

AIRPORT PLANNING

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Introduction

The report provides a brief understanding and comparative analysis Audit of the planning considerations taken by Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL) for improving their airfields and terminals. Moreover, a Complete Terminal Audit from Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL)'s Master Plans are determined (Dewi *et al.*, 2020). The report also provides a comparison between the two airports. A large number of data have been collected to support the comparative study. An Airfield Audit from both Airport Master Plans has been prepared. A significant comparison has been made between the two airports regarding the Airfield Audit (Li and Love, 2019). All the data have been collected and discussed regarding the airfield audit of both airports. Moreover, the report at the end provides a conclusion regarding the significant planning challenges for each airport. These planning challenges have been identified and justified and properly explained on the basis of the audit conducted above for the two airports (Pagliari and Graham, 2020).

Airport Comparative Analysis Audit

Airport Comparative Analysis Audit		
Situational Factors	Liverpool John Lennon Airport (LPL)	Newcastle Airport (NCL)
Ownership type	It is owned by the Peel Group and managed by the Liverpool airport.	It is owned and run by the Public-private partnership between seven local authorities in Northeast regions.
Location	Liverpool, England, UK	Woolsington, Newcastle upon Tyne.
Catchment Area	Liverpool Airport	Newcastle Airport
Pax movements/year	1st July 1993	26 July 1935
Air Traffic Movement/year	58,968	50,688
Type of Operation(s) Cargo Vs Pax	Cargo	Pax
Terminal Factors	Liverpool John Lennon Airport (LPL)	Newcastle Airport (NCL)

Terminal configuration & detail (pier (x 3) /satellite/linear etc.)	A large number of satellites	A large number of satellites
Number of Check-in desks /points	1	1
Baggage drop system	Well designed and developed	Well designed and developed
Security processes	Constant participation of the securities.	A team of security experts have been allocated for the security purpose
Number of Pax Gates	45	56
Number of Air-bridges	23	57
Number of Stands (contact/remote)	67	87
Airfield Factors	Liverpool John Lennon Airport (LPL)	Newcastle Airport (NCL)
Runway length	7,497 ft.	7,641 ft. (2,329m) (Airport Technology, 2021)
Number of taxiways	34	54
Level of slots at the airport	3 levels	4 levels
Overall site size	Largest site	Largest site size
Engineering facilities(hangars etc.)	A large number of engineering facilities are available	Few engineering facilities are available as compared to Liverpool John Lennon Airport (LPL).
Control tower	Specially designed for the airport. It is located south of the runway.	Well designed and well maintained by the airport.
Size of Apron	68.5 x 76 cm	55.5 x 76 cm

Terminal Considerations

Points of comparison between LPL and NCL

From the above Airport Comparative Analysis Audit, a complete Terminal Audit of Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL) have been conducted

with the help of the Master Plan (Quick, 2019). The comparative terminal audit has been conducted on the basis of various terminal factors. These terminal factors include -Terminal configuration & detail (pier (x 3) /satellite/linear etc.), Number of Check-in desks /points, Baggage drop system, Security processes, Number of Pax Gates, Number of Air-bridges, Number of Stands (contact/remote). On the basis of these factors the terminal audit has been conducted efficiently (Saeed *et al.*, 2020).

Comparison between LPL and NCL

The main purpose of the Master Plan of Newcastle International Airport for the publication of their strategic growth plan. It provides a detailed description of the location of the Newcastle International Airport is 6 miles to the northwest of the city of Newcastle (Shadow, 2019). The airport consists of a single runway which is northeast to southwest oriented. To the extreme north of the runway, a single terminal building has been located. The main purpose of the audit of the airport was to determine the proper guidance and use of the land and keeping the investigation on the top priority list. The audit of the Newcastle Airport provides a clear statement relating to the future development and scope of the local planning process. It is also seen that the onsite and the airside infrastructure of the airport needs some kind of development for the purpose of the safety and security of the passengers (Turay *et al.*, 2019). Moreover, the economic and social benefit of the growth plays an important and vital role for the individual and the business associated with the Newcastle International Airport.

