

Metropolitan pole of Hellinikon – Agios Kosmas: Hierarchization of interventions with the use of the Maximum Difference (MaxDiff) Scaling method

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Abstract. In this paper, the case of the Hellinikon – Agios Kosmas metropolitan pole is analyzed. In more detail, the urban history of this area is presented, and the historical decisions that led to the current consolidation of the regeneration vision are mentioned. Also, reference is made to the investor company Lamda Development SA. Subsequently, the company's vision regarding the future state of the area is analyzed, and its strategic goals regarding the reshaping of the area over a 25-year period are identified one by one. In fact, a more general picture is given of the resulting profitability as well as the implementation phases through which it will be achieved. The criticism is also mentioned in light of the legislative framework and other factors. The Maximum Difference (MaxDiff) Scaling method was applied in a MaxDiff questionnaire survey with 112 participants to prioritize the preferences of the public for the announced interventions. It was found that the most preferred intervention was the “Complex of sports facilities,” and the less preferred one was the “Yacht Club.” The respondents focused more on the uses that the interventions could have for the public instead of the general benefits for the economy.

1 Introduction

The redevelopment of Hellinikon will be the largest urban regeneration in Europe, designed to add significant new investment and land uses in tourism, culture, entrepreneurship, innovation, and the environment. It is a diversity of developments that aims to resurrect Greece by baptizing it as the dominant tourist choice worldwide [1].

The key estimated information that has been made public after the final study stage is as follows:

- Total area: 6,200,000 m² [2].
- Total estimated investment cost: 8 billion euros [3].
- Total estimated benefit for the Greek State: 14 billion euros [4].
- Estimated profit of the Greek State due to taxes: two (2) billion annually [4].
- Total job offers: 75,000 new jobs [4].
- Expected tourist attraction: 1,000,000 annually [4].

This paper deals with the study of the plan for the regeneration of the Hellinikon – Agios Kosmas metropolitan pole. The area has gone through many phases in the previous century; however, for 20 years, a plan to redevelop the area of the former airport in Hellinikon and the Olympic coastal zone of Agios Kosmas Attica (metropolitan pole of Hellinikon – Agios Kosmas) had been under consultation, and recently the construction works have started.

More specifically, there is an investment proposal with the ultimate goal of local economic development as well as the aesthetic upgrade of the wider coastal area.

The main idea of the project is defined by the following:

- Opening and expansion of the metropolitan green and recreation park to the public after its construction.
- Hindering future overbuilding and corresponding uses.
- Diffusion of benefits throughout the Attica.

The utilization of the space is proposed to include a comprehensive Diffusion and Redistribution Program of the benefits from its development throughout the Athens metropolitan area, with an emphasis on the most degraded and densely built urban areas. In fact, it has been proposed that the investment be included in the spirit of Law 4062/2012, formulated as a goal: “the return to the wider metropolitan complex of the capital of green spaces and recreation.”

Currently, the project has been approved and is being implemented, which concerns the construction of various infrastructures with the ultimate goal of upgrading the area. However, various questions are raised regarding the actual contribution of the project to the local community, the legality of the entire investment, and its potential environmental impact. Thus, the reactions of the archaeologists, the doubts of the citizens, and the disputes between the involved stakeholders led to a long delay in the start of the work.

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Nevertheless, the implementation of the project of the metropolitan pole Hellinikon – Agios Kosmas investment has recently started aiming to be fully completed within a 25-year horizon.

This paper aims to examine the interventions that are to take place in the Hellinikon area. After all the interventions were studied one by one from the perspective of the manufacturer on the one hand and from that of the public on the other, the interventions were prioritized with the help of the Maximum Difference (MaxDiff) Scaling method in order to determine the acceptance or not of the potential constructions by the citizens and to hierarchize them according to their preferences.

The rest of the paper is structured as follows:

- In the 2nd Chapter, reference is made to the Hellinikon – Agios Kosmas metropolitan pole and, specifically, to the history of the area, the vision, the strategic goals, the expected profitability of the project, the phases of implementation, as well as the criticism of the plans.
- In the 3rd Chapter, the MaxDiff method, specifically its value, methodology, and application in the present subject, are presented.
- In the 4th Chapter, the results obtained from the application of the MaxDiff method are listed.
- In the 5th Chapter, the discussion and conclusions derived from the results are presented.

