of the areas*	32	21,20	100,00	31	56	29	0	0	M	0,517	-0,733	**0,625**	0,634	Satisfied	Urgent action
	Free/Affordable	33	29,55	100,00	80	20	16	0	0	A	0,828	-0,310	**0,569**	0,634	Strongly Satisfied	To maintain
	Maintenance of green spaces and furniture	34	21,74	100,00	31	58	27	0	0	M	0,500	-0,733	**0,616**	0,632	Satisfied	Urgent action
	Cleanliness of the areas	35	20,76	100,00	29	54	33	0	0	M	0,534	-0,750	**0,642**	0,639	Satisfied	Urgent action
	Toilets/changing rooms/water point	36	14,20	87,07	35	39	27	0	15	M	0,614	-0,653	**0,634**	0,634	Satisfied	Urgent action
	Weighted averages	Σ	14,86	100,00	39,92	33,47	31,97	6,42	4,22	A	**0,640**	**0,575**	**0,607**	**0,631**	Satisfied	To maintain
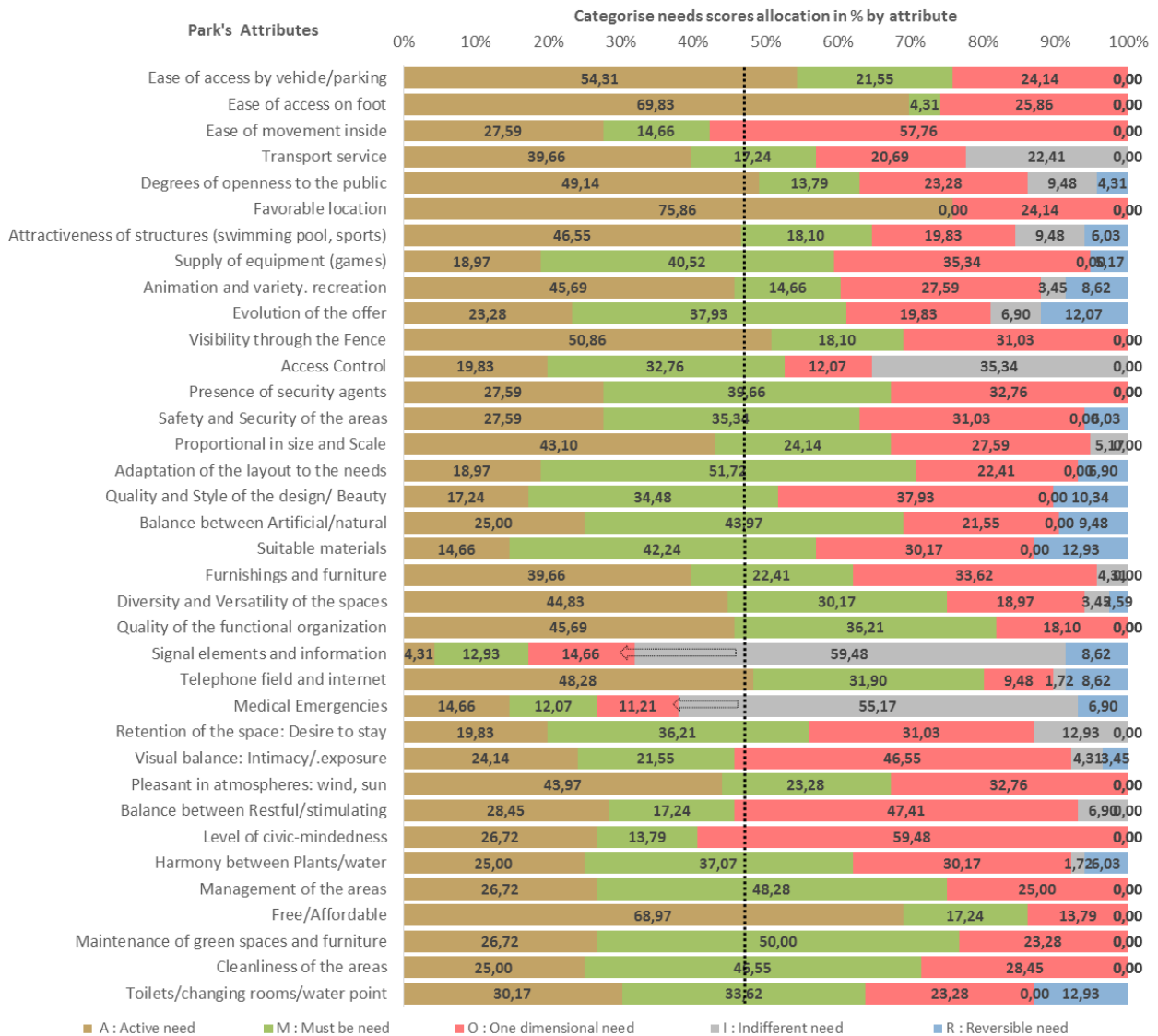
Fig. 6. Frequency distribution across Kano need categories for each attribute

