

# Assessing citizen satisfaction indicators for urban public services to enhance quality of life in Sharm el-Sheikh

Eman Metwally<sup>a,\*</sup>, Enas Samir<sup>b</sup>

<sup>a</sup> Lecturer, in the department of architecture, The Higher Institute of Engineering - El-Shorouk Academy, Egypt

<sup>b</sup> Lecturer, in the department of architecture, The Higher Institute of Engineering - El-Shorouk, Egypt

## ARTICLE INFO

### Keywords:

Citizen satisfaction indicators  
Quality of life (QOL)  
Sharm el-Sheikh city

## ABSTRACT

The quality of urban life is a crucial area of urban studies, encompassing social, environmental, and economic aspects. Sharm el-Sheikh, a popular tourist destination in Egypt, faces challenges in balancing tourism development with citizen satisfaction with public services. This study aimed to assess citizen satisfaction with key urban services in Sharm el-Sheikh and identify areas for improvement. A survey was conducted by the South Sinai Urban Observatory, employing stratified sampling to ensure a representative sample across demographics. The survey utilized a combination of closed-ended questions with a five-point Likert scale and an open-ended question for additional feedback.

The analysis revealed that citizens expressed satisfaction with road and traffic services, government office services, the City Council, and security services. However, dissatisfaction was also identified in areas such as educational services, access to qualified doctors, the sanitation system, the availability of safe drinking water, and cultural services.

Based on these findings, the study recommends that decision-makers in Sharm el-Sheikh prioritize addressing these areas of lower satisfaction. Regularly conducting citizen satisfaction surveys and fostering trust between citizens and the government are crucial for ongoing improvement in urban and tourism services, ultimately enhancing the city's overall quality of life.

## 1. Introduction

Urban areas are vital for economic, social, and political growth which have been shown to be the most desirable places for wealth employment, creation, and innovation. However, they also present a number of challenges, including social exclusion, insecurity, unemployment, economic inequality, physical and environmental degradation, traffic, and lack of housing [1]. Planners and policymakers stress the role that cities play in improving human life quality [2]. The concept of the quality of life has been proposed to address these issues and improve urban quality of life. It offers a means of tracking community development plans and gauging the fulfillment of material and psychological requirements [3].

The impact of life quality on happiness and welfare has been the subject of scientific research and theory in recent years, drawing attention to the quality of life. The strategy is to establish a healthy city, provide everyone with municipal services that are appropriate and available in the context of sustainability, and foster satisfaction [4].

Quality of life is a reflection of one's sense of health, influenced by social, economic, and environmental conditions in a city [5]. It consists of elements like street patterns, speech intelligibility, local characteristics, and identity. The physical layout and construction of cities have an impact on the environment's quality. Improved economic factors like income distribution, public service accessibility, growth, productivity, and capital are contributing to the rising quality of life in modern countries [6].

Municipalities and cities provide their citizens with a range of public services that ensure a certain standard of general comfort in their neighborhood [7]. Because of globalization, ICT improvements, and citizen-centered governance approaches, local government employees now have different needs and expectations. In order to measure public satisfaction, local governments today strive to provide services that satisfy the needs and expectations of the people [8]. In this context, gaining the residents' respect, support, and gratitude as well as responding to their opinions—whether favorable or unfavorable—about such services have grown in importance for governments [9].

\* Corresponding author.

E-mail address: [e.metwally@sha.edu.eg](mailto:e.metwally@sha.edu.eg) (E. Metwally).

<https://doi.org/10.1016/j.asej.2024.102841>

Received 18 December 2023; Received in revised form 19 April 2024; Accepted 28 April 2024

Available online 3 May 2024

2090-4479/© 2024 THE AUTHORS. Published by Elsevier BV on behalf of Faculty of Engineering, Ain Shams University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

This study aims to address a critical gap in understanding citizen satisfaction with public services in Sharm el-Sheikh, a major tourist destination in Egypt. While the city experiences significant the impact on resident satisfaction with essential services remains under-explored. To bridge this knowledge gap, this research seeks to answer the following key questions:

- What is the level of citizen satisfaction with core public services in Sharm el-Sheikh, including education, healthcare, culture, leisure, and sports?
- How do these satisfaction levels vary across different demographics and service categories?
- What are the key strengths and weaknesses of public services in Sharm el-Sheikh, as perceived by residents?

By answering these questions, this study aims to:

- Provide a comprehensive assessment of citizen satisfaction with public services in Sharm el-Sheikh.
- Identify areas where service delivery can be improved to enhance resident well-being.
- Offer valuable insights to inform future planning and decision-making processes, ultimately contributing to a higher quality of life for Sharm el-Sheikh's citizens.

## 2. Literature review

### 2.1. Quality of life (QOL)

Quality of life, or QOL, is a multifaceted notion that includes a range of elements that impact people's well-being, including personal freedom, social relationships, economic stability, physical and mental health, and environmental quality [10]. Because quality of life is subjective and differs between people and societies, there is no one definition for it [11]. However, common factors that are often considered important for QOL include physical and mental well-being, social interactions, financial stability, the state of the environment, and individual freedom [12]. It can be difficult to measure QOL, but there are methods that can help, like focus groups, interviews, and surveys [13]. QOL measurement is crucial for determining the factors that matter most for people's well-being, monitoring changes in QOL over time, and comparing QOL across other populations [14]. People's views of what makes for a high quality of life are shaped by cultural and societal variables, which also have a substantial impact on how they perceive values, beliefs, and priorities [15]. Therefore, it is crucial to take these factors into account when evaluating QOL to guarantee that the assessment covers the pertinent characteristics and reflects the values and priorities of the population being researched [16].

Sometimes, cities are conceptualized as collections of services that are available to citizens. The people's needs and preferences align with the city's social and economic processes. The former places a strong emphasis on citizen satisfaction, cooperation, and interaction [17]. The latter emphasizes economic specialization's industrial and functional characteristics more, implying employment from the citizen's point of view [18]. Demands for improving people's quality of life are reflected in vision statements for urban planning and design. Physical characteristics, accessibility, livability, character, communication, and personal freedom are what define an urban environment [19]. The dimensions and placement of urban blocks, buildings, streets, walkways, and open areas are examples of physical features. While livability is about survival, access to healthcare, personal health, and safety, accessibility is about having easy access to a variety of amenities [20]. Transportation and telecommunications technologies are included in communication. A sense of location, time, stability, warmth, and beauty are all indicators of character [21].

In this study, the physical, social, environmental and economic

features of the city are complemented by institutional factors that reflect the quality and efficiency of services provided by the local government as important determinants of quality of life, well-being and happiness [22].

### 2.2. Citizen satisfaction indicators

The idea of satisfaction in general refers to the psychological pleasure, assurance, and satisfaction that come with achieving objectives. Examples of this include the satisfaction that arises from achieving one's goals in life and at work. Additionally, satisfaction is a psychological state that one experiences to the degree that one's needs are [23].

The phrase "consumer satisfaction," or "customer satisfaction" was first used in business contexts. Similar words were employed in the services sector: Citizen contentment, beneficiary satisfaction, or receiver satisfaction [24].

Numerous studies are included in the literature review on citizen satisfaction indicators. One study highlights the use of citizen satisfaction data as a performance indicator by examining the relationship between survey results and internal performance metrics [25]. In a different study, the expectancy disconfirmation model is used to gauge citizen satisfaction in the public sector. This study emphasizes the significance of citizen satisfaction in fostering citizen-government trust [26]. Furthermore, a research study employs the American Customer Satisfaction Index (ACSI) paradigm to examine how satisfied rural residents are with municipal services [27]. Another study uses structural equations to gauge the perceived and expected quality of public services as it looks into citizen satisfaction and loyalty in the Guayaquil metropolitan area [28]. Lastly, an article highlights that citizen satisfaction statistics may not always accurately reflect service performance and addresses the possibility of misusing it as a performance measure [29].

Chen, R., Hsiao, J., & Hwang, H. (2012). Measuring customer satisfaction of Internet.

banking in Taiwan: Scale development and validation. Total Quality Management &

Business Excellence, 23(8), 749-767.

<http://dx.doi.org/10.1080/14783363.2012.704284>.

Overall, these sources offer information on metrics of citizen satisfaction across a range of categories, such as municipal and public services. They talk about the implications of citizen satisfaction indicators as well as various models and methods of measurement [30].

Based on the search results, here are some of the most commonly used methods for measuring citizen satisfaction:

- **Citizen satisfaction surveys:** In these surveys, people are asked to rank how satisfied they are with many areas of public services, like public safety, waste management, and transportation [31].
- **Expectancy disconfirmation model:** Comparing citizens' expectations of service quality to their actual experiences is how this model measure's citizen satisfaction [26].
- **American Customer Satisfaction Index (ACSI) model:** This model is used to measure citizen satisfaction with municipal services in rural [27].
- **Structural equations:** This technique compares the perceived and expected quality of public services in order to look into citizen satisfaction and loyalty in the Guayaquil metropolitan area [28].

In general, citizen satisfaction surveys are the most commonly used way to measure citizens' satisfaction, and will therefore be used in this research by applying to citizens of Sharm el-Sheikh.

Citizen satisfaction surveys have advantages and disadvantages. Advantages include providing anonymous and unambiguous insight into citizens' thoughts and perceptions of public services, identifying areas where improvements are needed, and tracking changes in citizen feedback over time [32]. Surveys can be administered in different formats, including online, email, paper, mobile, and telephone surveys,

depending on the best way to reach the target citizen base [33]. Disadvantages include the potential for surveys to not always reflect actual service performance, not capturing all aspects of citizen satisfaction, being subject to response and social desirability bias, and being costly and time-consuming to administer [34]. While citizen satisfaction surveys can provide valuable insights into citizen satisfaction with public services, they also have limitations and potential biases that should be considered when interpreting the results [35].

### 3. Material and methods

#### 3.1. Case study

Sharm el-Sheikh is situated on the southeast coast of the Sinai Peninsula in Egypt and is well-known for its stunning beaches and advantageous location near the Gulf of Aqaba's entry [36]. Sharm el-Sheikh is known for its role in tourism, hosting numerous international conferences and diplomatic meetings such as the UN Climate Talks (COP27) in 2022, which agreed on important conclusions to address climate change, also held in Sharm el-Sheikh [37]. as it won her the title of "City of Peace." The city is characterized by diverse marine life and hundreds of coral reef sites in the Red Sea, making it a major destination for divers and eco-tourists. Sharm el-Sheikh is one of the top three diving sites visited worldwide, and has diving and shipwreck sites attracting advanced and recreational divers from around the world to discover. The city is also home to historic religious sites, such as St. Catherine's Monastery, offering various activities, including hiking, quad biking and safari camping. Citizens' satisfaction is an important aspect, as it contributes to the overall image and competitiveness of Sharm el-Sheikh as a destination.

#### 3.2. Methodology for designing an effective citizen satisfaction survey

The following steps have been taken when designing an effective citizen satisfaction survey in Sharm el-Sheikh:

1. **Determining the purpose and objectives of the survey [38]:** A great method to improve your city and engage with your community is to clearly define your major purpose and participate in a citizen satisfaction survey offered by the Urban Observatory on Urban Services. By becoming involved, you can ensure that your voice is heard and contribute to the future of your city.

4 **Choose the correct scanning method:** The best survey approach for the target group is one of the two: online or mobile phone surveys.

3. **Develop clear and concise survey questions:** Simple-to-understand survey questions with a focus on clarity and conciseness have been prepared. Additionally, technical phrases or terms that could be confusing to responders have not been used [39].

4. **Use a combination of closed and open questions:** The collection of both quantitative and qualitative data involved the use of both open-ended and closed-ended questions. Open questions yield more accurate and detailed answers, whereas closed questions offer organized data that is easier to evaluate and has been more heavily depended upon in the survey [40].

5. **Test the survey:** To make sure the questions are understandable and unambiguous, a small sample of the intended audience participated in the survey's testing. The ambiguous questions were changed, and all of the survey's notes were taken into consideration.

