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DETERMINATION OF THE AIRPORT COMPETITIVE ADVANTAGES BASED ON THE USE OF BENCHMARKING TOOLS

ВИЗНАЧЕННЯ КОНКУРЕНТНИХ ПЕРЕВАГ АЕРОПОРТУ НА ОСНОВІ ВИКОРИСТАННЯ БЕНЧМАРКІНГОВОГО ІНСТРУМЕНТАРІЮ

The article is devoted to determining the competitive advantages of Boryspil International Airport based on the use of benchmarking tools. An adapted approach to the benchmarking of the studied airport was proposed. It was determined that during 2017–2019 Boryspil International Airport was the recognized leader among large European airports in terms of growth. It was established that in 2020 the airport experienced a significant negative effect from the COVID-19 coronavirus pandemic, as a result of which passenger traffic decreased by three times. The importance of the implementation of the anti-crisis plan in the key areas of the airport's activity (production activity, financial activity, commercial activity and joint activities with state bodies) is outlined. The dynamics of passenger flows of competitor airports for 2019–2021 were analyzed. It has been established that the aviation charges at Boryspil International Airport are slightly lower than at competitor airports, which is explained by the general state of the economy and lower purchasing power.

Key words: benchmarking, competitive advantages, airport, hub, passenger flow, transfer passengers, base airline.

Стаття присвячена визначенню конкурентних переваг Міжнародного аеропорту «Бориспіль» на основі використання бенчмаркінгового інструментарію. Було запропоновано адаптований підхід до проведення бенчмаркінгу досліджуваного аеропорту. Для проведення порівняльного аналізу було обрано аеропорти Східної Європи, аеропорти південного напрямку та аеропорти Західної Європи. Визначено, що протягом 2017–2019 років Міжнародний аеропорт «Бориспіль» був визнаним лідером серед великих аеропортів Європи за показниками зростання. Аналітично підтверджено, що Міжнародний аеропорт «Бориспіль» впевнено дотримувався обраної Концепції розвитку та вів успішну конкурентну боротьбу з великими аеропортами-хабами за залучення пасажиропотоків. Встановлено, що у 2020 році аеропорт відчув суттєвий негативний ефект від пандемії коронавірусу COVID-19, внаслідок чого пасажиропотоки скоротились втричі. Окреслено важливість реалізації антикризового плану за ключовими напрямками діяльності аеропорту (виробнича діяльність, фінансова діяльність, комерційна діяльність та спільні з держорганами заходи). Проаналізовано динаміку пасажиропотоків аеропортів конкурентів за 2019–2021 рр. Аргументовано, що драйверами розвитку аеропортів-конкурентів є потужні базові авіакомпанії, які здатні генерувати суттєві додаткові пасажиропотоки, розвиваючи модель хабу. Встановлено частки трансферних пасажирів та базової авіакомпанії у загальній кількості пасажирів аеропортів-конкурентів. Було встановлено, що авіаційні збори в Міжнародному аеропорту «Бориспіль» є дещо нижчими, ніж у аеропортів конкурентів, що пояснюється загальним станом економіки та нижчою купівельною спроможністю. Систематизовано інформацію щодо розвитку інфраструктури аеропортів-конкурентів станом на 2018–2019 рр. Встановлено, що реалізація потенціалу Міжнародного аеропорту «Бориспіль» як хабового залежить від конкурентоспроможності спільного з базовими перевізниками авіаційного продукту. На основі проведеного дослідження Міжнародному аеропорту «Бориспіль» рекомендовано поглиблювати співпрацю з базовими перевізниками щодо розвитку маршрутної мережі та трансферних потоків, на постійній основі проводити консультації з авіаперевізниками та відслідковувати цінову та маркетингову політику аеропортів-конкурентів.

Ключові слова: банчмаркінг, конкурентні переваги, аеропорт, хаб, пасажиропотік, трансферні пасажирів, базова авіакомпанія.

Problem statement. The increase in the intensity of globalization processes led to the formation of a number of factors in the field of ensuring the competitiveness of enterprises of various sectors of the economy both at the national and global levels. In the specified conditions, the use of benchmarking as a marketing tool that contributes to the identification of means capable of providing the company with competitive advantages in a changing external environment, on the one hand, and a unique method of business process management, aimed at improving interaction with stakeholders and identifying new management approaches aimed at ensuring competitiveness, on the other hand, becomes extremely relevant and important.