The Pearson deviation used to measure the strength and direction of the two continuous variables CS and CD gives an average of positive correlation of 0.631 which assumes a linear relationship between these variables. The reliability of this Kano questionnaire was tested by the Cronbach α value of 0.808 indicating good internal consistency. The calculated validity 0.765 is between 0.7 and 0.8, which gives a good structural validity suitable for the Kano model.

The improvement actions concern the attributes that record significant gains in Satisfaction and become opportunities to be seized. The Strategic actions are interested in the Very important attributes and can be real

priorities since they have more impact on satisfaction; this is where resources must be allocated. The Kano diagram (figure7) illustrates the variability of the attributes in terms of needs. The attributes of: telephone fields and medical emergencies have an overall strength lower than the average.
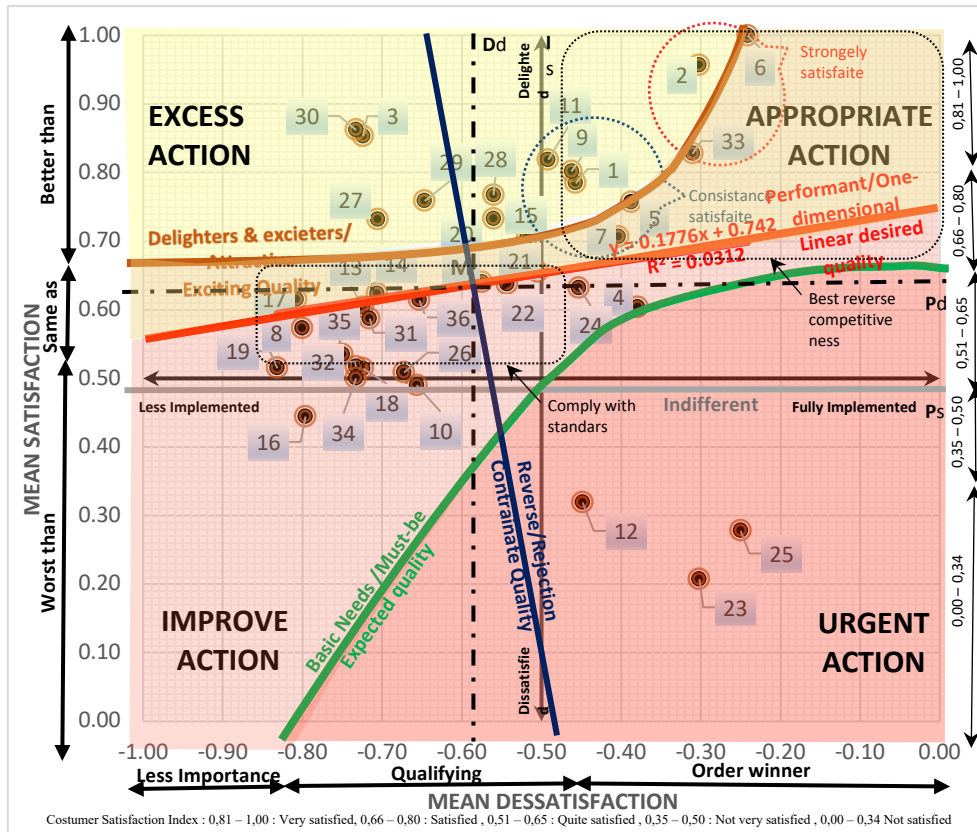

Fig. 7. KANO diagram inspects the quality status according levels of satisfaction/dissatisfaction

The graphical representation of the Kano questionnaire matrix (figure 6) shows the results:

Users are moderately satisfied with the quality of the park: M: 0.607, CS: 0.640 and CD: -0.575.