6. **Ensure anonymity and confidentiality:** To promote truthful and accurate responses, make sure the survey is private and anonymous [41].

7. **Analysis and reporting of results:** Decision-makers received a clear and comprehensive analysis and report of the survey results, which helped them to understand the advantages and disadvantages of the services offered to residents, pinpoint areas that needed improvement, and create plans of action to address those issues [27].

#### 3.3. Sample methodology of citizen's satisfaction survey in Sharm el Sheikh city

**1st Survey Delivery Format:** The survey employed two primary delivery formats to reach a wider range of Sharm el-Sheikh residents:

- **Online Survey:** An online survey platform (Survey 123 3.18.123 software version provided by Esri) was utilized. The South Sinai Urban Observatory team disseminated the online survey link through various online surveillance tools, aiming for maximum reach among citizens with internet access.
- **Mobile Phone Survey:** The survey was also made accessible via mobile phones, allowing participation for those with smartphones but limited internet access.

**2nd Mode Randomization:** We acknowledge that the survey delivery format was not randomly assigned to participants. This could potentially introduce mode effects, where response patterns differ based on whether someone completes the survey online or via mobile phone.

**3rd Minimizing Mode Effects:** While random assignment wasn't implemented, the South Sinai Urban Observatory team took steps to minimize potential mode effects:

- **Data Verification, Filtering, and Cleaning:** Rigorous data verification, filtering, and cleaning procedures were implemented during both online and mobile phone data collection. This helped ensure data quality and consistency regardless of the delivery format.
- **Survey Design:** The survey itself was designed to minimize potential biases inherent in online or mobile phone surveys. This included clear instructions, balanced question formats, and minimizing opportunities for social desirability bias.

A representative sample of citizen satisfaction survey was selected randomly by the South Sinai Urban Observatory team through online surveillance tools and mobile phones using Survey123 3.18.123 version by Esri to reach the largest number of citizens to share their views according to the following methodology:

1. **Target Population:** This survey targets citizens in Sharm el-Sheikh in the age group (18 years and above). This age is chosen to be the individual with a high degree of awareness of the various services offered by the governorate so that he can answer survey questions and express an opinion in those services.
2. **Sample size:** The sample size was calculated in cooperation between the urban observatory in South Sinai governorate and the Central Agency for Public Mobilization and Statistics on the basis of the method using the percentage of the phenomenon in question. This method is calculated on the basis of several variables:
  - Percentage of phenomenon studied according to previous surveys or administrative data
  - The degree of confidence in the estimates or indicators extracted from the survey results based on this size of the sample, was (90, 95, 99 %) and the degree of confidence of the estimate is correlated positively with the sample size, i.e. the higher the level of trust required by the sample followed by an increase in the sample size and vice versa.
  - The level of accuracy of the estimate, which is the allowable margin of error, is any difference between the true value and the estimated value of the parameter for which an estimate is required using the sample data.

Thus, the sample of this survey is calculated according to the number of qualified individuals (18 years and older) based on the method used the ratio of the phenomenon studied using the following formula:

$$n = \frac{Z^2PQ(1+r)*D}{E^2*HHsize}$$

**Where:**

- n: Calculated sample size.  
 Z: Corresponding table value of confidence score 95 % = 1.96.  
 P: The default ratio will be used 0.5 to achieve the highest possible variation.  
 Q: Supplementary ratio for P = P-1.  
 r: non-response rate and used at 10 %.  
 D: Number of domains on which the data will be published.  
 E: Target error margin = 0.049 which is the difference between the true ratio and the estimated ratio.  
 HHsize: Average household size in the age group (18 years and over) = 2.4.

According to the potential bias associated with using online surveys for sample selection in our study. To mitigate this bias and ensure a more representative sample of Sharm el-Sheikh's population, we employed a two-pronged approach:

1. Stratified Sampling: The sample size of 2,365 was calculated using a previous standard statistical formula and represents approximately 15 % of the total population of 15,765 citizens (CAPMAS, 2023). This sample was further stratified to ensure proportional representation across key demographics, including:
  - Age: All adults over 18 years old were included.
  - Gender: The sample reflects the city's male-to-female ratio (64.11 % male, 35.89 % female).
  - Education: All education levels were represented, from illiterate to those holding university degrees or higher.
  - Employment: The sample included individuals from various sectors, such as government, private, and this questionnaire does not include tourists in the city, whether they are analysts or international. (CAPMAS, 2017).

3. Sample Size Justification: The sample size of 2,365 provides a 95 % confidence level with a 5 % margin of error, ensuring statistically significant results representative of the Sharm el-Sheikh population.

## 4. Analysis Plan:

- Descriptive statistics will be used to summarize the demographic characteristics of the respondents.
- Chi-square tests will be conducted to analyze potential relationships between demographic factors and satisfaction levels.
- Thematic analysis will be employed to identify recurring themes and categorize the qualitative data from the open-ended question.

## 5 Survey Validation:

- The survey instrument was reviewed by experts in public service delivery and citizen satisfaction measurement to ensure content validity.
  - A pilot test was conducted with a small sample of Sharm el-Sheikh residents to assess the clarity and comprehensibility of the questionnaire and refine it before full deployment.
6. Collaboration with the Urban Observatory: We collaborated with the established working group of the Urban Observatory in South Sinai for survey distribution. This group has experience conducting surveys and employs in-person interviews to ensure data collection reaches all citizens, including those with limited technological access. Additionally, the Urban Observatory team followed up with participants to ensure each individual completed the survey only once and that the system functioned optimally.

By combining stratified sampling with the expertise of the Urban Observatory, we aimed to achieve a more comprehensive and

representative sample of Sharm el-Sheikh's population, minimizing potential bias due to online survey methods.

## 3.4. The design of citizen satisfaction survey in Sharm el Sheikh city

The survey was designed to measure citizens' satisfaction with the services provided to them in Sharm el-Sheikh as shown in Fig. 1, with the aim of measuring their satisfaction with those services and knowing the strengths and weaknesses of those services to present them to decision makers correctly and clearly to help them identify areas of improvement and the most inadequate sectors in the city and develop plans for improvement and follow-up to improve the quality of life deserved by the city's inhabitants.

Additionally, the researchers proactively engaged with key stakeholders at different levels to achieve this goal.

- His Excellency, the Governor of South Sinai: I had the privilege of meeting with the Governor to discuss the research objectives and receive feedback on the questionnaire's clarity, relevance, and potential impact. He provided valuable edits, including merging and deleting certain questions, that ensured the survey captured information aligned with his vision and the wider context of the region.
- The Mayor of Sharm El Sheikh and City Council Employees: I further collaborated with the mayor and city council employees to gain insights into administrative practices and ensure the survey resonated with their daily work experiences. This input helped refine the terminology and approach used in the survey.

This comprehensive approach, involving both high-level leadership and ground-level practitioners, has significantly enhanced the relevance and comprehensiveness of the survey by incorporating diverse perspectives and expertise.

The survey included a set of questions related to all public and government services that people deal with and selected according to the offered services needed from the local governmental ministries, as shown in Table. 1 and Fig. 2. such as measuring satisfaction with the main sectors supervised by the ministry of local development in South Sinai governorate, Sharm el-Sheikh city. The main services like educational services, including measuring satisfaction with the quality of teachers, classroom density, and proximity of the school to residential areas. Additionally, health services will be measured to determine citizen satisfaction with hospital efficiency, availability, doctor efficiency, availability of pharmacies, radiology and analysis centers, as well as measuring their satisfaction with the comprehensive health insurance system. Satisfaction with environmental services will also be measured, for example the regular dumping system for solid waste containers, street cleanliness and beautification, and the availability of parks and green spaces in city neighborhoods. The importance of measuring satisfaction with security and civil defense services will also be measured to determine the extent of control over theft, begging, and fires, as well as the availability of security patrols for the importance of citizens' sense of security in the city in which they live. Satisfaction rates for cultural services will also be measured for their important role in society and their strong impact on the quality of life of citizens, such as measuring satisfaction with support for talented and creative people, the availability of activities in libraries and cultural palaces, the availability of theaters and cinemas, and the culture and arts of women and children, as well as training workshops for teaching traditional handicrafts. Satisfaction with infrastructure and facilities will also be measured, whether it is the quality of drinking water, sewage, and electricity, or the quality of the road network, paving, lighting, and the suitability of pedestrian and bicycle paths. Finally, citizen satisfaction with the services provided by the city, such as Egypt services, technological centers, post offices, and the city council, will be measured. The sample targeted all categories of people in the city, and the survey was designed to be administered in various formats, including online, email, paper, mobile,



Fig. 1. Distribution of samples to the districts of Sharm el-Sheikh Source: Google Earth modified by authors.

kiosk, and telephone surveys, depending on the best way to reach the target citizen base. To ensure alignment with community needs and priorities, a two-pronged approach was adopted for identifying relevant indicators for assessing citizen satisfaction with urban public services in Sharm El-Sheikh:

- **Needs assessment:** This stage involved meetings and interviews with representatives from the local community. These discussions aimed to gather insights on the real needs of citizens and establish a baseline understanding of the existing services offered.
- **Collaborative indicator development:** Based on the needs identified during the meetings and interviews, a questionnaire was drafted. This process involved collaboration between the local community and decision-makers. The questionnaire was iteratively refined and voted upon by both parties, ensuring it captured aspects relevant to actual needs, opportunities, limitations, and the strategic plan for the city. This collaborative approach aimed to ensure the selected indicators effectively measured citizen satisfaction in relation to their quality of life.

#### 4. Results and Discussion

Statistics is a way of collecting and analyzing the survey's results and data so that we can obtain an appropriate description of the circumstances. In the statistical analysis, we are also trying to draw a comprehensive picture of the data collected and draw valid conclusions about the degree of citizens' satisfaction in the city. Since the figures themselves are meaningless by conducting the survey and assessing the resulting data, we will get patterns that allow decision makers to make meaningful decisions to improve citizens' quality of life.

The IBM-SPSS statistical analysis program 29.0.10 software version will be used to analyze the results of the citizen satisfaction rates survey in Sharm el-Sheikh. The following statistical treatments (repetitions and

percentages, mean, standard deviation) have been used, measuring satisfaction rates by five levels according to the quintuplet division scale (fully satisfied, satisfied, somewhat satisfied, dissatisfied, not entirely satisfied).

The data is processed and entered on the IBM-SPSS Statistical Analysis program to analyze the repetitions and percentages by using the list of analysis and selecting Descriptive Statistics and then selecting the differentiated indicators for the survey and then selecting the measurement of both mean and standard deviation to get the results of indicators of citizens' satisfaction with different services such as education, health and culture..... etc.

The average satisfaction with the level of roads and traffic has been measured at 4.12, which means a large percentage of citizens' satisfaction with them. The highest rate of satisfaction with the ease and streamlining of traffic is about 4.25. The percentage of full satisfaction and satisfaction with this service is about 83.1 % of the total number of participants in the survey due to the expansion of the number of road lanes and the increase of its efficiency, especially during the period of the COP27 in Sharm el-Sheikh. Followed by average satisfaction with the suitability of bike routes and availability of public transport is about 4.22 and 4.21 respectively, where the percentage of complete satisfaction and satisfaction is about 81 % and the lowest average satisfaction with the appropriateness of walkers' paths represents 3.97 as shown in Table. 2 and Fig. 3.