2 Hellinikon – Agios Kosmas metropolitan pole

2.1 Historical review

Elliniko is a municipal unit of the Municipality of Argyroupoli – Elliniko of the South Sector of Athens in the Region of Attica. Its total area amounts to 7.5 km², of which 5.5 km² belonged to the old Ellinikon International Airport (the names Hellinikon, Elliniko, and Ellinikon will be used interchangeably depending on the most common use for each case). It consists of Sourmeni, Ano Elliniko, Kato Elliniko (Agios Kosmas), and the district of Agia Paraskevi. Vouliagmenis Avenue, the facilities of the two airports as well as the area of the bases, divide the former Municipality of Elliniko into four districts [5-6].

In 1922, refugees from Sourmena of Pontos settled in the northern area of the Municipality. In 1925, the Ministry of Agriculture gave lots of exchangeable land of 1.25 acres each. This provision had specific conditions: in Kato Elliniko, the condition for the establishment was the declaration that the resident would undertake to excavate his plot, fence, and garden. These conditions could only be fulfilled by the most affluent of the time, with the result that the area was inhabited by merchants, shipowners, and wealthy and literate people who came from Smyrna, Pontus, and Constantinople. In 1928, compensation for the exchangeable properties was given, and several stone houses were built. In the same year, a public well was opened on Iasonidou Street that upgraded the water-supplied area of Elliniko [6].

In 1937, with the construction of Vouliagmeni Avenue, the first bus line to the center of Athens was established, sealing the area's importance.

In 1943, with the German Occupation, the order was given to evacuate the area to make it into a virtual airport so that the facilities would not be bombed. The bombings added to the devastation and desolation.

However, in 1945 the area was reconstituted as the Community of Hellinikon [6].

From 1938 to 2001, at first one, then two, and from 1970 three airports operated in Elliniko: the Athens Airport of the same name or East, the Domestic Airport or West, and the military airport of the American base that also served the Greek air base of Elliniko, after its closure in 2001, the airports remained closed as the new Athens International Airport “Eleftherios Venizelos” is currently the main airport of Athens [6].

2.2 Decisions timeline

- 1996: First filing of plans for the construction of a music center, an aquarium, a concert hall, museums, as well as the undergrounding of part of Poseidonos Avenue. Objective: Business exploitation with the construction of business premises and hotels on an area of approximately 225 acres while maintaining an area of approximately 1,000 acres as green space [7].
- 2001: Aviation activity is transferred to Athens International Airport “Eleftherios Venizelos” in the center of the Region of Attica [8].
- 2003: The Ministry holds an international competition won by the French architects David Serero, Elena Fernandez, and Philippe Coignet, together with the architect Styliani Daouti. Goal: Total area of green spaces of 1,625 acres with the undergrounding of Poseidonos Avenue and the unification of Elliniko with the beach of Agios Kosmas, the creation of dozens of kilometers of hiking, cycling, and horse-riding paths, tree planting, and the preservation of only 41 of the 419 buildings in Elliniko. The project would be self-financed, with an area of 250 acres granted to private individuals, of which 75 would be redeveloped with commercial, residential, and public buildings to finance the construction and maintenance of the project. It was estimated that the first works could start as early as 2008 [7, 9].
- 2010-2011: The Spanish architect Jose Acebillio begins negotiations with Qatar's State Investment Authority [10]. Establishment of a public limited company under the name “Elliniko SA” to undertake the overall package of utilization of Hellinikon and the investment program of the Public-Private Partnership (PPP) [11]. Objective: Convert 72% of the airport area to green, 15% to roads, and 12% to built-up part for residential use (about 6,500 houses for 15,000 inhabitants) and construction of business offices and government buildings, university campus, shopping and convention center, greenhouse, photovoltaic park, museum, and hotel. The building factor was proposed to be from 0.3 to 0.5, and the total area of buildings in Elliniko (existing and new) would be 2-3 million m² [12-13].