On the horizontal axis three ranges of objectives (Slack, 1994): those of success which offer irrefutable advantages in utility and consideration of most users, they are competitiveness reactors, those of qualification which must comply with the standards of leisure spaces; and those of lesser importance which are rarely considered by users, with a low probability of becoming more important in the future. However, the vertical axis scrolls three types of competitiveness objectives to varying degrees compared to competitors: better, identical, worse. We also propose the nomination of two attribute fields (figure 7). The Best resverse competitiveness field grouping competitiveness reactors and the best assets of the park in time T because they generate added value to the attractive quality hence the need to ensure them. They are the immensely satisfied excitement attributes: (6), (2), (33), and very satisfied: (9), (1), (5), (7). The Comply with standards field containing the attributes: (21), (22), (36), (14), (13), (31), (17), (8), (24) bordering the diagonal line of the Essential requirements and which proportionally affect the desired quality of performance. Here, user satisfaction increases linearly with the improvement of these attributes. The Attractive attributes (6), (33), (5), (15) are user factors their absence does not cause dissatisfaction but their presence increases satisfaction.

Attribute (4) arranged in the Must-be curve is a fundamental and implicit requirement to be guaranteed imperatively as a minimum threshold to be prioritized during all interventions, otherwise significant dissatisfaction will be caused. Attributes: (12) (25) (23) located on the range below this curve require urgent action because they are unsatisfied and malfunctioning. Attributes: (1), (2), (3), (9), (11), (20), (27), (28), (29), (30) require excessive actions. Attributes (10), (26), (34) are categorized as indifferent because their presence or absence has no impact on user satisfaction. However, they are added to the attributes: (16), (34), (18), (10), (19), (32), (35), (26) which require improvement actions. No attribute is recorded as a constraint that can reverse the quality.

The conjunction of the two IPA-Kano tools on the same case study made it possible to understand the satisfaction trends of its visitors and precisely the attributes that participate in increasing or decreasing it. Although IPA-Kano use different calculation and representation methods, they agree on using the gaps between required and existing quality by attributes. For IPA, the gaps between the perceived importance and the actual performance offered by the attributes (Boley et al., 2017) provide information on both the major and minor assets to maintain and develop as well as the major and minor weaknesses to improve or leave on standby. For Kano, the essential requirements are essential, while the attractive and one-dimensional requirements deserve to be improved. As a result, the two IPA-Kano tools appear complementary: IPA also adds to Kano the notions of importance/performance of attributes, and Kano also brings to IPA the notion of time. They agree on the opportunities for possible and unexploited improvements of the park such as: (6) favorable location, (2) Ease of access on foot, (33) Free/Affordable (9), Animation and variety of recreation, (1) Ease of access by vehicle/parking, (5) Degrees of openness to the public, (7) Attractiveness of structures (swimming pool, sports). While the IPA model classifies them in the "high importance-high performance" quadrant requiring maintenance, Kano categorizes them as attractive and/or mandatory. The two tools also agree on the critical state of certain attributes and direct towards the urgency of acting on the attribute (25) medical emergency. However, IPA-Kano differentiate themselves on other orientations, such as attribute (4) transport service considered by IPA as a moderate priority and seen by Kano as a fundamental necessity to be guaranteed. Also, the attributes: (8) Supply of Equipment (games), (14), Safety and Security of areas, (31) Harmony between Plants/water, (36) Toilets/changing rooms/water point, classified as high priority in IPA; are considered as Essential requirements by Kano. The attributes: (1) Ease of Access by vehicle/parking, (2) Ease of Access on foot, (3) Ease of movement inside, (7) Attractiveness of structures (swimming pool, sports), (9) Animation and Variety. recreations, (11) Visibility through the Fence, (27) Visual balance: Privacy/exposure, (28) Pleasant atmospheres: wind, sun, (29) Balance between Relaxing/stimulating, (30) Level of civic-mindedness, forming part of the criteria respectively: accessibility, attractiveness, security and comfort are all located above the average user satisfaction in both tools but IPA proposes to continue working, and Kano recommends excessive actions to them. The same applies to the attributes: (10) Evolution of the offer, (16) Adaptation of the layout to needs, (18) Balance between Artificial/natural, (19) Suitable materials, (26) Retention of space: Desire to stay, (32) Management of areas, (34) Maintenance of green spaces and furniture, (35) Cleanliness of areas, resulting from the criteria: attractiveness, aesthetics, comfort and management which require improvement actions according to Kano and to continue working in IPA.