The average satisfaction with the level of health services was measured at about 3.8. The highest rate of satisfaction with the availability of pharmacies is about 4.05, where the percentage of full satisfaction and satisfaction with this service is about 75.1 % of the total number of participants in the survey. Followed by average satisfaction with the speed of response of ambulances when needed and the efficiency and hygiene of health service delivery places is about 4.03 and 3.90 respectively, where the percentage of full satisfaction and satisfaction is about 70 %. The lowest average satisfaction with the

**Table 1**  
The public services and government services in Sharm El sheikh city.

Main sector	Indicators
Satisfaction with the level of roads and traffic	Road quality and excavation treatment Availability of road and street lighting Easy and smooth traffic Suitable for pedestrian paths Availability of public transportation Convenient bike paths
Satisfaction with the level of health services	Effective control of diseases and epidemics Availability of health centers in the neighborhood Availability of specialized hospitals in the neighborhood Efficiency and cleanliness of places where health services are provided Availability of qualified doctors in all specialties Availability of pharmacies Availability of laboratories and radiology centers Comprehensive health insurance system Ambulance response speed when needed
Satisfaction with the level of the environmental situation	Street cleaning and beautification Availability of parks and green spaces in the city's neighborhoods Regular emptying of solid waste collection containers Free from sewage leaks and permanent maintenance
Satisfaction with the level of education	The lands are free of construction waste Availability of baby daycare Availability of schools/universities Close to schools/universities Quality of schools/universities in terms of construction Quality of schools/universities in terms of class density The quality of the teacher/faculty members Quality of school/university administration
Satisfaction with the level of security services and civil defense	Control thefts Controlling the phenomenon of begging Controlling the phenomenon of street children Control the phenomenon of homeless individuals Fire control
Satisfaction with the level of leisure and tourism services	Availability of security patrols Availability of good places for entertainment and tourism Availability of shopping centers Availability of places for exercise Services provided by Sharm el-Sheikh Museum Availability of gardens equipped with facilities and children's games Hotel services Beach services
Satisfaction with the level of sports services	Availability of youth centers Availability of vanguards and scouts Availability of sports competitions Availability of conservative support for athletes and their families Availability of open playgrounds
Satisfaction with the level of services and facilities	Drinking water quality Domestic water quality The quality of the sewage network Quality and regularity of electricity services The speed and regularity of the Internet service The abundance of water supplied to the homes through the network

**Table 1 (continued)**

Main sector	Indicators
	Electricity utility bill Water and sanitation utility bill Gas utility bill
Satisfaction with the level of culture services	Support talented and creative Availability of library and culture palaces activities Availability of theatres and cinemas Women's and children's culture and arts Training workshops to teach Bedouin handicrafts
How satisfied are you with the level of performance of the following public institutions?	Post office Police station court Social Solidarity Services Centers (Solidarity and dignity Housing Directorate services (licenses issuance – reconciliation of violations – etc.) Passport service Civil affairs Electronic portal services serving Egypt Citizens Service (Technological Center) chamber of commerce Digital Egypt Services Civil Defense local unit

Source: by authors

availability of qualified doctors in all disciplines is 3.45. Many citizens have registered their displeasure with the level of competence of doctors present in Sharm el-Sheikh and having to go to Cairo in critical illness cases. This is as shown in [Table 3](#) and [Fig. 4](#).

With regard to the level of environmental status, the average satisfaction of citizens is 4.06. The highest rate of satisfaction with the hygiene and beautification of the streets is about 4.23. The percentage of satisfaction and satisfaction with this service is about 82.7 % of the total number of participants in the survey due to the interest of the Sharm el-Sheikh City Council in the aesthetic and urban image. Followed by the average satisfaction with the regular discharge of solid waste collection containers and the availability of gardens and green spaces in the city's neighborhoods where the central park was established to reach 4.06 and 4.05 respectively where the total satisfaction and satisfaction ratio is about 73 % and the lowest average satisfaction with sewage leaks and permanent maintenance is 3.97 as shown in [Table 4](#) and [Fig. 5](#).

In addition, the average satisfaction with the level of education was measured to 3.78. The highest satisfaction rate with the availability of nurseries is about 3.87, where the percentage of full satisfaction and satisfaction with this service is about 65 % of the total number of participants in the survey. Followed by the average close satisfaction of schools/universities and the availability of schools/universities is about 3.84 and 3.82 respectively due to the availability of many schools at various levels whether government schools, experimental schools, private schools or international schools in addition to the Japanese school. University education was also provided through King Salman University. The lowest average satisfaction with the quality of the teacher/teaching staff is 3.68 with a satisfaction ratio of 58.2 % of the total number of participants in the survey. Citizens suffer from poor educational capabilities of schools as shown in [Table 5](#) and [Fig. 6](#).

In terms of satisfaction with the level of security services and civil defense, citizens' average satisfaction is 4.1. Citizens enjoy a high level of security in terms of control over thefts, begging phenomenon, street children and availability of security courses, which represents the highest satisfaction rate of 4.27. The percentage of full satisfaction and satisfaction with this service is about 85.3 % of the total number of participants in the survey, followed by an average satisfaction with the control of thefts and fire control of 4.24 and 4.23 respectively, where the

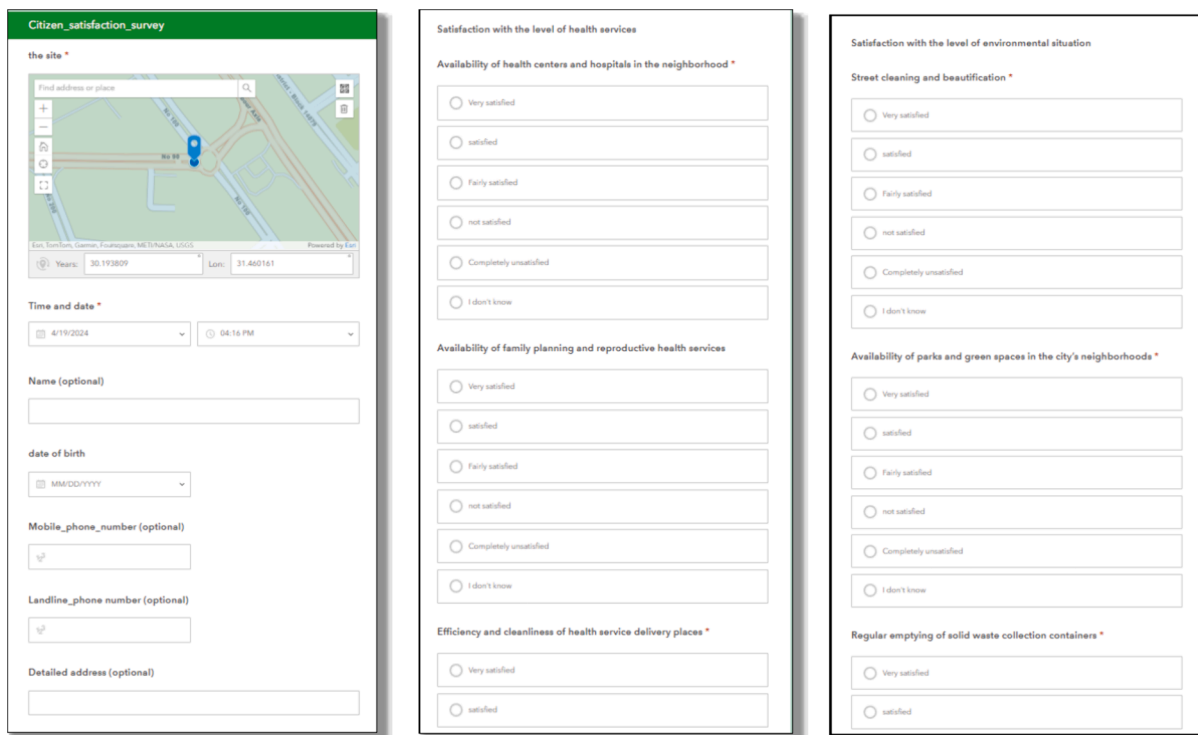


Fig. 2. Satisfaction rates with the level of government services and services in Sharm El Sheikh city on Survey 123 app by ESRI Source: by authors.

**Table 2**  
Satisfaction with the level of roads and traffic services in Sharm El sheikh city.

Satisfaction rates with the level of government services and services	Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean
Road quality and excavation treatment	35.9	34.2	27.8	1.3	.8	4.03	0.87	4.12
Availability of road and street lighting	35.0	38.4	21.1	5.5	0.0	4.03	0.88	
Easy and smooth traffic	44.3	38.8	14.8	1.7	.4	4.25	0.80	
Suitable for pedestrian paths	33.8	39.2	19.0	6.3	1.7	3.97	0.97	
Availability of public transportation	41.4	40.5	16.0	1.7	.4	4.21	0.80	
Convenient bike paths	42.6	40.1	14.8	2.1	.4	4.22	0.80	

Source: The authors analyze using the statistical analysis program SPSS

percentage of complete satisfaction and satisfaction is about 81 % and the lowest average satisfaction with the control of the begging phenomenon is 3.78 as shown in Table 6 and Fig. 7.

The average satisfaction with the level of leisure and tourism services was measured at around 3.95 The highest satisfaction rate with the availability of good places for recreation and tourism is about 4.08. The percentage of full satisfaction and satisfaction with this service is about 74.3 % of the total number of participants in the survey due to the presence of many hotels, beaches and various tourist resorts in Sharm el-Sheikh. Followed by the average satisfaction with the availability of shopping malls and the availability of sports venues at approximately the same rate as 4.05 where the percentage of complete satisfaction and satisfaction is about 75 % and reaches the lowest average satisfaction with beach services and represents 3.71 as shown in Table 7 and Fig. 8.

The average satisfaction with the level of sports services was measured at about 3.8 The highest rate of satisfaction with the availability of youth centres is about 3.97, where the percentage of full satisfaction and satisfaction with this service is about 71.7 % of the total number of participants in the survey. Followed by average satisfaction with the multitude of sports competitions and availability of vanguards and scouts is about 3.95 and 3.90 respectively, where the percentage of

complete satisfaction and satisfaction is about 68 % and the lowest average satisfaction with the availability of provincial support for athletes and their families is 3.68 as shown in Table 8 and Fig. 9.

As for measuring satisfaction with the level of services and facilities, whether drinking water, drainage, electricity, gas or telecommunications, the average overall satisfaction with such services is 3.5. The highest satisfaction rate with the abundance of water received by housing through the network is about 3.87. The percentage of full satisfaction and satisfaction with this service is about 66.8 % of the total number of participants in the survey. Followed by the average satisfaction with the quality of drinking water and the quality of the water of domestic use is about 3.72 and 3.71 respectively, where the percentage of complete satisfaction and satisfaction is about 59 % and the lowest average satisfaction with the quality of the sewage system is 3.97 as shown in Table 9 and Fig. 10.

The average satisfaction with cultural services was measured at about 3.6 The highest satisfaction rate for Women’s and Children’s Culture and arts is about 4.15. The total satisfaction rate for this service is about 79.4 % of the total number of participants in the survey. Followed by average satisfaction with Availability of theatres and cinemas and Training workshops to teach Bedouin handicrafts is about 4.13 and

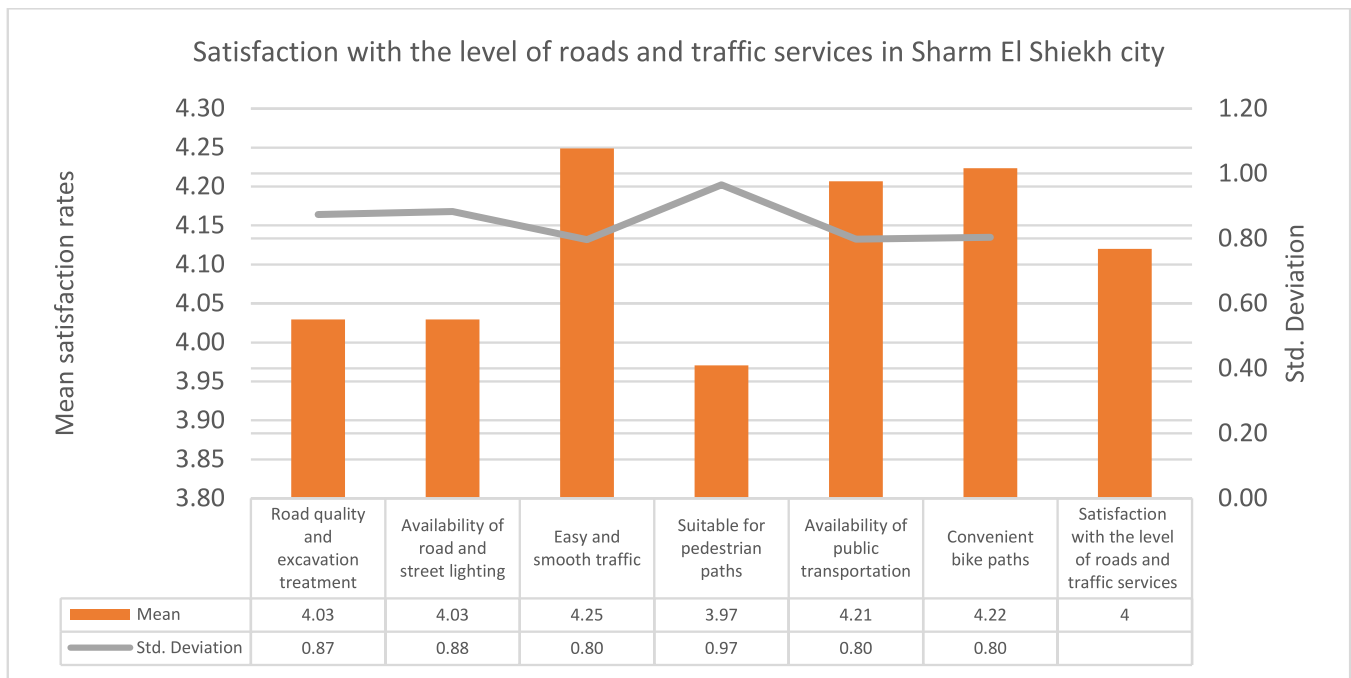


Fig. 3. Satisfaction with the level of roads and traffic services in Sharm El Sheikh city Source: by authors.