- 2012: International Bidding with the participation of nine (9) companies from Greece, Israel, the USA, Cyprus, the United Kingdom, Spain, and Qatar [14]. Voting of a bill after which the “Elliniko SA” receives an additional 106.5 acres of the Agios Kosmas Sports Center and 132 acres of the sailing center (marina) of Agios Kosmas, in addition to the 1,312 acres of Elliniko area that the company already owned (total area of approximately 1,551 acres). Objective: Public and open green spaces will cover a total of 60% of the total area, building coverage will constitute 20% of the total area, traffic roads 20%, and the average height of the buildings will be 3.5 floors. In terms of land use, in addition to green spaces, residential, tourism-leisure, sports, business, and theme parks, shopping centers, casinos, religious places, offices, banks, and educational and exhibition spaces were foreseen [15].
- 2013: The Qatari Real Estate Investment Company withdraws from the tender [16]. The Ministry of Infrastructure also formally removes the airport in Elliniko as an aviation facility [17].
- 2014: Lamda Development SA is declared a preferred investor: The company’s final offer to purchase 100% of the shares of “Elliniko SA” amounted to 915 million euros (higher by approximately 300 million euros than the initial offer). The total amount to be paid by the company amounts to 2.1 billion euros: 915 million euros for the acquisition of the shares of “Elliniko SA” and 1.25 billion euros over a decade for the development of the metropolitan park and utility infrastructure [18].
- 2015-2019: Delays in the Hellinikon investment related to legal appeals, involvement of the archaeological services, and delay in the licensing of the casino and the relocation of public bodies to another site [19].
- 2019: Issuance by the Central Administration Council of the last of the four (4) Joint Ministerial Decisions (JMA) required for the approval of the urban planning studies to start the implementation of the project [20].

2.3 Lamda Development SA

Lamda Development SA, listed on the main market of the Athens Stock Exchange, is a holding company specializing in the development, investment, and management of real estate. Currently, the company’s real estate portfolio includes The Mall Athens, Golden Hall, Mediterranean Cosmos, office buildings, innovative residential complexes, and the Marina Flisvos on the Athenian Riviera [21].

In 2014, Lamda Development SA signed a contract with the Greek State to acquire the shares of “Elliniko SA.” The Hellinikon project is one of Europe’s largest urban regeneration projects and the largest in Greece, with the total investment estimated to reach 8 billion euros over the next 15-20 years [22].

During the first five-year phase, Lamda Development SA has committed to implement, either itself or through partnerships / joint ventures with third-party investors, investments amounting to 1.5 billion euros. The estimated total investment in this particular project in the hotel sector amounts to 300 million euros [22].

The Lamda Development SA, in the frame of the metropolitan pole of Hellinikon – Agios Kosmas project, collaborates with specialized engineering companies and experts in the field, such as the following [23]:

- Master Planner: Foster & Partners.
- Landscape architect: Charles Anderson & Doxiadis+.
- Technical consultant: Ove Arup.
- Studies coordinator: Office of Alexandros N. Topazis.
- Urban studies: Enveco SA.
- Consulting engineers: TEKEM SA, PRC SA, & DENCO SA.
- Transportation consultants: DENCO Ltd.
- Other consultants: Archaeologists, Geologists [23]

2.4 Strategic vision (Fig. 1)

2.4.1 Complex sports facilities

The sports facilities aim to be a pole of attraction not only for professional athletes and clubs but also for those visiting the Metropolitan Park. Indoor and outdoor basketball, soccer, golf courts, and swimming pools will offer a complete sports experience. The area will be surrounded by the lake of the former Canoe-Kayak [24].

2.4.2 New urban and business center

The new urban and business center will have a mix of new uses. Educational institutions, student housing campuses, international health and research institutions, and a model business park will aim to highlight the project as a destination for education, research, and entrepreneurship. In addition, recreational and commercial uses will be included: the largest shopping center in Attica (72,000 m²), hypermarkets, a hotel complex, and residential areas [24-25].

In particular, three (3) main buildings will characterize it as a destination [24]:

1. Office Tower (science and research institutions).
2. The Shopping Center.
3. The Hotel next to the shopping center [24].