Analysis of recent research and publications. Study of theoretical and practical aspects of the use of benchmarking tools when determining the competitiveness of entrepreneurial structures of various sectors of the economy, dedicated works of such foreign authors as A. Hosseinpour, Q. Peng, P. Gu [9], D. Wettstein, L.S. Suggs [12], R.J. Sweis, H.J. Al-Ghawi, N.A.-A. AlSaleh, Z.M.F. Al-Zu'bi and B.Y. Obeidat [11], M. Nassar [10] etc. Along with this, Ukrainian researchers are also engaged in the development of theoretical and methodological provisions for the implementation of this toolkit in the practice of marketing activities of Ukrainian enterprises, which can be followed by the works of T.S. Morshchenok [5], N.P. Vorobiova [2], S.O. Tsybaliuk, V.O. Pinchuk [6], O.M. Bondarchuk, H.V. Temchenko, K.O. Astaf'ieva [1] etc. The works of Yu.L. Hrinchenko [3], N.Yu. Liskovych [4], Yi Gao [8] and reports of ATRS [7] and other international aviation organizations are dedicated to the study of features inherent in benchmarking tools in the field of airport activity. Therefore, the consideration of relevant publications on the researched issues allows us to confirm the relevance of conducting a more in-depth study of the features of benchmarking application to determine the competitive advantages of airports.

Identification of the open and outstanding parts of the general problem. Over the past three decades, benchmarking has become a subject of interest for a number of researchers who work in the direction of qualitative improvement of companies' business processes. It was also recognized as one of the tools aimed at increasing business productivity and competitiveness. Any company that wants to apply best practices to improve its business processes or competitive strategies can use benchmarking tools. To date, the experience of comparative analysis is used by companies that have come to understand the importance of conducting research of this type in

order to increase the productivity of their activities and form competitive advantages of innovative orientation. At the same time, it is worth noting that the use of benchmarking tools in the aviation sector is at the stage of active development, which can be followed by the latest reports of leading international aviation organizations, analytical agencies, marketing departments of leading airports and airlines. Thus, deepening the understanding of the importance of using this toolkit in determining the competitive advantages of Ukrainian airports is an extremely important task in the transformation period.

Formulating the aim of the article. The purpose of the article is to determine the competitive advantages of Boryspil International Airport based on the use of benchmarking tools.

Presentation of the basic material of the study. At the stage of forming an approach to benchmarking in order to achieve the goals of this study, answers to the following two key questions must be found – what will be compared and which airports will be chosen as a comparative base. It is recommended to compare the activity of Boryspil airport and competitors according to the following indicators:

- passenger traffic of competing airports;
- recover of passenger traffic of competing airports after the crisis caused by COVID-19;
- share of transfer passengers of competing airports;
- the share of the base airline in the total number of passengers;
- aviation charges;
- development of airport infrastructure.

As objects of analysis, it is proposed to consider the following European airports, which have been identified as airports-competitors of "Boryspil" airport, previously divided by us into three main groups:

- Eastern European airports: Warsaw, Prague, Budapest (WAW, PRG, BUD), are comparable to the object of the study;
- airports in the southern direction, first of all – Istanbul-IGA (IST). A moderate level of competition is observed from Dubai (DXB) and Doha (DOH) airports, which are the largest and among the best in the industry;
- airports of Western Europe have a moderate level of competition: Frankfurt, Munich, Vienna, Amsterdam (FRA, MUC, VIE, AMS), which are currently significantly ahead of Boryspil airport in terms of traffic volumes and can be identified as benchmarks for the successful implementation of the hub concept.

We must also take into account certain caution regarding the fact that not all information on the

activities of competing airports is available for the entire period under study (2019–2021), therefore, for the analysis of each indicator, available information for the corresponding period was chosen, that is, an adapted approach to conducting benchmarking of the studied airport.

In order to determine the competitiveness of the studied airport, the passenger flows of competing airports were analyzed. For the analysis, 2019 was chosen as the last pre-crisis year and the most indicative from the point of view of the airports' implementation of their strategies. Obviously, Boryspil airport is not the largest airport among competing airports in terms of traffic volumes, which can be seen from the data presented in Fig. 1.