Table 3

Satisfaction with the level of health services in Sharm El sheikh city.

Satisfaction rates with the level of government services and services		Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean
Satisfaction with the level of health services	Effective control of diseases and epidemics	25.3	40.5	28.7	4.6	.8	3.85	0.88	3.8
	Availability of health centers in the neighborhood	23.2	38.8	27.8	8.4	1.7	3.73	0.96	
	Availability of specialized hospitals in the neighborhood	24.9	36.7	27.0	10.1	1.3	3.74	0.98	
	Efficiency and cleanliness of places where health services are provided	30.8	39.2	21.9	5.5	2.5	3.90	0.98	
	Availability of qualified doctors in all specialties	18.1	31.6	31.2	14.8	4.2	3.45	1.08	
	Availability of pharmacies	35.4	39.7	21.1	2.1	1.7	4.05	0.89	
	Availability of laboratories and radiology centers	25.7	39.2	25.7	7.2	2.1	3.79	0.97	
	Comprehensive health insurance system	23.2	35.4	29.5	7.2	4.6	3.65	1.05	
	Ambulance response speed when needed	34.6	38.4	23.2	3.4	.4	4.03	0.87	

Source: The authors analyze using the statistical analysis program SPSS

4.08 respectively where the full satisfaction and satisfaction ratio is about 81 % and reaches the lowest average satisfaction with Support Talented and creative and represents 3.44 as shown in Table 10 and Fig. 11.

Finally, the average satisfaction with the performance level of public institutions such as postal, city council and Egypt’s services has been measured to reach 4.10, which means that citizens are satisfied with a large proportion of them. The highest satisfaction rate for Sharm el-Sheikh City Council is about 4.28. The percentage of full satisfaction and satisfaction for this service is about 83.9 % of the total number of participants in the survey due to the availability of the technological center of the City Council which helps citizens to complete their applications as soon as possible, followed by average satisfaction with civil defense and citizen service. (Technological Center) is about 4.06 and 4.05 respectively, where the percentage of complete satisfaction and satisfaction is about 76 %. It reaches the lowest average satisfaction with

the police station and represents 3.83 as shown in Table 11 and Fig. 12.

The survey results revealed variations in citizen satisfaction across different public services in Sharm el-Sheikh. Residents expressed the highest average satisfaction (4.12) with the level of roads and traffic. This was followed closely by security services and civil defense, along with the performance of other public institutions, which received an average satisfaction rating of 4.1. Conversely, the findings indicated the lowest average satisfaction scores for cultural services (3.6) and other services and facilities (3.5). These results highlight areas requiring particular attention from policymakers to improve the overall quality of life for Sharm el-Sheikh’s citizens. **Addressing Service Weaknesses:** The most concerning service weakness identified is sanitation. Many residents reported experiencing persistent sanitation issues on the streets. To address this, significant improvements to the city’s sewage systems are necessary. **Enhancing Cultural Services:** In addition to addressing sanitation concerns, the study suggests that cultural services



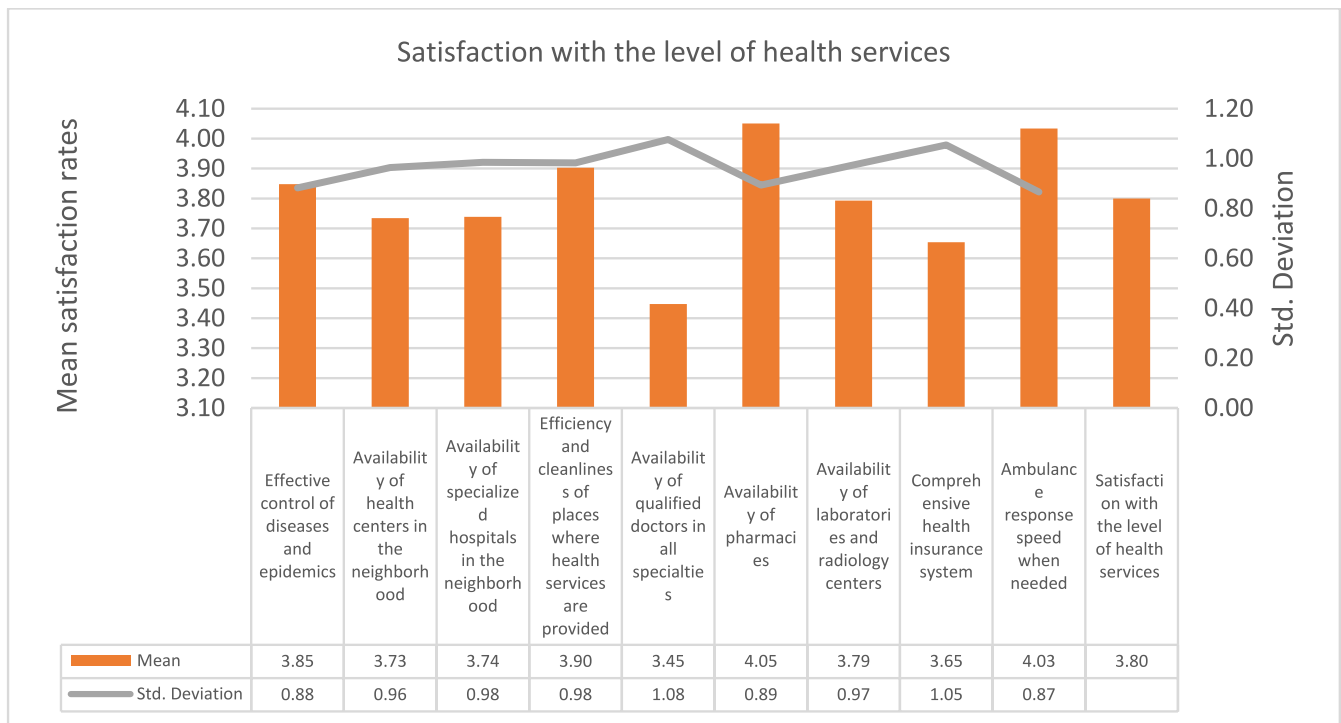


Fig. 4. Satisfaction with the level of health services in Sharm El Sheikh city Source: by authors.

Table 4

Satisfaction with the level of the environmental situation services in Sharm El sheikh city.

Satisfaction rates with the level of government services and services		Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean
Satisfaction with the level of the environmental situation	Street cleaning and beautification	43.0	39.7	15.2	1.3	.8	4.23	0.81	4.06
	Availability of parks and green spaces in the city's neighborhoods	37.1	36.7	20.3	5.5	.4	4.05	0.91	
	Regular emptying of solid waste collection containers	36.3	39.2	19.8	3.8	.8	4.06	0.89	
	Free from sewage leaks and permanent maintenance	30.8	41.8	21.9	5.1	.4	3.97	0.88	
	The lands are free of construction waste	30.4	44.7	18.6	5.5	.8	3.98	0.89	

Source: The authors analyze using the statistical analysis program SPSS

require greater focus. This could be achieved by organizing more cultural events and training workshops, potentially focusing on promoting traditional Bedouin handicrafts. It's worth noting that Sharm el-Sheikh has already undertaken some cultural initiatives, such as hosting a two-week book exhibition and establishing the Bedouin Heritage Village, a permanent space dedicated to showcasing and selling Bedouin products. These efforts serve as a positive foundation for further development of the city's cultural offerings. **Data Visualization:** Detailed results regarding citizen satisfaction levels for each service category are presented in Table 12 and Fig. 13.

The findings of this research, focused on citizen satisfaction in Sharm El Sheikh, offer valuable insights that can contribute to achieving the goals outlined in Egypt's Vision 2030, particularly those related to improving the quality of life for citizens. While the study concentrates on Sharm El Sheikh's unique context, it is crucial to acknowledge the broader framework of the South Sinai Governorate's plan and its alignment with Egypt Vision 2030.

The strategic plan for Sharm El Sheikh outlines a vision 2020 – 2045 focused on improving various aspects of the city, including tourism, services, infrastructure, and quality of life. However, to assess the

effectiveness of the plan, it's crucial to compare the found citizen satisfaction levels with the pre-existing expectations or targets linked to the plan's implementation. While the plan itself doesn't explicitly state numerical targets for citizen satisfaction, it emphasizes improving various aspects that might indirectly influence citizen satisfaction like accessibility of services and quality of life.

Further investigation is needed to identify the specific expectations or targets held by different stakeholders, including citizens, policy-makers, and other relevant actors. By comparing these expectations with the found citizen satisfaction levels, we can gain valuable insights into the plan's perceived effectiveness and areas for potential improvement.

Additionally, while the plan mentions a projected annual increase of 6 % in satisfaction based on the mayor's statements and City Council data, it's important to critically analyze the methodology behind this projection and acknowledge potential limitations in drawing conclusive inferences.

Regarding the potential challenges of using both closed-ended (Quintuplet Division Scale) and open-ended questions in the same survey. While the scale provides valuable quantitative data, the single open-ended question allows citizens to express additional concerns

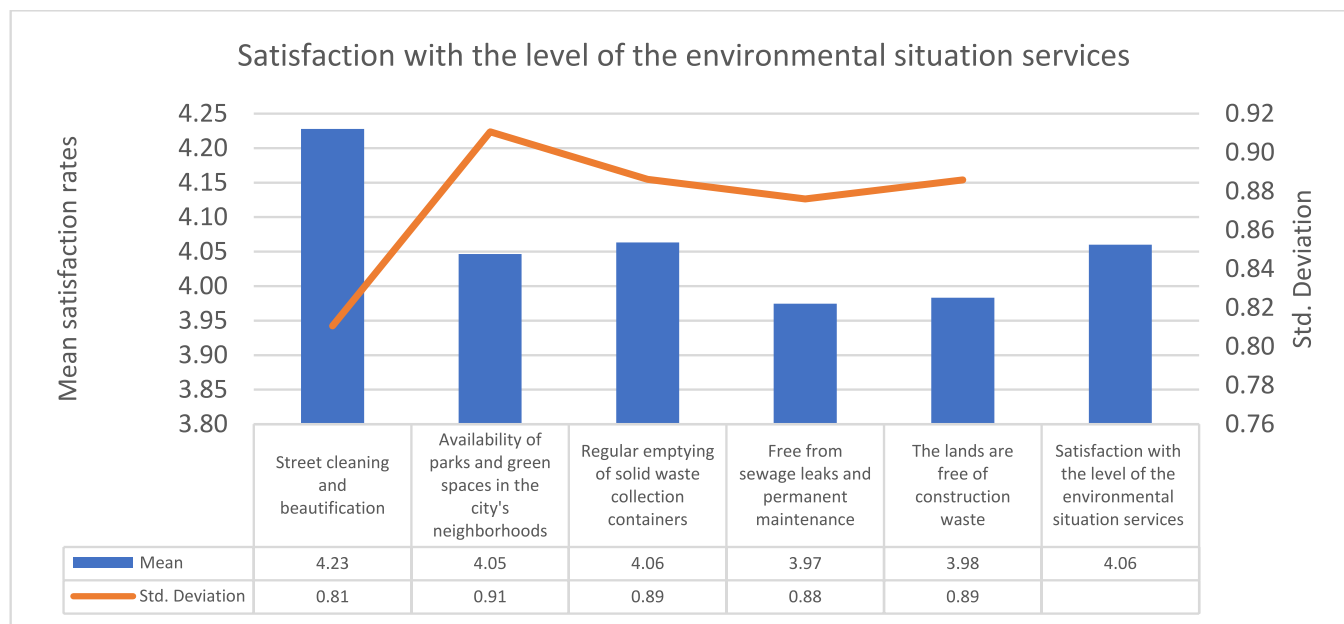


Fig. 5. Satisfaction with the level of the environmental situation services in Sharm El Sheikh city Source: by authors.