This approach made it possible to identify with acuity certain attributes that explain the attractiveness of visitors, their motivations to revisit and their modes of use of the leisure park such as for example: entertaining children, and participating in a sporting activity: jogging, football or swimming. Some results agree with other studies on the need to support certain attributes from different quality criteria. Because beyond the most stimulating criteria such as: accessibility, attractiveness, comfort, aesthetics; there are attributes that have a strong correlation with user satisfaction. This is the case for example of: location of parks (Andrews et al., 2017); density of inhabitants in the surroundings and provision-distribution of facilities (Zhu et al., 2020); suitability for users and quality of leisure facilities (Anastasiou & Manika, 2020); state of infrastructure and roadway and cleanliness (Polko & Kimic, 2021); density and diversity of vegetation (Bjerke et al., 2006) or even proportion of blue-green spaces (Z. Li et al., 2022); aesthetics (Dinda & Ghosh, 2021); accessibility (Endalew Terefe & Hou, 2024); ease of access on foot (Wang et al., 2015); safety and cleanliness (Ayala-Azcárraga et al., 2019; Kothencz & Blaschke, 2017); ease of use, attractiveness and safety (Wright Wendel et al., 2012); comfort of use (tranquility, privacy, refuge) (Breuste et al., 2023); ecosystem services (less air pollution, noise, biodiversity, microclimate regulation) (Ge et al., 2024);

This article confirms some studies developed so far around the world; and which consider that the IPA-Kano combination targets requalification actions, and confirms the resources to be prioritized (S.-C. Chen & Liu, 2023). As a result, it opens up a wide range of possibilities for improvements in the design and management of urban parks (Zheng et al., 2020). This helps to ensure the performance and multifunctional optimization of the landscape and ecosystem services (Yang & Dobbie, 2019; J. Zhang et al., 2020) and to reach the acceptable threshold of quality while ensuring user satisfaction.

Conclusions.

The objective of this study was to test the parallel application of the IPA-Kano tools for the quality assessment of the Tito Leisure Park in Algiers via a multi-criteria approach. Although it is based on the subjective assessments of visitors, the IPA-Kano combination concludes on fairly credible results. This operational, simple and handy tool manipulates statistical analyses of multiple qualitative and quantitative parameters to detect deficiencies: formal, functional, and managerial and guide future long-term improvements according to an order of priority. The integrative approach of the two tools therefore has undeniable managerial

implications. It offers mechanisms for monitoring the evolution of demand to decide on ideal future interventions in: management, planning, and design. This helps to satisfy users, and to guide designers as to the arrangements to be designed, but also, to guide managers as to the formulation of an operational and hierarchical strategy by incorporating the vigilant and judicious estimation of internal resources and by avoiding spending time and money on unnecessary operations. The IPA-Kano integrative approach aims to be a pioneer in Algeria and to contribute to filling the existing gaps in the literature which often conclude with subjective recommendations. However, this research has encountered some limitations during the field investigation by interviews and the application of methods which were carried out individually and without any help, hence the limitation of the sample size. It must be recognized that the sample treated was subject to specific constraints which prevent the generalization of its results: time limits, distinct population. Among the obstacles encountered during the realization of this research is the absence of start-up data. In this sense, a perspective of exploring avenues of confirmation or readjustment of the results opens up, such as: the creation of a future database: administrative, cartographic and statistical by recreational area that is interactively updated. Also, the mobilization of a research team with a financial fund will undoubtedly have a positive impact on the progress of subsequent studies. Either by continuing on the same case study by IPA-Kano or other tools in order to study the evolution of demand/supply, using investigation via social networks for example; or by doing a comparative study with other leisure parks. Additional research is recommended to aggregate more attributes as an improvement in the quality experienced. That said, other factors can be added in the future such as economic and environmental data, and administrative.