At the same time, in 2019 the airport handled its record 15.3 million passengers and entered the group of airports with an annual passenger flow of 10–25 million in the rating of the ACI Europe. These indicators showed that Boryspil airport confidently followed the chosen Development

Concept and waged a successful competition with large hub airports to attract passenger traffic.

During 2017–2019, Boryspil Airport was recognized as a leader among large European airports in terms of growth. In 2020, the airport experienced a significant negative effect of the COVID-19 coronavirus pandemic, passenger traffic decreased by three times (Fig. 2).

Since March 2020, Boryspil Airport has implemented an anti-crisis plan for the following key areas of activity: production, financial activity, commercial activity and joint measures with state bodies. The implementation of the above-mentioned steps allowed not only to normalize the situation, but also to make Boryspil airport a leader among European airports in terms of passenger traffic recovery rates (Fig. 2).

With the share of 23% of transfer passengers, Boryspil airport confirmed that for the hub successful development it is necessary to increase the share of transfer passengers, Boryspil equaled the indicators of two competitors – Vienna and

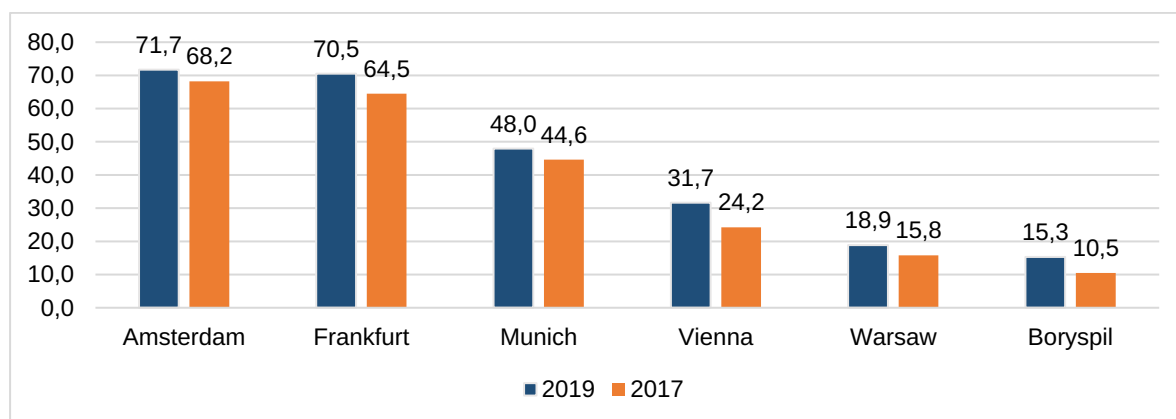


Fig. 1. Passenger traffic of the competing airports in 2017 and 2019, million Pax

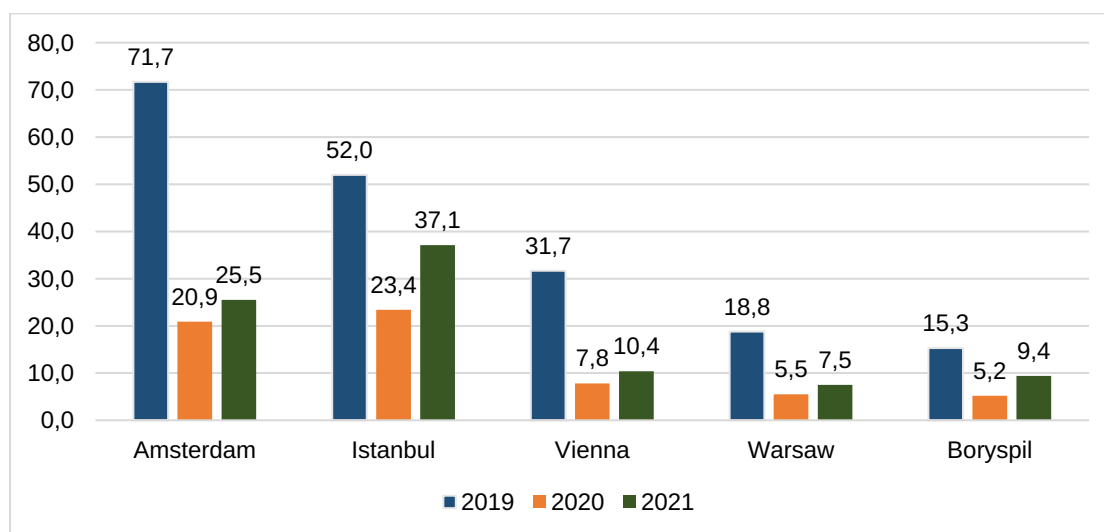


Fig. 2. Passenger traffic of the competing airports dynamics, 2019–2021, million Pax