Table 5  
Satisfaction with the level of education services in Sharm El sheikh city.

Satisfaction rates with the level of government services and services	Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean	
Satisfaction with the level of education	Availability of baby daycare	26.6	38.4	30.8	3.8	.4	3.87	0.86	3.78
	Availability of schools/universities	29.1	34.6	25.7	10.5	0.0	3.82	0.97	
	Close to schools/universities	27.4	38.4	24.9	8.9	.4	3.84	0.94	
	Quality of schools/universities in terms of construction	27.4	37.6	24.5	8.9	1.7	3.80	0.99	
	Quality of schools/universities in terms of class density	23.2	35.0	29.1	11.4	1.3	3.68	0.99	
	The quality of the teacher/faculty members	22.8	37.1	31.2	7.2	1.7	3.72	0.95	
	Quality of school/university administration	24.9	37.1	29.1	6.8	2.1	3.76	0.97	

Source: The authors analyze using the statistical analysis program SPSS

beyond the predefined categories. Here’s how addressed the analysis of the open-ended responses:

1. Thematic Analysis: We conducted a thematic analysis of the open-ended responses. This involved a systematic review of all responses to identify recurring themes and categorize them accordingly.
2. Coding: Each identified theme was assigned a code for easy tracking and analysis.
3. Frequency Analysis: We then analyzed the frequency of each theme to understand the prevalence of specific citizen concerns.

For example, some of the key themes identified through this process included:

- **Cost of Living:** Concerns regarding high prices in supermarkets and unstable pricing across shops.
- **Healthcare:** Shortage of qualified doctors and high rent prices.
- **Education:** Overcrowded classrooms, lack of experimental schools in Ruwaysat.
- **Youth Development:** Support for handicrafts, job creation initiatives for young people, and development of youth centers to serve the city and tourism.

- **Social Services:** Provision of safe drinking water outlets at affordable prices, focus on autism and sports education for low-income children.

The findings from the open-ended question analysis provided valuable qualitative insights that complemented the quantitative data from the Quintuplet Division Scale. These insights helped us gain a deeper understanding of citizen priorities and concerns, informing recommendations for improving Sharm el-Sheikh’s public services.

In addition to the citizens of Sharm el-Sheikh are really interested in helping out and getting better services for their city. They’re also very involved in making their community a better place to live. It took a lot of work to build trust between the community and the citizen in charge, but by listening to what citizen need and want and taking action based on that, things are getting better. The teamwork of the urban observatory in charge are also good at explaining why the survey is important and how the information is used to make decisions, which keeps citizens interested in filling it out every 3 months and seeing the results and changes that come out of it.

While this research provides valuable insights into citizen satisfaction with public services in Sharm el-Sheikh, we acknowledge the following limitations:

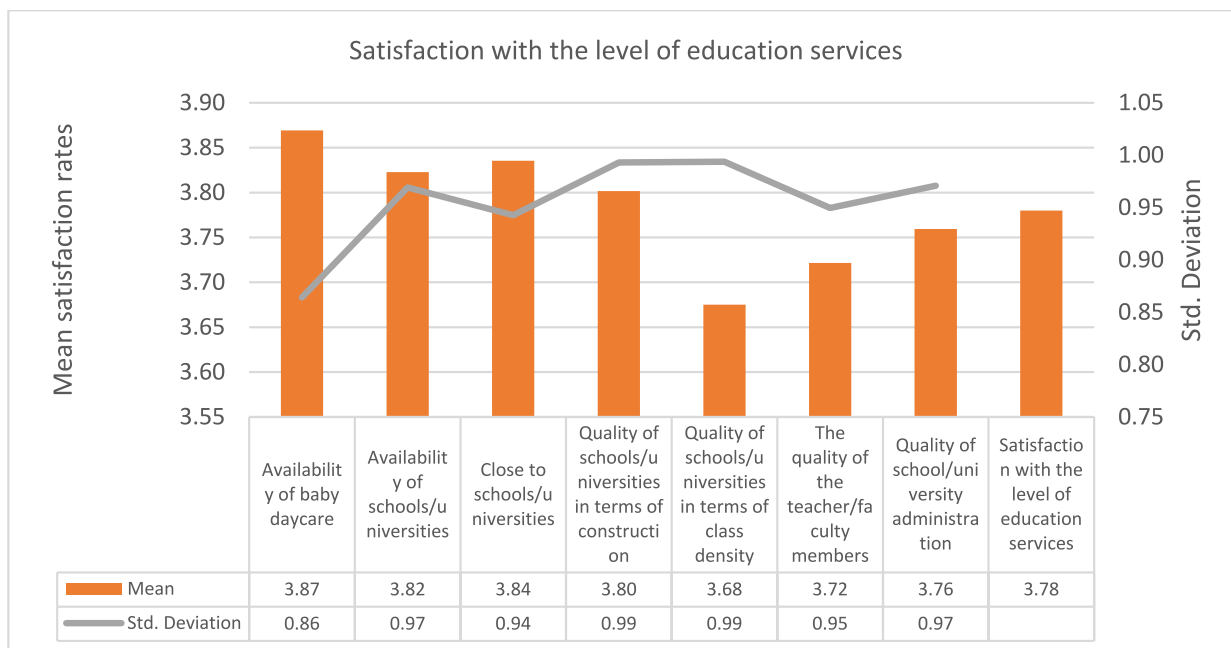


Fig. 6. Satisfaction with the level of education services in Sharm El Sheikh city Source: by authors.

Table 6

Satisfaction with the level of security services and civil defense services in Sharm El sheikh city.

Satisfaction rates with the level of government services and services		Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean
Satisfaction with the level of security services and civil defense	Control thefts	44.7	38.4	13.9	2.1	.8	4.24	0.83	4.1
	Controlling the phenomenon of begging	30.4	32.9	23.6	10.5	2.5	3.78	1.07	
	Controlling the phenomenon of street children	40.1	32.1	19.8	6.3	1.7	4.03	1.00	
	Control the phenomenon of homeless individuals	37.6	39.7	16.5	5.5	.8	4.08	0.91	
	Fire control	45.6	37.6	12.2	3.8	.8	4.23	0.87	
	Availability of security patrols	43.5	41.8	13.5	.8	.4	4.27	0.75	

Source: The authors analyze using the statistical analysis program SPSS

- **Limited Existing Research:** A comprehensive review of existing literature revealed a scarcity of studies specifically exploring citizen satisfaction with public services in tourist destinations with a similar demographic and economic profile to Sharm el-Sheikh or other cities. This limits our ability to draw extensive comparisons between our findings and those of other research efforts.
- **Focus on Data Collection:** The primary focus of this research was to gather data on citizen satisfaction levels in Sharm el-Sheikh. Given the limited existing research in this specific context, further investigation is needed to develop and evaluate potential policy interventions aimed at improving service delivery.
- **Discrepancy between Service Circle and Actual Service Provision:** The gap between citizens' perceived service circle (what they believe is covered) and the actual service provision warrants further discussion. This could involve exploring potential reasons like limited-service coverage awareness, inequitable service distribution across districts, or the disconnect between perception and reality. By delving deeper into this topic, we can highlight the importance of clear communication between service providers and citizens.
- **Spatial Correlation and Dissatisfaction:** While the current iteration doesn't explicitly analyze the correlation between respondents' locations and their satisfaction levels, we can incorporate a spatial

analysis to identify any geographical patterns in satisfaction for specific services, such as sewage networks. The revised discussion section will include maps or visualizations depicting these patterns, providing a more comprehensive understanding of citizen satisfaction across Sharm el-Sheikh.

Despite these limitations, our findings provide a valuable baseline for future research endeavors. Additionally, framing the findings as a foundation for future policy development emphasizes the practical contribution of our research and looking for studies that examine:

- The discrepancy between perceived and actual service provision in citizen satisfaction surveys.
- The importance of spatial analysis in understanding citizen satisfaction with public services.

One acknowledged limitation pertains to the survey delivery format. While the research team employed online and mobile phone surveys to reach a broader range of citizens, the format was not randomly assigned to participants. This could potentially introduce bias, as demographic groups with varying technology access or preferences might be more likely to participate in one format over the other. Consequently, the

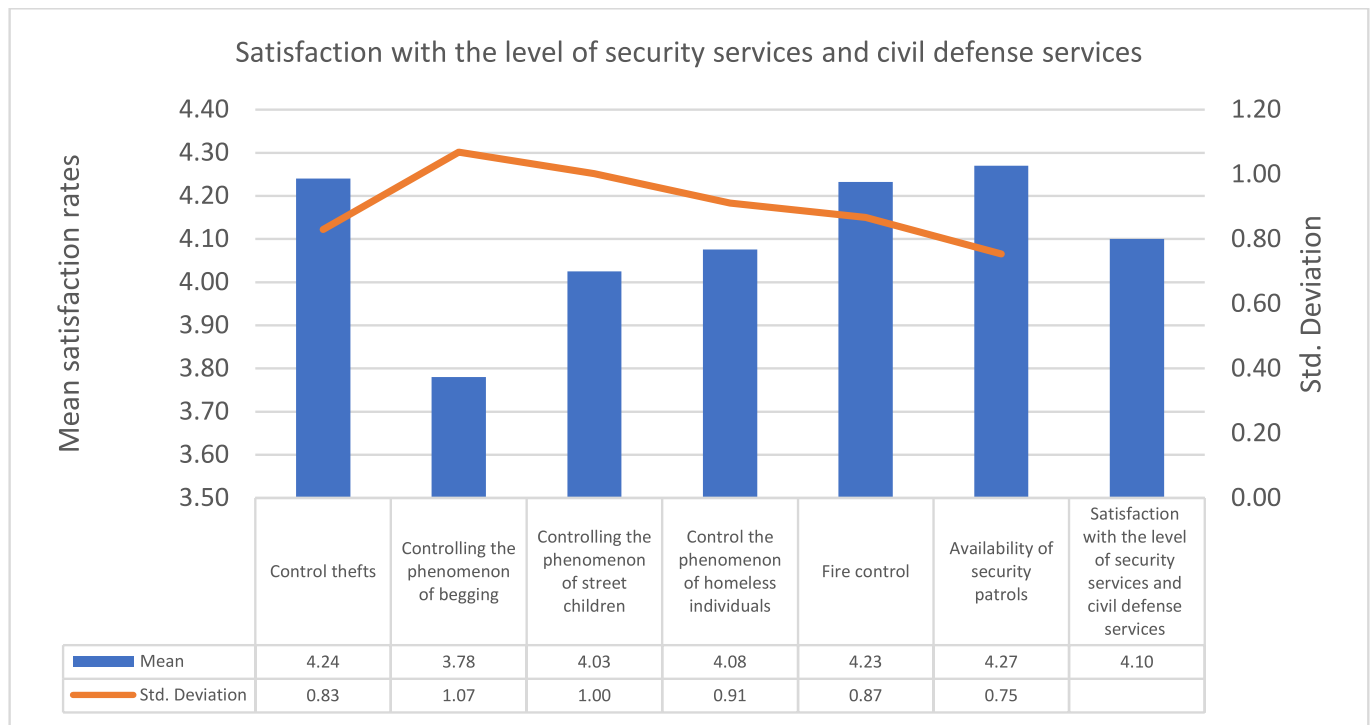


Fig. 7. Satisfaction with the level of security services and civil defense services in Sharm El Sheikh city Source: by authors.