2.4.3 Metropolitan Park Multipurpose Center

The Metropolitan Park Multipurpose Center with the Observation Tower will be an important landmark and one of the most popular destinations hosting various large-scale events [24].

2.4.4 Transport networks

The area will have a direct connection with the neighboring Municipalities, creating a continuity in the urban fabric. Extensive networks of pedestrian paths 2.5 km long and 50 km long, and 56 m long cycle paths will be created that will connect Vouliagmenis Avenue with the park, the sea, and the marina. Also, the design of the project will consider the existing infrastructure and provide the appropriate public transport (buses, trams, metro) for the access of its visitors [26].

2.4.5 Marina

The new sandy beach, with free access for all, between the Marina and the Beach Village, will be approximately 1 km long and 50 m wide on average. It will be directly connected to the Metropolitan Park through the main pedestrian promenade and cycle paths and easily accessible by tram, bus, and car [27].

Furthermore, a world-class aquarium and a state-of-the-art marina with 308 berths will be built on it, reconstructing the image of the Athenian Riviera [28].

Next, the development of a commercial zone with luxury shops, dining, and entertainment areas with an estimated construction area of approximately 20,000 m² is planned on the land area of the marina [27].

At the same time, two (2) luxury hotels (5 stars) with a capacity of 300 and 175 rooms will be constructed, as well as a yacht club. In addition, the construction of a seaside residential tower is planned in an area with pure residential uses adjacent to the Agios Kosmas Marina, with a permitted height of up to 200 m above sea level and a maximum estimated building area of approximately 45,000 m². This building will have an unlimited view of the Marina and the Aegean as well as the Metropolitan Park and the broader landscape of the city of Athens, while it will be a landmark of the area. In total, the length of the coastline will reach 3.5 km [27].

2.4.6 Integrated Resort Casino (IRC)

The high-rise complex will include a 5-star hotel (60,000 m²), casino facilities (12,000 m²), conference and exhibition facilities (12,000 m²), as well as an indoor performance area (arena) with at least 3,000 seats. It will be located behind the Marina hotel and offer direct access to the beach via the pedestrian bridge that will cross Posidonos Avenue [27].

2.4.7 Exhibition Hall

Many of the buildings, which have been declared as preserved, will acquire a new identity. The historic "Saarinen" building of the former airport's east terminal will be converted into an exhibition center, and the historic hangars will be converted into aviation museums. Furthermore, the Sculpture Park, with its hilly relief and large-scale sculptures, will adorn the area, while the Olympic Square and various themed gardens will offer unique experiences to visitors.

Finally, the cape of Agios Kosmas, with its church, upon its completion, will be one of the most important attractions in the area [27].

2.4.8 Metropolitan Park

The Metropolitan Park, a green oasis of more than 2,000,000 m², will extend from the beachfront to Vouliagmenis Avenue while connecting Alimos with Glyfada and Argyroupoli and Elliniko with the sea. Essentially, it will be a core connecting the seafront with Hymettus, with access being achieved around the

perimeter from various entry points that will connect the project to the neighboring Municipalities and the broader urban fabric. In this way, the open nature of the park will be ensured. Of course, the entrances will be strategically placed, on the extension of central arteries, at key points of connections with metro, tram, and bus stations as appropriate [27].

It should be noted that it will be larger than London's Hyde Park (1,420,000 m²) and much larger than other Greek parks, such as the Tritsis Park (1,000,000 m²), Syngrou Estate (950,000 m²), Field of Ares Park (270,000 m²) and the National Garden (160,000 m²). In fact, its area is estimated to be twice that of Monaco [29]. The nature of the park will be completed with the presence of tributaries and wetland landscapes [27].

2.4.9 Housing around the park

In Hellinikon, approximately 10,000 houses with a total area of 1,000,000 m² will be built, which will accommodate 24,500 permanent residents. The neighborhoods will have different names, each with its own character and distinct role [30].