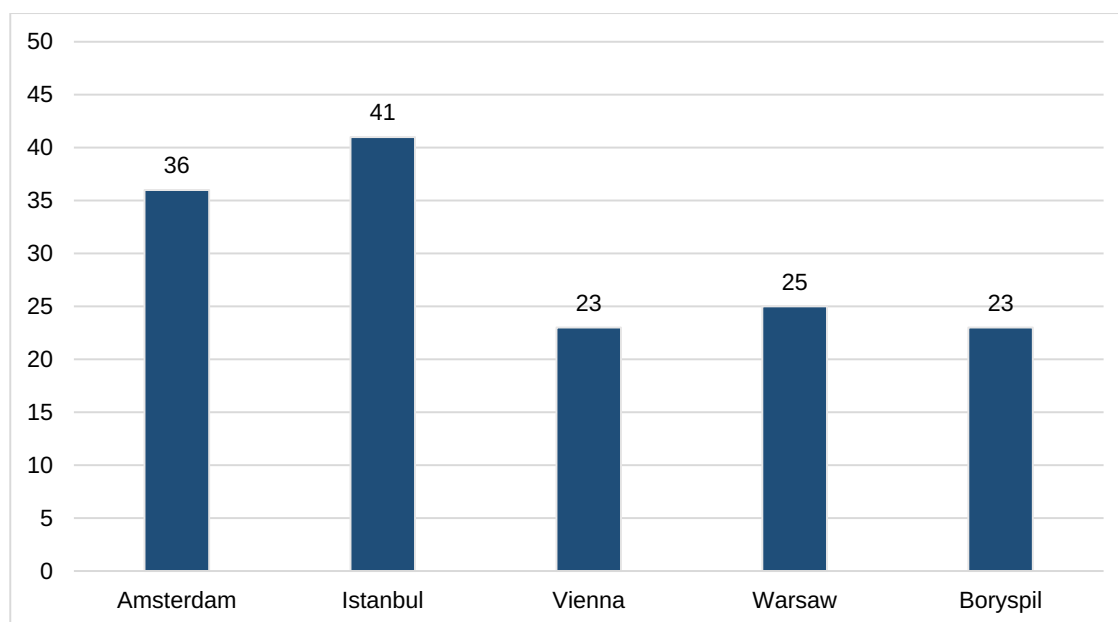


Fig. 3. Share of transfer passengers of competing airports in 2019, %

Warsaw, and considers Istanbul and Amsterdam airports as benchmarks for the successful implementation of the hub model.

It should be mentioned that historically the drivers of the competing airports development are the strong base airlines that are able to generate significant additional passenger traffic by developing the hub model. Most of the mentioned hubs were developed thanks to the transfer flows generated by the basic airlines, for example: Frankfurt and Munich – Lufthansa, Istanbul – Turkish Airlines, Vienna – Austrian, Warsaw – LOT (Fig. 4).

The share of the base airline at Boryspil airport is smaller than at most competing airports. Since this share exceeds 50% for almost all competitors, the analysis confirms the fact that an international

hub is created by a powerful airline that is the driver of the base airport's development.

Since the issue of aeronautical revenues is directly related to the level of aviation charges, several types of aviation charges were analyzed and a comparative analysis of passenger charge as one of them was carried out (Fig. 5).

As of today, we can state that aviation charges at Boryspil airport are somewhat lower than at competitor airports, that is generally explained by the overall economic conditions and lower purchasing power.

The following information was collected and systematized from open sources regarding the development of the infrastructure of competing airports as of 2018–2019 (Table 1).