Table 7

Satisfaction rates with the level of entertainment services in Sharm El sheikh city.

Satisfaction rates with the level of government services and services		Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean
Satisfaction with the level of leisure and tourism services	Availability of good places for entertainment and tourism	38.0	36.3	22.4	2.5	.8	4.08	0.88	3.95
	Availability of shopping centers	36.7	38.8	18.6	4.2	1.7	4.05	0.93	
	Availability of places for exercise	34.6	39.7	23.2	1.3	1.3	4.05	0.86	
	Services provided by Sharm el-Sheikh Museum	27.4	38.4	24.1	8.4	1.7	3.81	0.98	
	Availability of gardens equipped with facilities and children's games	28.7	44.7	23.6	2.1	.8	3.98	0.83	
	Hotel services	28.3	41.4	27.4	2.5	.4	3.95	0.83	
	Beach services	25.7	35.0	26.2	11.0	2.1	3.71	1.03	

Source: The authors analyze using the statistical analysis program SPSS

generalizability of findings to specific sub-populations within the city may be limited. Despite this limitation, we undertook several efforts to enhance generalizability:

- **Sample Size:** A statistically significant sample size of 2,365 participants was employed, representing approximately 15 % of the total population.
- **Stratification:** The sampling method utilized stratification to ensure representation across key demographic groups (age, gender, education, employment sector).
- **Collaboration with Urban Observatory:** The collaboration with the South Sinai Urban Observatory, with its experience in conducting surveys in the city, facilitated reaching a diverse range of citizens.

The researchers acknowledge the potential benefits of incorporating multivariate analysis in future research. By employing a larger, more representative sample and potentially focusing on specific service categories, future studies could leverage multivariate techniques to identify the most significant factors influencing citizen satisfaction with public

services in Sharm el-Sheikh. By acknowledging this limitation and explaining the rationale behind the chosen analysis methods, you demonstrate a thoughtful approach to data analysis and pave the way for future research using more sophisticated techniques.

Additionally, the comparison between citizen satisfaction rates with relevant quality indicators for each public service domain would provide a more holistic understanding of citizen satisfaction by linking it to objective measures of service quality. However, incorporating this analysis in the current research was not feasible due to the following reasons:

- **Obtaining comprehensive data on relevant quality indicators for each public service domain in Sharm el-Sheikh proved challenging within the scope of this research.**
- **Focus of Current Study:** This study prioritized establishing a baseline understanding of citizen satisfaction levels across various public services.

Future research endeavors can significantly benefit from

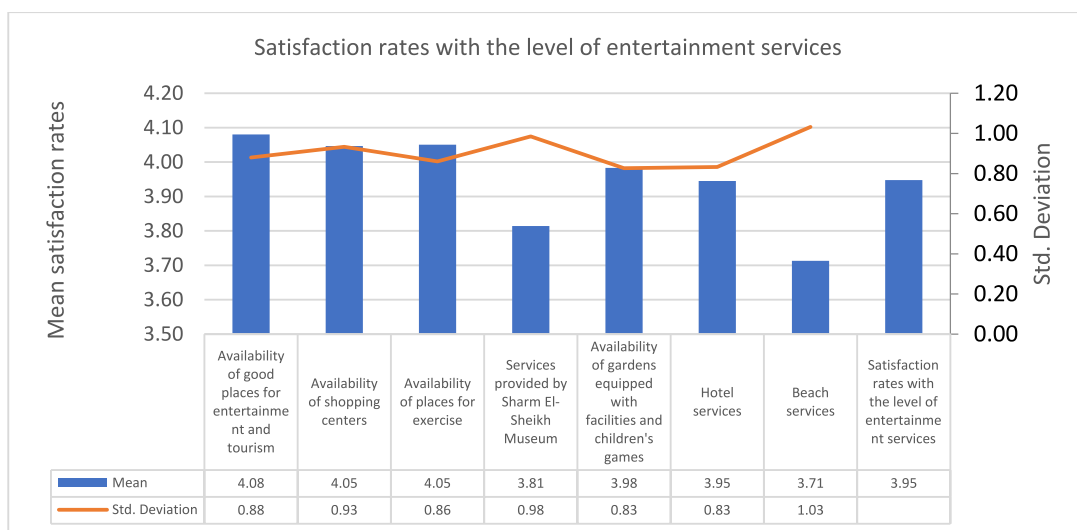


Fig. 8. Satisfaction rates with the level of entertainment services in Sharm El Sheikh city Source: by authors.

Table 8

Satisfaction with the level of sports services in Sharm El sheikh city.

Satisfaction rates with the level of government services and services		Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean
Satisfaction with the level of sports services	Availability of youth centers	31.6	40.1	22.8	4.2	1.3	3.97	0.91	3.8
	Availability of vanguards and scouts	30.4	38.0	24.1	6.8	.8	3.90	0.94	
	Availability of sports competitions	26.2	46.8	23.6	2.5	.8	3.95	0.82	
	Availability of conservative support for athletes and their families	20.3	38.8	31.2	8.4	1.3	3.68	0.93	
	Availability of open playgrounds	21.5	40.9	29.1	7.2	1.3	3.74	0.92	

Source: The authors analyze using the statistical analysis program SPSS

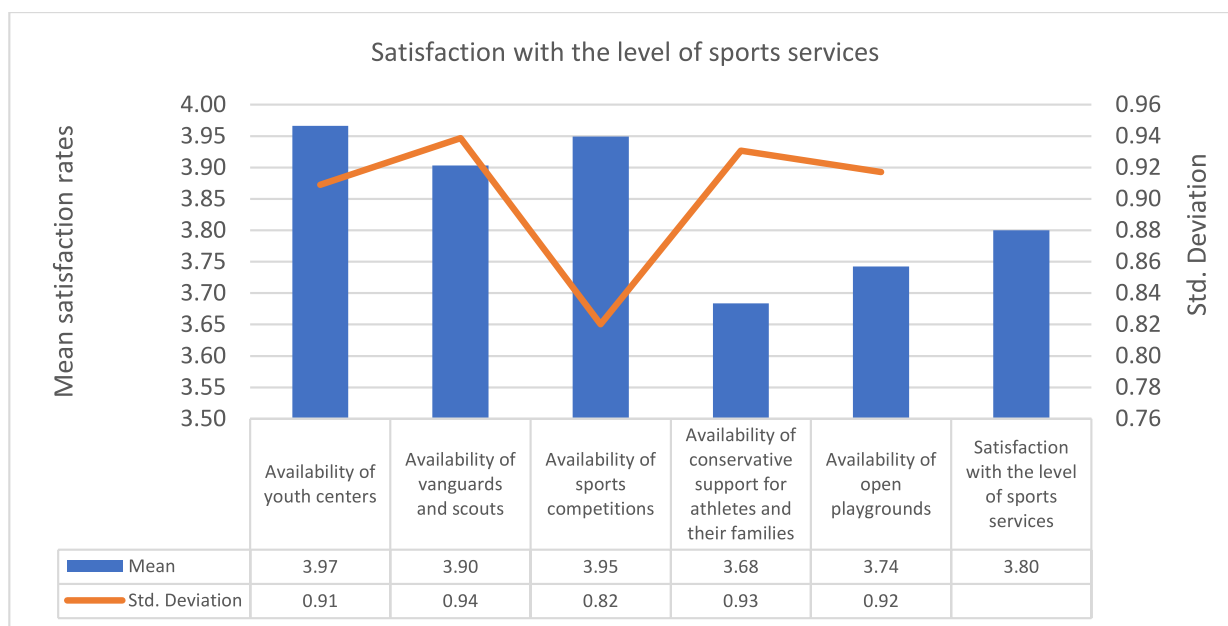
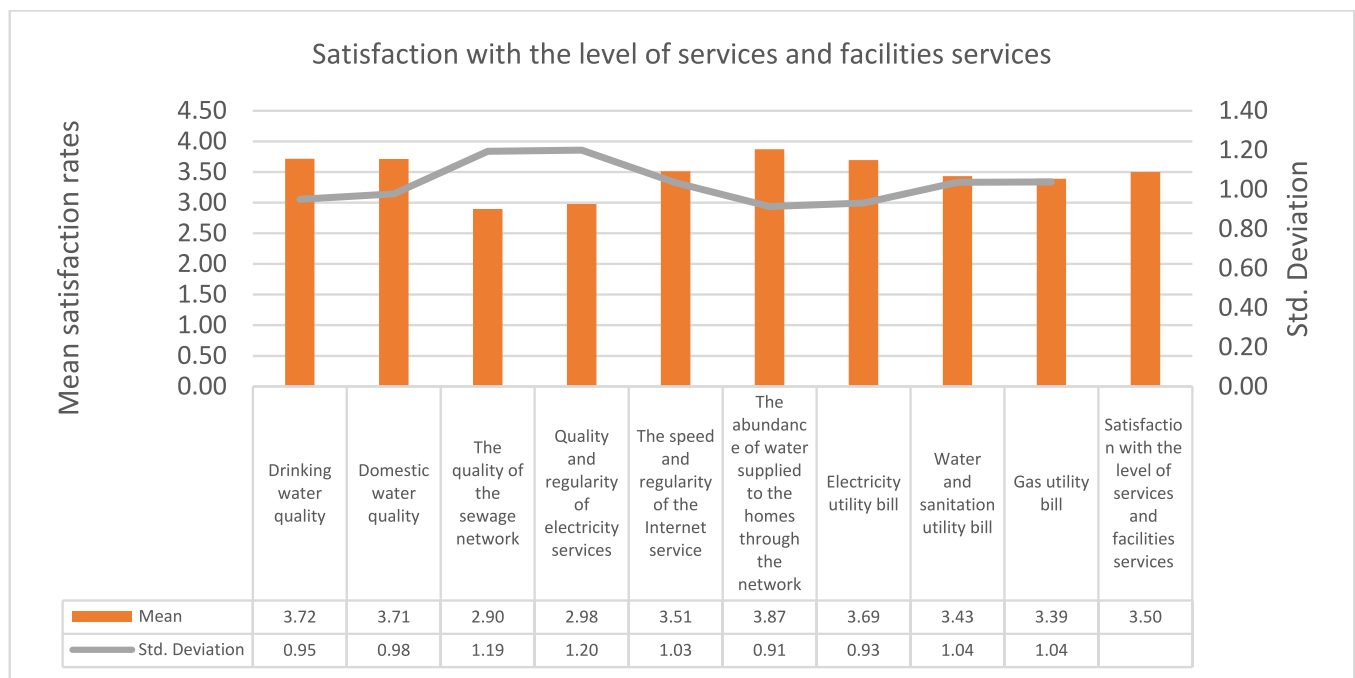


Fig. 9. Satisfaction with the level of sports services in Sharm El Sheikh city Source: by authors.