REFERENCES

1. Anastasiou, E., & Manika, S. (2020). Perceptions, Determinants and Residential Satisfaction from Urban Open Spaces. *Open Journal of Social Sciences*, *08*(06), 1-18. https://doi.org/10.4236/jss.2020.86001
2. Andrews, B., Ferrini, S., & Bateman, I. (2017). Good parks – bad parks : The influence of perceptions of location on WTP and preference motives for urban parks. *Journal of Environmental Economics and Policy*, *6*(2), 204-224. https://doi.org/10.1080/21606544.2016.1268543
3. Arabatzis, G., & Grigoroudis, E. (2010). Visitors' satisfaction, perceptions and gap analysis : The case of Dadia–Lefkimi–Souflion National Park. *Forest Policy and Economics*, *12*(3), 163-172. https://doi.org/10.1016/j.forpol.2009.09.008
4. Ayala-Azcárraga, C., Diaz, D., & Zambrano, L. (2019). Characteristics of urban parks and their relation to user well-being. *Landscape and Urban Planning*, *189*, 27-35. https://doi.org/10.1016/j.landurbplan.2019.04.005
5. Bahriny, F., & Bell, S. (2020). Patterns of Urban Park Use and Their Relationship to Factors of Quality : A Case Study of Tehran, Iran. *Sustainability*, *12*(4), Article 4. https://doi.org/10.3390/su12041560
6. Berger, C., Blauth, R. E., Boger, D., Bolster, C. J., Burchill, G., DuMouchel, W., Pouliot, F., Richter, Rubinoff, A., Shen, D., Timko, D., & Walden, D. (1993). Kano's methods for understanding customer-defined quality. *Center for Quality Management Journal*, *2*(4), 3-37.
7. Bhattacharyya, S. K., & Rahman, Z. (2004). Capturing the customer's voice, the centerpiece of strategy making. *European Business Review*, *16*(2), 128-138. https://doi.org/10.1108/09555340410524238
8. Bjerke, T., Østdahl, T., Thrane, C., & Strumse, E. (2006). Vegetation density of urban parks and perceived appropriateness for recreation. *Urban Forestry & Urban Greening*, *5*(1), 35-44. https://doi.org/10.1016/j.ufug.2006.01.006
9. Boley, B. B., McGehee, N. G., & Tom Hammett, A. L. (2017). Importance-performance analysis (IPA) of sustainable tourism initiatives : The resident perspective. *Tourism Management*, *58*, 66-77. https://doi.org/10.1016/j.tourman.2016.10.002
10. Boudab, S., Diafat, A., & Madani, S. (2023). Analytical Study for Assessment of the Green Urban Spaces, Ain Bouaroua Public Garden, Setif, Algeria. *Green Building & Construction Economics*, 241-264. https://doi.org/10.37256/gbce.4220232267
11. Breuste, J., Zippel, S., & Gimenez-Maranges, M. (2023). Visitors' Demands and the Present Supply of Recreational Services in Urban Parks in Shanghai (China). In J. Breuste, M. Artmann, C. Ioja, & S. Qureshi (Éds.), *Making Green Cities* (p. 461-478). Springer International Publishing. https://doi.org/10.1007/978-3-030-73089-5_29
12. Cavnar, M. M., Kirtland, K. A., Evans, M. H., Wilson, D. K., Williams, J. E., Mixon, G. M., & Henderson, K. A. (2004, mars 1). *Evaluating the Quality of Recreation Facilities : Development of an Assessment Tool. | Journal of Park & Recreation Administration | EBSCOhost*. https://openurl.ebsco.com/contentitem/gcd:19626690?sid=ebsco:plink:crawler&id=ebsco:gcd:19626690
13. Chen, B., Adimo, O. A., & Bao, Z. (2009). Assessment of aesthetic quality and multiple functions of urban green space from the users' perspective : The case of Hangzhou Flower Garden, China. *Landscape and Urban Planning*, *93*(1), 76-82. https://doi.org/10.1016/j.landurbplan.2009.06.001

14. Chen, S.-C., & Liu, J.-C. (2023). Using The KANO Model and Importance-Performance Analysis (IPA) to Explore Student Needs in Synchronous Distance Learning Combined with The Gamification Element. *Engineering Proceedings*, *38*(1), 56. https://www.mdpi.com/2673-4591/38/1/56

15. Colman, A., Neumann, M., & Fischer, L. R. (2022). Community Wellness Hubs in Practice : How parks and recreation is helping to create healthier people and happier communities. *Parks & Recreation*, *57*(6), 32-37. https://research.ebsco.com/linkprocessor/plink?id=f61f7154-3b55-3d71-bdb2-ca7cc8c75b10

16. Cronin, J. J., & Taylor, S. A. (1994). Servperf versus Servqual : Reconciling Performance-Based and Perceptions-Minus-Expectations Measurement of Service Quality. *Journal of Marketing*, *58*(1), 125-131. https://doi.org/10.1177/002224299405800110