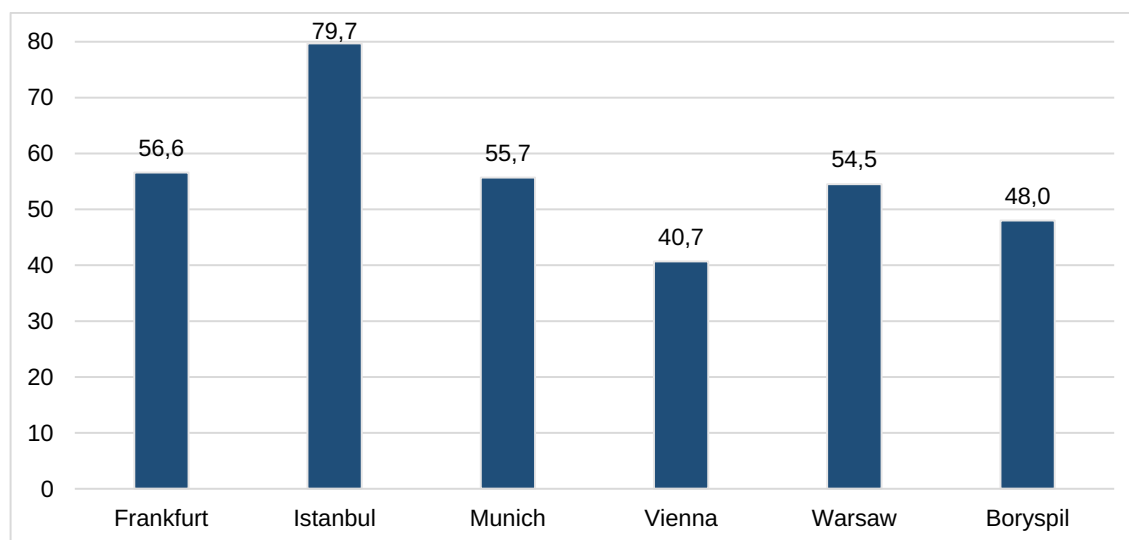


Fig. 4. Share of the base airline in the total number of passengers in 2019

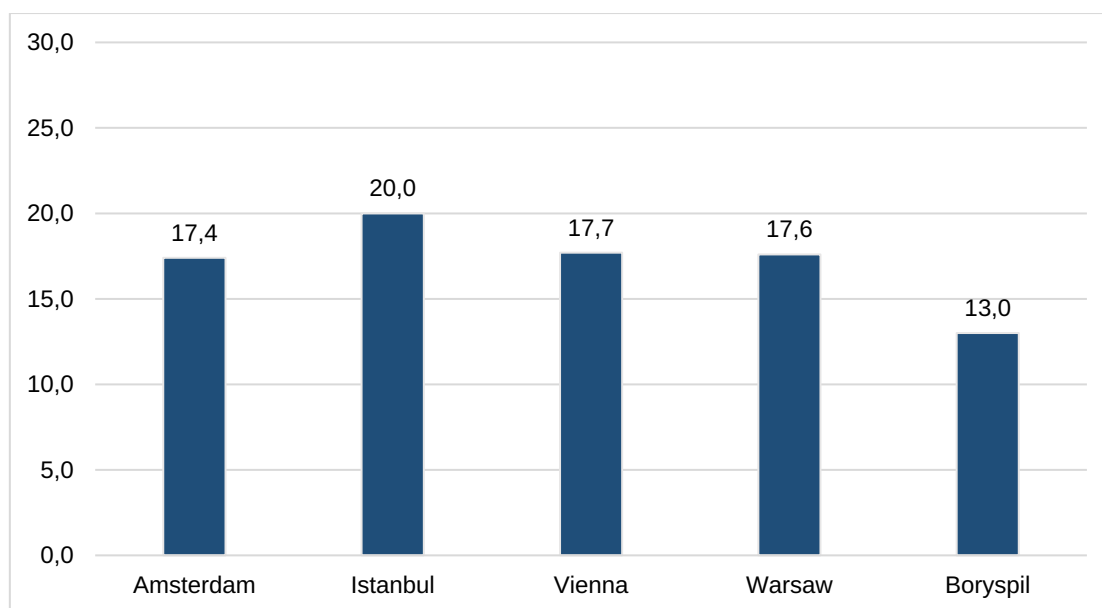


Fig. 5. Passenger charges at competing airports, in Euro for 1 departing passenger

Table 1

Competing airports infrastructure development plans

No.	Airport	Infrastructure development plans
1	Munich	Until 2022: increase of the terminal capacity up to 6 million Pax. From 2022: construction of the 3 rd Runway
2	Vienna	2025 p.: new Runway, Terminal modernization and expansion
3	Warsaw	Construction of the new "Central Polish Airport" near Warsaw
4	Boryspil	Flight zone No. 2 reconstruction, Aprons Terminal expansion, new Cargo Terminal.