**Table 9**  
Satisfaction with the level of services and facilities services in Sharm El sheikh city.

Satisfaction rates with the level of government services and services	Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean
Satisfaction with the level of services and facilities								3.5
Drinking water quality	22.4	38.0	30.4	7.6	1.7	3.72	0.95	
Domestic water quality	23.6	36.3	29.5	8.9	1.7	3.71	0.98	
The quality of the sewage network	12.8	19.2	21.8	37.2	9.0	2.90	1.19	
Quality and regularity of electricity services	13.7	20.5	25.2	31.2	9.4	2.98	1.20	
The speed and regularity of the Internet service	17.5	35.9	30.8	12.0	3.8	3.51	1.03	
The abundance of water supplied to the homes through the network	27.7	39.1	27.2	4.7	1.3	3.87	0.91	
Electricity utility bill	20.3	39.7	31.0	7.3	1.7	3.69	0.93	
Water and sanitation utility bill	15.4	34.2	32.9	13.2	4.3	3.43	1.04	
Gas utility bill	16.3	27.9	38.6	12.9	4.3	3.39	1.04	

Source: The authors analyze using the statistical analysis program SPSS



**Fig. 10.** Satisfaction with the level of services and facilities services in Sharm El Sheikh city Source: by authors.

**Table 10**  
Satisfaction with the level of culture services in Sharm El sheikh city.

Satisfaction rates with the level of government services and services	Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean
Satisfaction with the level of culture services								3.6
Support talented and creative	15.9	32.8	35.8	10.8	4.7	3.44	1.03	
Availability of library and culture palaces activities	19.8	32.8	38.4	6.0	3.0	3.60	0.97	
Availability of theatres and cinemas	34.6	46.0	17.7	1.3	.4	4.13	0.77	
Women's and children's culture and arts	38.0	41.4	18.6	1.7	.4	4.15	0.81	
Training workshops to teach Bedouin handicrafts	35.9	39.7	21.5	2.1	.8	4.08	0.85	

Source: The authors analyze using the statistical analysis program SPSS

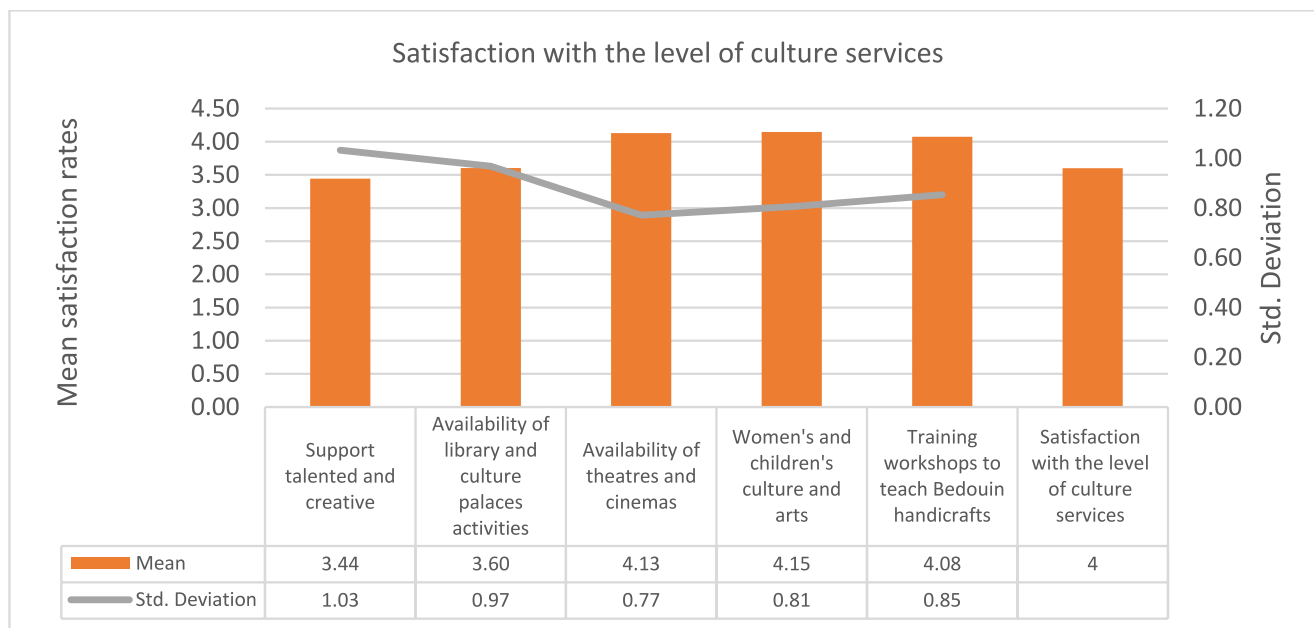


Fig. 11. Satisfaction with the level of culture services in Sharm El Sheikh city Source: by authors.

Table 11

Satisfaction with the level of performance of the following public institutions in Sharm El sheikh city.

Satisfaction rates with the level of government services and services	Completely satisfied %	Satisfied %	Somewhat satisfied %	not satisfied %	Not satisfied at all %	Mean	Std. Deviation	Mean
Satisfaction with the level of performance of the following public institutions								
Post office	27.4	39.2	29.5	3.4	.4	3.90	0.86	4.1
Police station	23.6	42.6	27.8	5.1	.8	3.83	0.87	
court	29.1	44.3	24.1	2.1	.4	4.00	0.81	
Social Solidarity Services Centers (Solidarity and dignity- Decent life)	31.2	44.7	20.7	1.7	1.7	4.02	0.86	
Housing Directorate services (licenses issuance – reconciliation of violations – etc.)	30.4	43.5	23.2	2.1	.8	4.00	0.83	
Passport service	29.5	43.9	23.6	1.7	1.3	3.99	0.84	
Civil affairs	31.2	43.5	22.4	2.1	.8	4.02	0.83	
Electronic portal services	24.5	45.6	26.2	3.4	.4	3.90	0.82	
serving Egypt	29.1	43.5	24.5	1.7	1.3	3.97	0.85	
Citizens Service (Technological Center)	31.6	45.6	19.8	2.1	.8	4.05	0.82	
chamber of commerce	32.1	38.8	23.6	4.2	1.3	3.96	0.92	
Digital Egypt Services	33.9	47.9	16.5	1.7	0.0	4.14	0.74	
Civil Defense	30.6	47.2	19.6	2.1	.4	4.06	0.79	
local unit	45.3	38.6	14.8	1.3	0.0	4.28	0.76	

Source: The authors analyze using the statistical analysis program SPSS

incorporating the reviewer’s suggestion.

### 5. Conclusions

The quality of the urban environment has been one of the new challenges for planning and management institutions in recent years. Responding to housing and service needs, particularly in Sharm el-Sheikh City, has led to the fact that this issue is important and influential in measuring urban quality of life by measuring citizens’ satisfaction with these services, whether in education, health, culture, sports, entertainment, services, facilities, etc. Thus, the urban observatory in South Sinai governorate designed a survey to measure citizens’ satisfaction and distribute it to all different categories to determine the current situation of the extent of satisfaction of the residents of Sharm el-Sheikh city on all services provided to them. Therefore, the citizen’s

satisfaction with certain services was monitored in a large proportion such as road and traffic services, government office services and the city council in addition to security services. as well as monitoring the range of services suffered by people and there is a proportion of dissatisfaction with them as a teacher at school and the need for tutoring at the level of educational services, There are also shortages in the number of qualified doctors present at the level of Sharm el-Sheikh hospitals at all levels of the international, private and governmental levels at the level of health services In addition, there is a permanent complaint from most citizens in the survey, thus obtaining the lowest satisfaction rate for the sewage network and inadequate drinking water at the service and utility level, There are also shortcomings in the city’s cultural services.

In general, decision makers in Sharm el-Sheikh should take care of the results and analyses resulting from the citizen’s satisfaction survey and develop plans to strengthen services that have received citizen’s

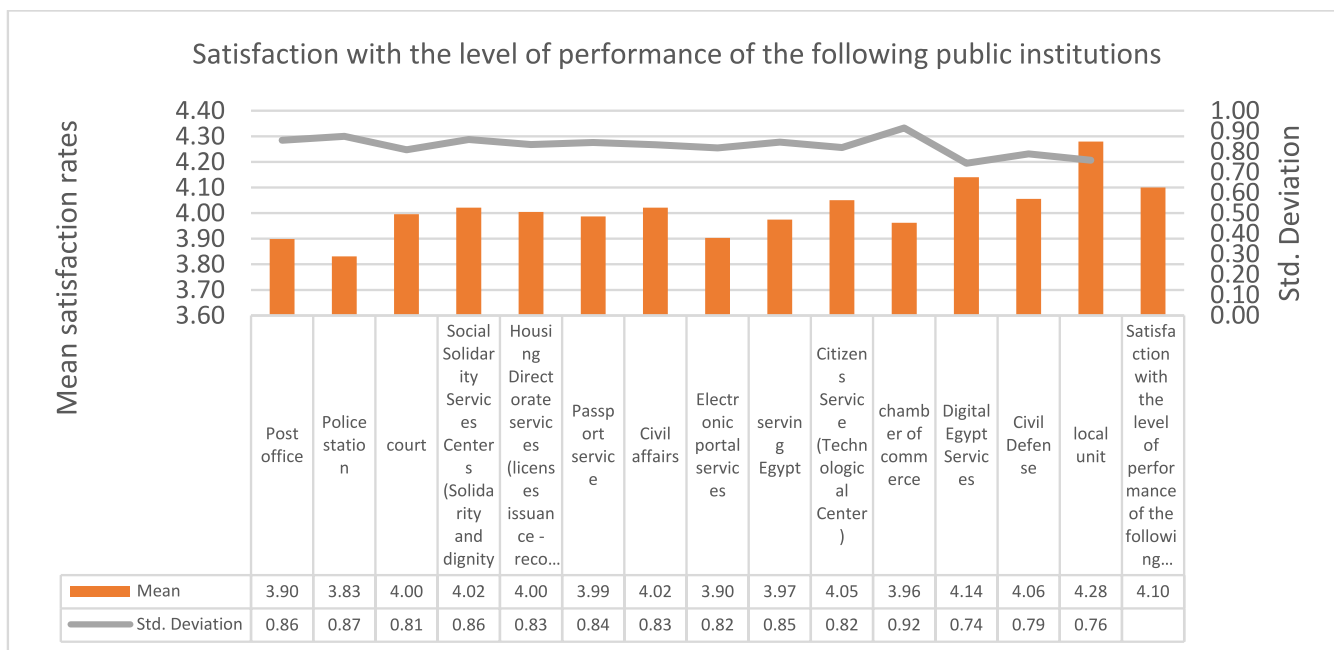


Fig. 12. Satisfaction with the level of performance of the following public institutions in Sharm El Sheikh city Source: by authors.

Table 12

Average citizen satisfaction rates in Sharm el-Sheikh.

citizen satisfaction rates in Sharm el-Sheikh		Mean
Satisfaction with the level of roads and traffic		4.12
Satisfaction with the level of health services		3.8
Satisfaction with the level of the environmental situation		4.06
Satisfaction with the level of education		3.78
Satisfaction with the level of security services and civil defense		4.1
Satisfaction with the level of leisure and tourism services		3.95
Satisfaction with the level of sports services		3.8
Satisfaction with the level of services and facilities		3.5
Satisfaction with the level of culture services		3.6
Satisfaction with the level of performance of the following public institutions		4.1
Average citizen satisfaction rates in Sharm el-Sheikh		3.85

Source: The authors analyze using the statistical analysis program SPSS

satisfaction to maintain the level of such services adequately for citizens. In addition to developing urgent improvement plans for the weaknesses of services that have received relatively low satisfaction rates in order to improve the quality of life of citizens through the provision of urban services suitable for important city and tourism such as Sharm el-Sheikh and the importance of working towards the continuous activation of the citizen satisfaction survey periodically to follow up on citizens' views on a continuous basis and to build lasting trust between citizens and the Government to ensure quality of life.

6. Availability of data and materials

Not applicable.  
No funding was obtained for this study.