17. Del Giudice, V., De Paola, P., Morano, P., Tajani, F., & Del Giudice, F. P. (2021). A Multidimensional Evaluation Approach for the Natural Parks Design. *Applied Sciences*, *11*(4), Article 4. https://doi.org/10.3390/app11041767

18. Dinda, S., & Ghosh, S. (2021). Perceived benefits, aesthetic preferences and willingness to pay for visiting urban parks : A case study in Kolkata, India. *International Journal of Geoheritage and Parks*, *9*(1), 36-50. https://doi.org/10.1016/j.ijgeop.2020.12.007

19. Endalew Terefe, A., & Hou, Y. (2024). Determinants influencing the accessibility and use of urban green spaces : A review of empirical evidence. *City and Environment Interactions*, *24*, 100159. https://doi.org/10.1016/j.cacint.2024.100159

20. Gowda, K., Sridhara, M. V., & Rajan, S. (2008). Planning and management of parks and green areas. *Management of Environmental Quality: An International Journal*, *19*(3), 270-282. https://doi.org/10.1108/14777830810866419

21. Hafsi, F. Z. (2024). Planning and designing livable recreational open spaces in developing countries. Insights from Souk Ahras City, Algeria. *Journal of Regional and City Planning*, *35*(2), 150-179. https://doi.org/10.5614/jpwk.2024.35.2.3

22. Hansen, U., & Hennig-Thurau, T. (1999). National Customer Satisfaction Indices : A Critical Investigation from an Application Perspective. In P. Kunst, J. Lemmink, & B. Stauss (Éds.), *Service Quality and Management* (p. 25-53). Deutscher Universitätsverlag. https://doi.org/10.1007/978-3-322-90981-7_3

23. Henderson, K. A. (2014). Promoting health and well-being through leisure : Introduction to the special issue. *World Leisure Journal*, *56*(2), 96-98. https://doi.org/10.1080/16078055.2014.903730

24. Huai, S., & Van de Voorde, T. (2022). Which environmental features contribute to positive and negative perceptions of urban parks? A cross-cultural comparison using online reviews and Natural Language Processing methods. *Landscape and Urban Planning*, *218*, 104307. https://doi.org/10.1016/j.landurbplan.2021.104307

25. Jiang, X., Zhang, J., Yang, C., & Wan, R. (2023). Evaluating the service quality of insular and coastal recreational fisheries by integration of the SERVQUAL-fuzzy Kano model and importance-performance analysis. *Ocean & Coastal Management*, *243*, 106753. https://www.sciencedirect.com/science/article/pii/S0964569123002788

26. Kaczynski, A. T., Schipperijn, J., Hipp, J. A., Besenyi, G. M., Wilhelm Stanis, S. A., Hughey, S. M., & Wilcox, S. (2016). ParkIndex : Development of a standardized metric of park access for research and planning. *Preventive Medicine*, *87*, 110-114. https://doi.org/10.1016/j.ypmed.2016.02.012

27. Kano, N., Seraku, N., Takahashi, F., & Tsuji, S. (1984). Attractive Quality And Must-Be Quality. *Journal of the Japanese Society for Quality Control*, *14*(2), 39-48. https://www.sid.ir/paper/600594/fa

28. Kessel, A., Green, J., Pinder, R., Wilkinson, P., Grundy, C., & Lachowycz, K. (2009). Multidisciplinary research in public health : A case study of research on access to green space. *Public Health*, *123*(1), 32-38. https://doi.org/10.1016/j.puhe.2008.08.005

29. Kong, L., Liu, Z., Pan, X., Wang, Y., Guo, X., & Wu, J. (2022). How do different types and landscape attributes of urban parks affect visitors' positive emotions? *Landscape and Urban Planning*, *226*, 104482. https://doi.org/10.1016/j.landurbplan.2022.104482

30. Kothencz, G., & Blaschke, T. (2017). Urban parks : Visitors' perceptions versus spatial indicators. *Land Use Policy*, *64*, 233-244. https://doi.org/10.1016/j.landusepol.2017.02.012

31. Kuo, F. E., Bacaicoa, M., & Sullivan, W. C. (1998). Transforming Inner-City Landscapes : Trees, Sense of Safety, and Preference. *Environment and Behavior*, *30*(1), 28-59. https://doi.org/10.1177/0013916598301002

32. Kuo, Y.-F., Chen, J.-Y., & Deng, W.-J. (2012). IPA–Kano model : A new tool for categorising and diagnosing service quality attributes. *Total Quality Management & Business Excellence*, *23*(7-8), 731-748. https://doi.org/10.1080/14783363.2011.637811