Specifically, the areas will be divided as described below:

- Olympic Aviation Neighborhood: Residential area in the northeast of the area bordered by Posidonos Avenue, which will have an area of 321,400 m² and is estimated to be inhabited by 3,486 people. Buildings up to 50 m will be allowed in the four (4) building blocks that will "face" towards the inside of the park [31].
- Western neighborhood of the park: A residential area with a maximum construction of 416,700 m² that will "encircle" the current residential "strip" along Poseidonos Avenue with open sports facilities [31].
- Eastern neighborhood of the park: One of the gates of Hellinikon will be located there, leading to a large underground parking area right next to the "Saarinen" building. It will occupy an area of 318,000 m², of which 161,000 m² will be shared and public spaces for the inhabitants and visitors [31].
- Neighborhood of the business center: Area-residential receptor with a purely hyperlocal and multifunctional character which will occupy an area of 675,000 m². It will include a tram depot, shopping, offices, and a skyscraper [31].
- Neighboring the hill: Area behind the urban center of Vouliagmeni, between Hassani Hill and the three (3) preserved Air Force hangars. It will have mainly residences within an area of 162,800 m² [31].
- Neighborhood of Trachona: Residential area defined by the Trachona stream under reconstruction. It will have an area equal to 11 building blocks and a maximum construction area of 161,400 m² [31].
- Neighborhood of Agios Kosmas: The "fillet" of the Hellinikon area of 300,000 m², of which half is shared and public spaces, with a "face" to the sea. It will include pure residential areas on an area of 43,000 m², a skyscraper (200 m), the sailing center, and the Marina, while it is estimated to have a population of 2,048 inhabitants [31].



Fig. 1. Masterplan of the project [32].

2.5 Implementation phases

The project completion works are divided into two phases.

- A key strategic goal for the first five (5) years, as stated in Lamda Development SA’s plan, is to construct facilities that will create an attractive environment for the wider local community and visitors while at the same time increasing the recognition of the metropolitan Pole of Hellinikon – Agios Kosmos in the local and international level. This means that emphasis will be placed on the utilization of the beachfront, while out of a total of 10,000 residences, 800 will be built, many of which will be located on the beach. In addition, the plans call for the completion of 40% of the Metropolitan Park, 37% of the project infrastructure, and the IRC. During the same period, the Vouliagmenis Mall will be constructed, as well as a Boutique Mall in the Marina of Agios Kosmos, to serve the visitors of the IRC and the residents of the neighboring areas. Finally, it is planned to build the main office complex, a residential tower, and the mall hotel tower (Fig. 2) [33].



Fig. 2. Works of the 1st phase [33].

- The 2nd phase has an estimated budget of 2 billion euros, and its success will be judged by the progress of the implementation of the 1st phase and by the degree of absorption of the houses by the market [33].

In total, five (5) tall buildings reaching 200 m and ten (10) architectural landmarks will be constructed [33].

The largest percentage of profitability is based on the residential part. In more detail, it is planned to build 10,800 houses over a period of 25 years, of which 10,000 are on the horizon for the first five (5) years.

The construction of luxury beachfront homes is also planned, which has already attracted many buyers. After estimates, it appears that over a period of 25 years, several million will enter the fund, which will make up 58% of the project’s total revenue [28, 33]. Hellinikon’s investment is expected to contribute 2.4% to the country’s Gross Domestic Product (GDP) on the horizon of completion of the development. The revenues for the Greek State during the 25-year investment activity of the project (construction and operation), calculated in total taxes (income, corporate, insurance contributions, real estate taxes, and Values Added Tax [VAT]), will exceed 14 billion euros [28].

2.6 Criticism

As every coin has two sides, the Hellinikon – Agios Kosmas metropolitan pole issue presents various vulnerabilities worthy of investigation.

There is currently no other similar mega-casino in a city in operation in the whole of Europe. IRC casinos operate in places like Las Vegas, Macau, Singapore, or even in major European countries; however, outside the residential areas. Even the biggest supporters of the operation of IRCs admit that the economic profit from casinos is always accompanied by severe side effects on the smooth functioning of the local society. Moreover, schools such as the 13th Glyfada Primary School and the 1st and 8th Glyfada High School will be within walking distance of a few minutes of a 200 m high skyscraper that will host over 1,200 slot machines and over 120 casino game tables. This opposes the effort to provide education while introducing students to the world of entertainment at the expense of culture [34].