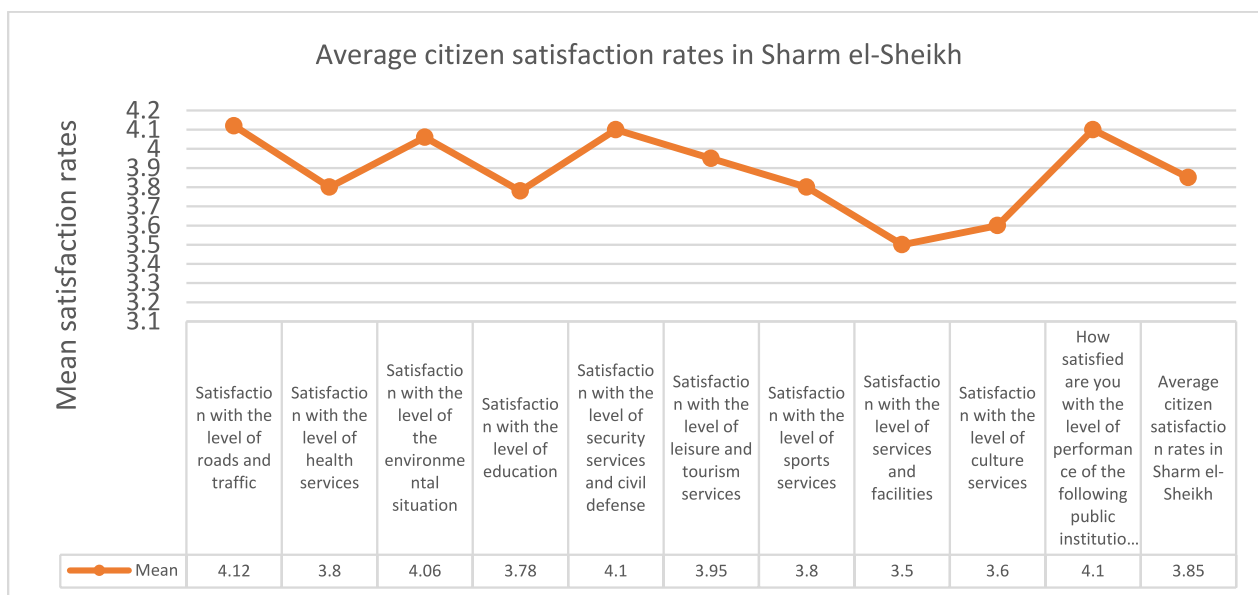


Fig. 13. Average citizen satisfaction rates in Sharm el-Sheikh Source: by authors.



## 7. Authors' contributions

All authors read and approved the final manuscript.

## CRedit authorship contribution statement

**Eman Metwally:** Conceptualization, Data curation, Formal analysis, Methodology, Software, Supervision, Visualization, Writing – original draft, Writing – review & editing. **Enas Samir:** Conceptualization, Methodology, Resources, Writing – review & editing.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Acknowledgements

We are indebted to several esteemed individuals and organizations whose invaluable support was instrumental throughout this research project. We extend our deepest gratitude to Dr. Khaled Fouda, Governor of South Sinai, for his unwavering support in facilitating this research. The insights gleaned from this study will undoubtedly contribute to enhancing the quality of life in Sharm el-Sheikh. Our sincere appreciation is extended to the South Sinai Urban Observatory team for their tireless efforts in conducting the citizen satisfaction survey, which formed the cornerstone of this research. We are also thankful to the CAPMASS team for their essential contribution of data on demographics, survey approvals, and public services. We acknowledge the Engineer. Remah hashem the Mayor of Sharm el-Sheikh City and the Esri North Africa team for their crucial collaboration during the on-ground survey and their expertise in providing geospatial data or mapping the results, respectively. Finally, our gratitude extends to Eng. Omar Saleh one of the Green Sharm Project's technical office for his insightful contributions on sustainable urban development and the environmental aspects of citizen satisfaction.

## References

- [1] Shan LC, Panagiotopoulos P, Regan Á, De Brún A, Barnett J, Wall P, et al. Interactive communication with the public: Qualitative exploration of the use of social media by food and Health Organizations. *J Nutr Educ Behav* 2015;47(1): 104–8.
- [2] Osman MM, Bachok S, Bakri NI, Harun NZ. Government delivery system: Effectiveness of local authorities in Perak, Malaysia. *Procedia Soc Behav Sci* 2014; 153:452–62.
- [3] Marans RW. Quality of Urban Life & Environmental Sustainability Studies: Future linkage opportunities. *Habitat Int* 2015;45:47–52.
- [4] Morales LS, Edwards TC, Flores Y, Barr L, Patrick DL. Measurement properties of a multicultural weight-specific quality-of-life instrument for children and adolescents. *Qual Life Res* 2010;20(2):215–24.
- [5] Budayová Z, Cintulova LL. Dimensions of quality of life in selected social areas. Ireland: International Scientific Board of Catholic Research and Teachers in Ireland; 2022.
- [6] Omar MS, Ariffin HF, Ahmad R. Service quality, customers' satisfaction and the moderating effects of gender: A study of Arabic restaurants. *Procedia Soc Behav Sci* 2016;224:384–92.
- [7] Fila M, Schwarczová L, Mura L. Citizen satisfaction survey as a tool of citizen relationship management of Local Government in Slovakia. *Serbian Journal of Management* 2015;10(1):117–29.
- [8] Orselli E, Bayrakci E, Kahraman S. Citizen satisfaction with municipal services: The case of konya. *Global Journal of Sociology: Current Issues* 2017;7(1):24–33.
- [9] Akgul D. Measuring the satisfaction of Citizens for the services given by the municipality: The case of kirsehir municipality. *Procedia Soc Behav Sci* 2012;62: 555–60.
- [10] Krahn GL, Horner-Johnson W, Hall TA, Roid GH, Andresen EM, Fujiura GT, et al. Development and psychometric assessment of the function-neutral health-related quality of life measure. *Am J Phys Med Rehabil* 2014;93(1):56–74.
- [11] M. Crocker, C. Hutchinson, C. Mpundu-Kaambwa, R. Walker, G. Chen and J. Ratcliffe, "Assessing the relative importance of key quality of life dimensions for people with and without a disability: An empirical ranking comparison study," *Health and Quality of Life Outcomes*, vol. 19, no. 1, 2021.
- [12] N. Bray, L. H. Spencer and R. T. Edwards, "Preference-based measures of health-related quality of life in congenital mobility impairment: A systematic review of validity and responsiveness," *Health Economics Review*, vol. 10, no. 1, 2020.
- [13] Gaspar, T., Cabrita, T., Rebelo, A. and Gaspar de Matos, M., "Psychological and social factors that influence quality of life: Gender, age and professional status differences," *Journal of Psychology Research*, vol. 7, no. 9, 2017.
- [14] Ratcliffe J, Lancsar E, Flint T, Kaambwa B, Walker R, Lewin G, et al. Does one size fit all? assessing the preferences of older and younger people for attributes of quality of life. *Qual Life Res* 2016;26(2):299–309.
- [15] Urzúa A, Miranda-Castillo C, Cagueo-Urizar A, Mascayano F. Do cultural values affect quality of life evaluation? *Soc Indic Res* 2012;114(3):1295–313.
- [16] Molzahn AE, Kalfoss M, Schick Makaroff K, Skevington SM. Comparing the importance of different aspects of quality of life to older adults across diverse cultures. *Age Ageing* 2010;40(2):192–9.
- [17] Charron N, Dijkstra L, Lapuente V. Regional governance matters: Quality of government within European Union member states. *Reg Stud* 2013;48(1):68–90.
- [18] Baum S, Arthurson K, Rickson K. Happy people in mixed-up places: The association between the degree and type of local socioeconomic mix and expressions of neighbourhood satisfaction. *Urban Stud* 2009;47(3):467–85.
- [19] Costanza R, Fisher B, Ali S, Beer C, Bond L, Boumans R, et al. Quality of life: An approach integrating opportunities, human needs, and subjective well-being. *Ecol Econ* 2007;61(2–3):267–76.
- [20] Ballas D, Tranmer M. Happy people or happy places? A multilevel modeling approach to the analysis of happiness and well-being. *Int Reg Sci Rev* 2011;35(1): 70–102.
- [21] J. Hartley, J. Potts, T. MacDonald, C. Erkunt and C. Kufleitner, "the CCI creative city index 2012," *Cultural Science Journal*, vol. 5, no. 1, 2012.
- [22] D.-G. f. r. a. U. P. European Commission, Quality of life in cities – Perception survey in 79 European cities, Publications Office, 2013.
- [23] Harrison MC, Hailey K. Consumer satisfaction/dissatisfaction: Implications for consumer protection agencies. In: *Developments in Marketing Science: Proceedings of the Academy of Marketing Science*; 2016. p. 337–40.
- [24] Zenker S, Petersen S, Aholt A. The citizen satisfaction index (CSI): Evidence for a four basic factor model in a German sample. *Cities* 2013;31:156–64.
- [25] H. O. Nigro and S. E. González Císaro, "The citizen satisfaction index: Adapting the model in Argentine cities," *Cities*, vol. 56, pp. 85–90, 2016.
- [26] Chatterjee R, Suy R. An overview of citizen satisfaction with public service: Based on the model of expectancy disconfirmation. *Open J Soc Sci* 2019;07(04):243–58.
- [27] Romero-Subia JF, Jimber-del Rio JA, Ochoa-Rico MS, Vergara-Romero A. Analysis of citizen satisfaction in Municipal Services. *Economies* 2022;10(9):225.
- [28] M. S. Ochoa Rico, A. Vergara-Romero, J. F. Subia and J. A. del Río, "Study of citizen satisfaction and loyalty in the urban area of Guayaquil: Perspective of the quality of public services applying structural equations," *PLOS ONE*, vol. 17, no. 2, 2022.
- [29] Chen R-F, Hsiao J-L, Hwang H-G. Measuring customer satisfaction of internet banking in Taiwan: Scale development and validation. *Total Qual Manag Bus Excell* 2012;23(7–8):749–67.
- [30] Zenker S, Rütter N. Is satisfaction the key? the role of citizen satisfaction, place attachment and place brand attitude on positive citizenship behavior. *Cities* 2014; 38:11–7.
- [31] D'Acci LS. Preferring or needing cities? (evolutionary) psychology, utility and life satisfaction of Urban Living. *City Cult Soc* 2021;24:100375.
- [32] Ali SS, Kaur R. An analysis of satisfaction level of 3PL service users with the help of ACS. *BIJ* 2018;25(1):24–46.
- [33] B. Biswas and S. K. Roy, "Service quality, satisfaction and intention to use Union Digital Center in Bangladesh: The moderating effect of citizen participation," *PLOS ONE*, vol. 15, no. 12, 2020.
- [34] Ma L, Christensen T, Government Trust, Social Trust, and citizens' risk concerns: Evidence from crisis management in China. *Public Perform Manag Rev* 2018;42(2): 383–404.
- [35] Ouyang W, Wang B, Tian L, Niu X. Spatial deprivation of urban public services in migrant enclaves under the context of a rapidly urbanizing China: An evaluation based on suburban Shanghai. *Cities* 2017;60:436–45.
- [36] E. Britannica, "Encyclopædia Britannica," Encyclopædia Britannica, inc., 28 November 2023. [Online]. Available: <https://www.britannica.com/place/Sharm-el-Sheikh>. [Accessed 18 December 2023].
- [37] C. Brief, "COP27: Key outcomes agreed at the UN Climate Talks in Sharm el-Sheikh," Carbon Brief, 09 December 2022. [Online]. Available: <https://www.carbonbrief.org/cop27-key-outcomes-agreed-at-the-un-climate-talks-in-sharm-el-sheikh/>. [Accessed 18 December 2023].
- [38] Swindell D, Kelly JM. Linking citizen satisfaction data to performance measures: A preliminary evaluation. *Public Perform Manag Rev* 2000;24(1):30.
- [39] Lin M. Implementation of bureaucratic reform to improve public services. *Journal of Business Management and Economic Development* 2023;1(01):26–34.
- [40] T. E. Team, "Survey design best practices: 7 steps to follow," Delighted, 20 September 2023. [Online]. Available: <https://delighted.com/blog/survey-design-101>. [Accessed 18 December 2023].
- [41] Bellé N, Belardinelli P, Cucciniello M, Nasi G. Experimental evidence on the determinants of citizens' expectations toward public services. *Public Adm Rev* 2023.