33. Lee, H.-S. (2015). Measurement of visitors' satisfaction with public zoos in Korea using importance-performance analysis. *Tourism Management*, *47*, 251-260. https://doi.org/10.1016/j.tourman.2014.10.006

34. Li, S., Lu, H., Kong, J., Yu, Z., & Wang, R. (2020). Lean improvement of the stage shows in theme park based on consumer preferences correlation deep mining. *Multimedia Tools and Applications*, *79*(33), 24487-24506. https://doi.org/10.1007/s11042-020-09112-0

35. Li, Z., Liu, Q., Zhang, Y., Yan, K., Yan, Y., & Xu, P. (2022). Characteristics of Urban Parks in Chengdu and Their Relation to Public Behaviour and Preferences. *Sustainability*, *14*(11), 6761. https://doi.org/10.3390/su14116761

36. Liu, R., & Xiao, J. (2021). Factors Affecting Users' Satisfaction with Urban Parks through Online Comments Data : Evidence from Shenzhen, China. *International Journal of Environmental Research and Public Health*, *18*(1), Article 1. https://doi.org/10.3390/ijerph18010253

37. Liu, W.-Y., Wang, J., & Chen, J. S. (2023). IPA-Kano Approach to Evaluating Service Quality : A Case of Taijiang National Park, Taiwan. In J. S. Chen (Éd.), *Advances in Hospitality and Leisure* (Vol. 19, p. 107-120). Emerald Publishing Limited. https://doi.org/10.1108/S1745-354220230000019006

38. Mansfield, L., Daykin, N., & Kay, T. (2020). Leisure and wellbeing. *Leisure Studies*, *39*(1), 1-10. https://doi.org/10.1080/02614367.2020.1713195

39. Martilla, J. A., & James, J. C. (1977). Importance-Performance Analysis. *Journal of Marketing*, *41*, 77-79.

40. Matzler, K., & Hinterhuber, H. H. (1998). How to make product development projects more successful by integrating Kano's model of customer satisfaction into quality function deployment. *Technovation*, *18*(1), 25-38. https://doi.org/10.1016/S0166-4972 (97)00072-2

41. Oh, H. (2001). Revisiting importance–performance analysis. *Tourism Management*, *22*(6), 617-627. https://doi.org/10.1016/S0261-5177 (01)00036-X

42. Oliphant, E. L., Hughey, S. M., Stowe, E. W., Kaczynski, A. T., Schipperijn, J., & Hipp, J. A. (2019). ParkIndex : Using Key Informant Interviews to Inform the Development of a New Park Access Evaluation Tool. *Journal of park and recreation administration*, *37*(1), 10.18666/JPRA-2019-8926. https://doi.org/10.18666/JPRA-2019-8926

43. ONS. (2009). *Office National des Statistiques*. https://www.ons.dz/spip.php?rubrique47

44. Palliwoda, J., & Priess, J. A. (2021). What do people value in urban green? Linking characteristics of urban green spaces to users ; perceptions of nature benefits, disturbances, and disservices. *Ecology and Society*, *26*(1), art28. https://doi.org/10.5751/ES-12204-260128

45. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual : A multiple-item scale for measuring consumer perc. *Journal of retailing*, *64*(1), 12. https://search.proquest.com/openview/7d007e04d78261295e5524f15bef6837/1?pq-origsite=gscholar&cbl=41988

46. Pine, B. J., & Gilmore, J. H. (2013). *Chapter 2 : The experience economy: past, present and future*.https://www.elgaronline.com/edcollchap/edcoll/9781781004210/9781781004210.00007.xml

47. Polko, P., & Kimic, K. (2021). Condition of urban park infrastructure in the context of perceived security of park users. *IOP Conference Series: Earth and Environmental Science*, *900*(1), 012036. https://doi.org/10.1088/1755-1315/900/1/012036

48. Praliya, S., & Garg, P. (2019). Public space quality evaluation : Prerequisite for public space management. *The Journal of Public Space*, *4*(1), 93-126. https://www.journalpublicspace.org/index.php/jps/article/view/667

49. Qiu, L., Lindberg, S., & Nielsen, A. B. (2013). Is biodiversity attractive?—On-site perception of recreational and biodiversity values in urban green space. *Landscape and Urban Planning*, *119*, 136-146. https://doi.org/10.1016/j.landurbplan.2013.07.007