On the other hand, a terminal Audit of Liverpool John Lennon Airport (LPL) has been conducted. From the comparative analysis, it can be understood that the main objective for conducting the audit was to provide aspiration for the growth of the airport and to determine the drawbacks that are prevailing in the airport site (Wang, 2019). An audit provides a detailed study of the Terminal factors that play an important role in the maintenance and the proper functioning of the works related to the airports. It also focuses on the various internal and external factor that affects airports. from the analysis of the audit, it can be concluded that there is a large number of scope and options available for the purpose of choosing the destination (Wise *et al.*, 2019). The choice of the destination totally depends on the proper functioning and the capacity of the fuel that can be borne by the respective aeroplanes. This is considered to be one of the most important and vital information that is required to be considered by the different types and kinds of airports (Zhang, 2019).

Requirement for the changes

After the analysis of the terminal factor of the Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL), it has been seen that there are certain situations in the aviation sector that needs some changes (Dewi *et al.*, 2020). These changes are to be made for the purpose of improvement and coping with challenging situations. It is also seen that these changes are required to be implemented as fast as possible. These changes are one of the vital parts of the growth and expansion of the aviation sector. These changes can be sited as follows:

- i. Improving the safety and security of the passengers.
- ii. Improvement in the services provided to the passengers (Li and Love, 2019).
- iii. Development in the airport should be made as per the changes and innovations that have taken place in the aviation sector.
- iv. Improvement should be made for the growth and expansion purpose of the airports.
- v. It is necessary that both the airports i.e. Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL) should undertake various corrective measures (Pagliari and Graham, 2020).
- vi. It should aim at the direct access and sharing of information with the passengers

Airfield Considerations***Points of comparison between LPL and NCL***

From the above Airport Comparative Analysis Audit, a complete Airfield Audit of Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL) have been conducted with the help of the Master Plan (Quick, 2019). The comparative airfield audit has been conducted on the basis of various airfield factors. These airfield factors include -Runway length, Number of taxiways, Level of slots at the airport, Overall site size, Engineering facilities (hangars etc.), Control tower, Size of Apron. On the basis of these factors the airfield audit has been conducted efficiently (Saeed *et al.*, 2020).

Comparison between LPL and NCL

A comparative study has been made regarding the airfield audit of Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL). It is seen that both airports have well-developed and well-designed runways (Shadow, 2019). The size of the runway depends on the size of the aircraft. for a large-sized aircraft, the size of the runway should be longer. Whereas on the other hand for a smaller sized aircraft, the size of the runway should be smaller. The length of the runway of Liverpool John Lennon Airport (LPL) is 7,497 ft. And the length

of the runway of Newcastle International Airport (NCL) is 7,641 ft. Hence on the basis of the comparison, it is seen that the size of the runway of Newcastle International Airport (NCL) is comparatively bigger than the size of the runway of Liverpool John Lennon Airport (LPL). It is also seen that the number of taxiways of Newcastle International Airport (NCL) is larger in number than the other airports (Turay *et al.*, 2019). It also focuses on the various internal and external factors that affect airports. From the analysis of the audit, it can be concluded that there is a large number of scope and options available for the purpose of choosing the destination (Wang, 2019). There are various airfield factors like - Runway length, Number of taxiways, Level of slots at the airport, Overall site size, Engineering facilities (hangars etc.), Control tower, Size of Apron. On the basis of these factors, the airfield audit has been conducted efficiently. These factors provide the basis of comparison for the airfield audit that has been conducted in the two airports namely Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL). The choice of the destination totally depends on the proper functioning and the capacity of the fuel that can be borne by the respective aeroplanes. All the factors have been well designed and planned for the betterment, growth of the different types of airport authorities for their proper functioning of the aviation sector.

NCL shall extend its runway at its eastern-most end, transforming the junction with the A696 into a grade-separated junction to fulfil expected traffic growth and establishing a heavy rail link for connecting the airport to the National Rail network (Airport Technology, 2021). The expansion of LPL seeks an extension of the runway to facilitate long haul flights. The constraints around runway expansions are the sociopolitical factor that is affected by community Political structure (multiple jurisdictions). The airports will be facing difficulties in the context of Operating users, Security control Processing, Airport population characteristics and Gate sharing. Other technical constraints include Energy deficiency, Airline equipment and Technological evolution.