Until now, archaeological findings were protected by Archaeological Law and the constitutional mandate of the protection of the cultural environment (Article 24 of the Constitution). However, these rights have now passed into the jurisdiction of Lamda Development SA. More specifically, under the previous regime, the reconstruction works would be carried out under the supervision of the Archaeological Service, and in case of antiquities being found, the plans would be modified as provided by the Archaeological Law. On the contrary, with this declaration, Lamda Development SA owns all the rights to the site and decides the future of the antiquities in the broader area of Hellinikon. This fact raises concerns about the proper care of antiquities as it makes the findings a ballast to the company’s goals [35].

A potential resident will need approximately 500,000 € to purchase a home in Hellinikon. The average Greek today does not own even a tenth of this money. This fact raises many questions about the origin of the future residents of the Hellinikon area and, by extension, about the purpose of creating such a multi-purpose area. This suggests that perhaps the project aims more at the regeneration of an area with the ultimate goal of appearing based on foreign standards of related projects and less at remodeling based on Greek data and domestic needs.

Residents of the Hellinikon area claim that the Presidential Decree approving the entire project irreparably damages their quality of life, the natural environment of the area, and above all, the character of the capital. This is because it is planned to create a new city within the densely built urban fabric of Athens, which may exceed 25,000 inhabitants. According to the applicants, the Presidential Decree in question violates the principle of sustainable development (Article 24 of the Constitution), as the tolerable limits of the carrying capacity of the Attica and the balance between built and unbuilt public lands have been exceeded. Moreover, the right to respect citizens' property is violated since the planned skyscrapers will block the view to the sea and degrade the value of the existing properties [36].

In addition to the aforementioned, some other issues are troubling the experts, e.g., Prof. N. Belavilas of the School of Architecture of the National Technical University of Athens (NTUA) admits that in the current area, a temperature increase of 4-5 °C is expected [37].

Finally, there is also criticism regarding the limited participation of local communities and authorities in the decision-making process of the project [38].

3 Methodology

The Maximum-Difference (MaxDiff) Scaling method is a research technique for processing relative preferences. The respondents evaluate all possible item pairs within a displayed set and select the pair that reflects the greatest difference in preference or importance. For this reason, it is ideal for scoring the importance of multiple choices, and it was popularly known as “best-worst” scaling. MaxDiff is simple to understand so that all respondents can provide reliable data, regardless of age or educational level. This is because preference is expressed as a choice and not on a numerical scale. MaxDiff results are easy to interpret as there is no statistical analysis but only a typical 0-100 point scale. The operation of MaxDiff is described below [39-41]:

- The researcher asks a question and provides a list of possible answers.
- When displaying the questionnaire, a subset of the items is displayed instead of showing the respondent all the items at once.
- The longer the list of items, the more times the same question appears with a different subset each time.
- The system determines the number of elements of the subset to achieve maximum reliability.
- Respondents are asked to choose the most and least important item that appears in the subset.
- When the questionnaire is finished, a ranking list of the initially entered items is displayed, distinguishing the items of major and minor importance as derived from the choices of the respondents [39-41].

In this survey, the question asked was: “Choose the best and worst intervention for the regeneration of Hellinikon.” In addition, other questions related to the demographic, occupational, and racial data of the respondents were added, maintaining, however, the anonymity of the questionnaire.

The questionnaire was developed using the Sawtooth Software Discover online platform and disseminated through social media. The respondents were asked to disseminate the link further, following, thus, a snowball sampling technique. This is a convenient approach to gathering many responses, with the disadvantage of gathering answers from people of similar backgrounds.

An indicative displayed list of items of the questionnaire is presented below (Fig. 3):



Fig. 3. Indicative set of items in the MaxDiff questionnaire.

4 Results

One hundred twelve (112) questionnaires were filled, and the demographic results were as follows: Sex: Male 58.0% (65), Female 42.0% (47), and Other 0% (0). Age: <18 1.8% (2), 19-24 71.4% (80), 25-35 14.3% (16), 35-44 2.7% (3), 45-54 7.1% (8), and 55-64 1.8% (2), >65 0.9% (1). Occupation: Pupil 1.8% (2), Student 65.2% (73), Unemployed 3.6% (4), Private employee 17.0% (19), Public servant 5.4% (6), Freelancer 4.5% (5), Pensioner 0.9% (1), and Entrepreneur 1.8 (2%).