All competitors implement ambitious infrastructure development plans. In case of loss of competitive position, Boryspil airport will not be able to turn into a real hub due to the underdevelopment of the infrastructure and, accordingly, the impossibility of providing the necessary "minimum connection time", which is extremely important for the transfer. Thus, the practice of successful competitor airports proves that the realization of the potential of Boryspil airport as a hub depends on the competitiveness of the aviation product created with the basic carriers.

Conclusion. Therefore, in order to successfully compete with hub airports, Boryspil must provide

the necessary infrastructure and other conditions to handle growing transfer and direct passenger flows in close cooperation with basic carriers and taking into account their development needs.

Based on the above, in order to approach the profile of the mentioned airports, Boryspil airport should deepen collaboration with basic carriers regarding the development of the route network and transfer flows, conduct consultations with air carriers on an ongoing basis, monitor the price and marketing policy of competing airports and, if necessary, make changes in the current incentive systems for air carriers in accordance with market requirements.

References:

1. Bondarchuk, O.M., Temchenko, H.V., Astaf'ieva, K.O. (2021) Vykorystannia pryntsyviv benchmarkingu dlia zabezpechennia pidvyshchennia efektyvnosti diialnosti [Using the principle of benchmarking for ensuring performance improvement]. *Efektivna ekonomika*. no. 3. DOI: 10.32702/2307-2105-2021.3.69. (in Ukrainian)
2. Vorobiova, N.P. (2018) Benchmarking yak instrument pidvyshchennia konkurentospromozhnosti orhanizatsii [Benchmarking as a tool for increasing the competitiveness of the organization]. *Problemy investytsiino-innovatsiinoho rozvytku*. no. 14. pp. 13–20. (in Ukrainian)

3. Hrinchenko, Yu.L. (2020) Preventyvnii monitorynh umov staloho rozvytku aviatsiinoi haluzi [Preventive monitoring of conditions for sustainable development of the aviation industry]. *Efektivna ekonomika*, no. 2. DOI: 10.32702/2307-2105-2020.2.78. (in Ukrainian)
4. Liskovych, N.Yu. (2020) Kompetentsiinyi pidkhid v stratehichnomu pozytsionuvanni aviatsiinykh pidpriemstv Ukrainy [Competence approach in strategic positioning of aviation enterprises of Ukraine]. *Ekonomika ta upravlinnia pidpriemstvamy*, vol. 55–1, pp. 115–120. DOI: <https://doi.org/10.32843/bses.55-18>. (in Ukrainian)
5. Morshchenok, T.S. (2017) Benchmarkinh yak instrument pidvyshchennia konkurentospromozhnosti pidpriemnytskykh struktur [Benchmarking as an instrument of increase of business structures competitiveness]. *Ekonomika i suspilstvo*, vol. 9, pp. 533–540. (in Ukrainian)
6. Tsymbaliuk, S.O., Pinchuk, V.O. (2019) Otsiniuvannia konkurentospromozhnosti systemy upravlinnia personalom z vykorystanniam instrumentariiu benchmarkinhu [Assessment of Competitiveness of the Staff Management System Using Benchmarking Tools]. *Biznesinform*, no. 5, pp. 197–203 (in Ukrainian)
7. Air transport research society (ATRS). 2021 Global Airport Benchmarking Report. URL: <https://www.atrsworld.org>.
8. Gao, Yi (2022) Benchmarking the recovery of air travel demands for US airports during the COVID-19 Pandemic. *Transportation Research Interdisciplinary Perspectives*. Vol. 13. DOI: <https://doi.org/10.1016/j.trip.2022.100570>.
9. Hosseinpour, A., Peng, Q. and Gu, P. (2015) "A benchmark-based method for sustainable product design", *Benchmarking: An International Journal*, vol. 22, no. 4, pp. 643–664. DOI: <https://doi.org/10.1108/BIJ-09-2014-0092>.
10. Nassar, M. (2012) "Exploring current benchmarking practices in the Egyptian hotel sector", *Benchmarking: An International Journal*, vol. 19, no. 6, pp. 730–742. DOI: <https://doi.org/10.1108/14635771211284297>.
11. Sweis, R.J., Al-Ghawi, H.J., AlSaleh, N.A.-A., Al-Zu'bi, Z.M.F. and Obeidat, B.Y. (2015) "Benchmarking of TQM: the case of Hikma Pharmaceuticals company", *Benchmarking: An International Journal*, vol. 22, no. 3, pp. 488–504. DOI: <https://doi.org/10.1108/BIJ-05-2013-0059>.
12. Wettstein, D. and Suggs, L.S. (2016) "Is it social marketing? The benchmarks meet the social marketing indicator", *Journal of Social Marketing*, vol. 6, no. 1, pp. 2–17. DOI: <https://doi.org/10.1108/JSOCM-05-2014-0034>.