50. Rabni, R., Nazari, J., & Mokhtari, M. (2011). *Sociological explanation of parks function (Case study of Isfahan City)*. *3*(10), 29-31. https://www.sid.ir/paper/394029/fa

51. Sirgy, M. J., Uysal, M., & Kruger, S. (2017). Towards a Benefits Theory of Leisure Well-Being. *Applied Research in Quality of Life*, *12*(1), 205-228. https://doi.org/10.1007/s11482-016-9482-7

52. Slack, N. (1994). The Importance-Performance Matrix as a Determinant of ImprovementPriority. *International Journal of Operations & Production Management*, *14*(5), 59-75. https://doi.org/10.1108/01443579410056803

53. Theodorakis, N. D., Alexandris, K., Tsigilis, N., & Karvounis, S. (2013). Predicting spectators' behavioural intentions in professional football : The role of satisfaction and service quality. *Sport Management Review*, *16*(1), 85-96. https://doi.org/10.1016/j.smr.2012.05.004

54. Wade, D. J., & Eagles, P. F. J. (2003). The Use of Importance–Performance Analysis and Market Segmentation for Tourism Management in Parks and Protected Areas : An Application to Tanzania's National Parks. *Journal of Ecotourism*, *2*(3), 196-212. https://doi.org/10.1080/14724040308668144

55. Wang, D., Brown, G., Zhong, G., Liu, Y., & Mateo-Babiano, I. (2015). Factors influencing perceived access to urban parks : A comparative study of Brisbane (Australia) and Zhongshan (China). *Habitat International*, *50*, 335-346. https://doi.org/10.1016/j.habitatint.2015.08.032

56. Wright Wendel, H. E., Zarger, R. K., & Mihelcic, J. R. (2012). Accessibility and usability : Green space preferences, perceptions, and barriers in a rapidly urbanizing city in Latin America. *Landscape and Urban Planning*, *107*(3), 272-282. https://doi.org/10.1016/j.landurbplan.2012.06.003

57. Yang, Q., & Dobbie, M. F. (2019). Importance-Satisfaction Analysis Of Cultural Ecosystem Services Of Multifunctional Landscapes Designed For Stormwater Management. *Landscape Architecture Frontiers*, *7*(1), 52. https://doi.org/10.15302/J-LAF-20190105

58. Yin, J., Cao, X. J., Huang, X., & Cao, X. (2016). Applying the IPA–Kano model to examine environmental correlates of residential satisfaction : A case study of Xi'an. *Habitat International*, *53*, 461-472. https://www.sciencedirect.com/science/article/pii/S0197397515002726

59. Yu, B., Che, S., Xie, C., & Tian, S. (2018). Understanding Shanghai Residents' Perception of Leisure Impact and Experience Satisfaction of Urban Community Parks : An Integrated and IPA Method. *Sustainability*, *10*(4), Article 4. https://doi.org/10.3390/su10041067

60. Zhang, J., Yin, N., Wang, S., Yu, J., Zhao, W., & Fu, B. (2020). A multiple importance–satisfaction analysis framework for the sustainable management of protected areas : Integrating ecosystem services and basic needs. *Ecosystem Services*, *46*, 101219. https://doi.org/10.1016/j.ecoser.2020.101219

61. Zheng, T., Yan, Y., Lu, H., Pan, Q., Zhu, J., Wang, C., Zhang, W., Rong, Y., & Zhan, Y. (2020). Visitors' perception based on five physical senses on ecosystem services of urban parks from the perspective of landsenses ecology. *International Journal of Sustainable Development & World Ecology*, *27*(3), 214-223. https://doi.org/10.1080/13504509.2020.1729272

62. Zhu, J., Lu, H., Zheng, T., Rong, Y., Wang, C., Zhang, W., Yan, Y., & Tang, L. (2020). Vitality of Urban Parks and Its Influencing Factors from the Perspective of Recreational Service Supply, Demand, and Spatial Links. *International Journal of Environmental Research and Public Health*, *17*(5), 1615. https://doi.org/10.3390/ijerph17051615

63. Zolfaghari, A., & Choi, H. C. (2023). Elevating the park experience : Exploring asymmetric relationships in visitor satisfaction at Canadian national parks. *Journal of Outdoor Recreation and Tourism*, *43*, 100666. https://doi.org/10.1016/j.jort.2023.100666