The MaxDiff results follow (Table 1 & Fig. 4):

Table 1. MaxDiff results.

1	Complex sports facilities	11.49%
2	Pedestrian and cycle paths	11.42%
3	Metropolitan Park	11.28%
4	Accessible beach	9.42%
5	Exhibition space	7.54%
6	Educational institution	7.39%
7	Marina	6.73%
8	Entertainment area	6.41%
9	New railway and road network	6.08%
10	Hotel skyscraper	5.29%
11	Shopping center	4.43%
12	Aquarium	3.76%
13	Residences	3.39%
14	Casino skyscraper	2.88%
15	Yacht Club	2.49%

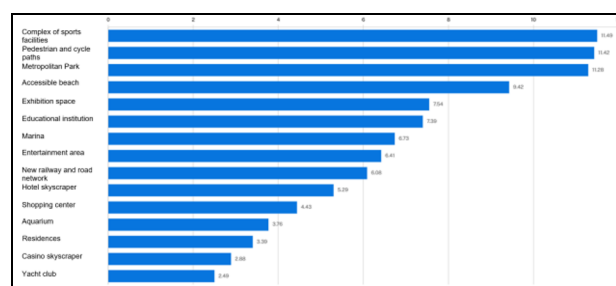


Fig. 4. MaxDiff results.

5 Discussion and Conclusions

From Table 1 and Fig. 4, it appears that the respondents consider the “Complex of sports facilities” as the best intervention and the creation of the “Yacht Club” as the worst, in the sense that the best is the most preferable and the worst is the less preferable.

In more detail, going from the interventions with the highest to the lowest preference, it is evident that there is a pattern of preference towards those interventions that would be used by all the people in contrast to those that are considered to be for the few wealthy visitors and residents of the Hellinikon – Agios Kosmas metropolitan pole. It seems that the respondents focused more on the use that they could find in the interventions than the general benefits for the economy.

The results of the survey are not particularly surprising as most of them were expected. This is because the worst options fall under the interventions that troubled the public from the beginning regarding their usefulness and benefit, as mentioned above.

In conclusion, the Hellinikon project “condenses” all the modern Greek reality that inextricably linked Greek business with state bureaucracy. Europe’s largest urban redevelopment project went through “a thousand” waves until the bulldozers finally entered, giving the kick-off to the redevelopment of the old Hellinikon airport. It is, indeed, a large-scale business project that is a mobile advertisement for Greece whose goals, however, must be redefined primarily for the benefit of Greek society.

Nevertheless, it seems that the project was planned without adequate public consultation, even though the European Union promotes participatory techniques for decision-making regarding urban regeneration projects and active mobility [42]. Our paper may make a small contribution toward this goal, as it proposes an easy method to assess and hierarchize interventions in megaprojects according to public preferences.

A limitation of the research was that the snowball sampling technique resulted in many young people, mainly students, in our sample; still, this research provides some first insights regarding how people view the Hellinikon – Agios Kosmas metropolitan pole project.