Список використаних джерел:

1. Бондарчук О.М., Темченко Г.В., Астаф'єва К.О. Використання принципів бенчмаркінгу для забезпечення підвищення ефективності діяльності. *Ефективна економіка*. 2021. № 3. DOI: 10.32702/2307-2105-2021.3.69.
2. Воробйова Н.П. Бенчмаркінг як інструмент підвищення конкурентоспроможності організації. *Проблеми інвестиційно-інноваційного розвитку*. 2018. № 14. С. 13–20.
3. Грінченко Ю.Л. Превентивний моніторинг умов сталого розвитку авіаційної галузі. *Ефективна економіка*. 2020. № 2. DOI: 10.32702/2307-2105-2020.2.78.
4. Ліскович Н.Ю. Компетенційний підхід в стратегічному позиціонуванні авіаційних підприємств України. *Економіка та управління підприємствами*. 2020. Випуск 55–1. С. 115–120. DOI: <https://doi.org/10.32843/bses.55-18>.
5. Морщенок Т.С. Бенчмаркінг як інструмент підвищення конкурентоспроможності підприємницьких структур. *Економіка і суспільство*. 2017. Випуск 9. С. 533–540.
6. Цимбалюк С.О., Пінчук В.О. Оцінювання конкурентоспроможності системи управління персоналом з використанням інструментарію бенчмаркінгу. *Бізнесінформ*. 2019. № 5. С. 197–203.
7. Air transport research society (ATRS). 2021 Global Airport Benchmarking Report. URL: <https://www.atrsworld.org>.
8. Gao, Yi (2022) Benchmarking the recovery of air travel demands for US airports during the COVID-19 Pandemic. *Transportation Research Interdisciplinary Perspectives*. Vol. 13. DOI: <https://doi.org/10.1016/j.trip.2022.100570>.
9. Hosseinpour, A., Peng, Q. and Gu, P. (2015) "A benchmark-based method for sustainable product design", *Benchmarking: An International Journal*, Vol. 22. No. 4, pp. 643–664. DOI: <https://doi.org/10.1108/BIJ-09-2014-0092>.
10. Nassar, M. (2012) "Exploring current benchmarking practices in the Egyptian hotel sector", *Benchmarking: An International Journal*, Vol. 19 No. 6, pp. 730–742. DOI: <https://doi.org/10.1108/14635771211284297>.
11. Sweis, R.J., Al-Ghawi, H.J., AlSaleh, N.A.-A., Al-Zu'bi, Z.M.F. and Obeidat, B.Y. (2015) "Benchmarking of TQM: the case of Hikma Pharmaceuticals company", *Benchmarking: An International Journal*, Vol. 22. No. 3, pp. 488–504. DOI: <https://doi.org/10.1108/BIJ-05-2013-0059>.
12. Wettstein, D. and Suggs, L.S. (2016) "Is it social marketing? The benchmarks meet the social marketing indicator", *Journal of Social Marketing*, Vol. 6. No. 1, pp. 2–17. DOI: <https://doi.org/10.1108/JSOCM-05-2014-0034>.