Requirement for the changes

After the analysis of the Airfield factor of the NCL and LPL, it has been seen that there are certain situations in the aviation sector that needs some changes (Wise *et al.*, 2019). These changes are to be made for the purpose of improvement and coping with challenging situations. It is also seen that these changes are required to be implemented as fast as possible. These

changes are one of the vital parts of the growth and expansion of the aviation sector. These changes can be sited as follows:

- i. It should be taken care that the runway of the airports has been of the proper length i.e. the length of the runway should be larger in case the aircraft is larger and smaller in length in case the size of the aircraft is smaller (Zhang, 2019).
- ii. Moreover, the crew members of the aircraft should be available for the service of the passengers.
- iii. Proper training and safety measures should be adopted by the crew members in case of emergency situations (Saeed, McGhee and Atkinson, 2020).
- iv. Moreover, the size of the apron should be expanded with the increase in the number of passengers.

Conclusion

From the report, it can be concluded that there are various planning challenges that can be identified for each of the airports. These planning challenges are the challenges that arrive in the competitive nature of the airports. There are some problems that arise in the nature of the fuel factor. There are some challenges that occur as a result of the overcapacity of the passengers. Moreover, there are some challenges that occur as a result of labour unrest. This is one of the major challenges faced by airports. There are various justifications that arise in the identification of the planning challenges of airports. These are the challenges that have been faced by the Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL) for improving their airfields and terminals. These have been justified and identified with the help of the comparative analysis audit of the two airports i.e. Newcastle International Airport (NCL) and Liverpool John Lennon Airport (LPL).

References

<https://www.liverpoolairport.com/about-ljla/liverpool-john-lennon-airport-master-plan-to-2050>

Airport Technology, 2021. *Newcastle International Airport Expansion*. [online] Available at: <http://airport-technology.com/projects/newcastle/> [Accessed 12 August 2021].

Dewi, A., Latief, Y. and Sagita, L., 2020, February. Activity and risk identification in audit process on integrated management system to increase performance efficiency of construction services organization in Indonesia. In *IOP Conference Series: Earth and Environmental Science* (Vol. 426, No. 1, p. 012014). IOP Publishing. <https://iopscience.iop.org/article/10.1088/1755-1315/426/1/012014/meta>

Li, X. and Love, P.E., 2019. Employing land value capture in urban rail transit public private partnerships: Retrospective analysis of Delhi's airport metro express. *Research in Transportation Business & Management*, 32, p.100431.

Pagliari, R. and Graham, A., 2020. Airport competition within the Scottish lowlands region. *Research in Transportation Economics*, 79, p.100760. <https://www.sciencedirect.com/science/article/pii/S0739885919302720>

Quick, R., 2019. Do clients business scandals affect the reputation of Audit firms?. <https://riuma.uma.es/xmlui/handle/10630/18019>

Saeed, A., McGhee, J.T. and Atkinson, K., 2020. Course Review: The 15th International North East Flap Course, Newcastle-Upon-Tyne, United Kingdom. *Annals of plastic surgery*, 85(5), pp.e1-e2.

Shadow, H.R.A., 2019. Land south of Liverpool John Lennon Airport. <http://www.hwa.uk.com/site/wp-content/uploads/2018/05/CD31.7-LJLA-Shadow-HRA-Oglet-FINAL-May-2019.pdf>

Turay, A.K., Salamah, S. and Riani, A.L., 2019. The effect of leadership style, self-efficacy and employee training on employee performance at the Sierra Leone Airport Authority. *International Journal of Multicultural and Multireligious Understanding*, 6(2), pp.760-769. <http://ijmmu.com/index.php/ijmmu/article/view/766>

Wang, Y., 2019. *LN8256-P123729-Jiangxi Shangrao Sanqingshan Airport-Jiangxi Audit Report 2018-Public* (No. AUD0021776, pp. 1-0). The World Bank.

Wise, N.A., Melis, C. and Jimura, T., 2020. Liverpool's urban imaginary: the beatles and tourism fanscapes. *The Journal of Popular Culture*, 52(6), pp.1433-1450.

Zhang, X., 2019, February. Current Situation and Thinking of General Airport Construction and Operation Management in China. In *2018 International Symposium on Social Science and Management Innovation (SSMI 2018)* (pp. 575-578). Atlantis Press. <https://www.atlantispress.com/article/55913179.pdf>