References

1. The Ellinikon, *Homepage* (n.d.) [in Greek]
2. iefimerida, *Greek: How the former airport will be transformed into a Metropolitan Park* (2016) [in Greek]
3. Lamda Development, *The Ellinikon* (n.d.),
4. The Ellinikon, *A new age full of opportunities* (n.d.) [in Greek]
5. Municipality of Elliniko, *Homepage* (n.d.) [in Greek]
6. A. Sakka, *Elliniko: a historical airport* (2018) [in Greek]
7. M. Tracha, *Five proposals for a “fillet”* (2011) [in Greek]
8. P. Paraskevopoulou, *20 things worth knowing about Elliniko airport* (2018) [in Greek]
9. P. Bouloukos, *Elliniko becomes an oasis of green* (2008) [in Greek]
10. To Vima, *Charis Pampoukis: “Qatar did not leave... Hellinikon”* (2011) [in Greek]
11. K. Kechagia, *They set up “Hellenic SA”* (2011) [in Greek]
12. To Vima, *Jose Acebillo: The whole plan for the park in Elliniko* (2011) [in Greek]
13. A. Gkitsi, *Elliniko: In the summer the invitation of interest* (2011) [in Greek]
14. CNN Greece, *The convention on Elliniko – historical review* (2017)
15. T. Georgiopoulou, *There are many suitors for Hellinikon* (2012) [in Greek]
16. E. Mandravelis, *Qatari Diar withdrew from the bidding for the exploitation of Hellinikon* (2013) [in Greek]
17. Athens Voice, *Hellinikon Airport: end titles* (2013) [in Greek]
18. To Vima, *Hellinikon: Lamda Development’s offer was approved by TAIPED* (2014) [in Greek]
19. D. Delevengkos, *Hellinikon: A political solution is needed for the... forest with the ancients* (2017) [in Greek]
20. G. Fintikakis, *The last Joint Ministerial Decision is also “closed” – The road to Elliniko is open* (2019) [in Greek]
21. Lamda Development, *Profile* (n.d.)
22. G. Bountas, *Financial analysis of Real Estate Investment Companies (REITs)* (MSc thesis, University of Piraeus, 2021) [in Greek]
23. To Vima, *The signing of the memorandum for Elliniko immediately opens 10,000 jobs* (2016) [in Greek]
24. G. Pispirigkos, *Hellinikon: how the vision will become reality* (2021) [in Greek]
25. A. Topas, *Hellinikon: the first phase projects and the largest 10-year loan* (2019) [in Greek]
26. V. Poulos, *Hellinikon: What will be ready by 2025* (2021) [in Greek]
27. Business Daily, *Hellinikon: which projects will be delivered in the first five years* (2020) [in Greek]
28. D. Delevengkos, *All the projects that will be implemented in Hellinikon* (2019) [in Greek]
29. P. Lala, *Using contemporary 3D & modelling software in road projects: application at the integrated development project of the Metropolitan Park of Hellinikon – Agios Kosmas* (MSc thesis, National Technical University of Athens, 2019) [in Greek]
30. Banks, *Elliniko: The project with neighborhoods, skyscrapers and the largest park in Greece, regenerates the Athenian Riviera* (2019) [in Greek]

31. To Vima, *Where and how will the 7 neighborhoods of Hellinikon develop* (2019) [in Greek]
32. iefimerida, *Lamda Development: The five-year plan for Hellinikon – Two billion euro investments* (2019) [in Greek]
33. D. Delevengkos, *In 2020, Hellinikon – Residences starts from 3,500 euros per sq.m.* (2019) [in Greek]
34. Southpress, *Metropolitan Social Clinic of Hellinikon: opponents to the creation of a casino* (2019) [in Greek]
35. iefimerida, *KAS reached a solution for Hellinikon* (2017) [in Greek]
36. N. Karagiannis, *Investment of Hellinikon: new appeal to the Council of State by institutions and residents* (2018) [in Greek]
37. M. Liliopoulou, *Hellinikon: violent reactions to the “closed city”* (2021) [in Greek]
38. A. Peric, F. D’hondt, *Urban Des. Int.* **27**(4), 288–306 (2022)
39. M. Mokka, G. Palantzas, I. Politis, D. Nalmpantis, *Lecture Notes in Intelligent Transportation and Infrastructure* **31**, 482–494 (Springer, Cham, 2023)
40. S. Tsafarakis, P. Gkorezis, D. Nalmpantis, E. Genitsaris, A. Andronikidis, E. Altsitsiadis, *Eur. Transp. Res. Rev.* **11**(1), 3 (2019)
41. D. Nalmpantis, A. Roukouni, E. Genitsaris, A. Stamelou, A. Naniopoulos, *Eur. Transp. Res. Rev.* **11**(1), 22 (2019)
42. D. Nalmpantis, F. Vatavali, F. Kehagia, *IOP Conf. Ser.: Earth Environ. Sci.* **899**(1), 012057 (2021)