

TABLE II CHALLENGES IN AIR CARGO OPERATIONS

Challenges In Air Cargo operations	Mean	Std. Deviation
Lack of Skilled Manpower	3.95	0.846
Inadequate use of Technology	3.75	1.104
Lack of dedicated terminal space and facilities for express Airlines	3.48	1.261
Delay in documentation and Custom Procedure	3.08	1.474
Lack of Efficiency level of Badhra (Ground Handling Agent)	3.40	1.336

(Source: Primary data)

The data presents the results of the employee’s perception towards the Challenges in air cargo operations. The above table shows the item mean score and standard deviation. Based on the mean score “Lack of Skilled Manpower” (3.95) is the main problem experienced by the respondents, followed by Inadequate use of Technology (3.75), Lack of dedicated terminal space and facilities for express Airlines (3.48), Lack of efficiency level of Badhra (Ground handling Agent) (3.40), Delay in documentation and Custom procedure (3.08). The experience of the respondents in dealing with the air cargo service is important to determine the level of effectiveness of air cargo movement.

TABLE III CUSTOMS CLEARANCE AND DOCUMENTATION

Customs Clearance And Documentation	Mean	Std. Deviation
24*7 Services are not available	3.83	1.394
Clearance process done manually	3.20	1.114
Documents are not digitalized	3.63	1.030
Shortage of Manpower (Officers)	3.88	1.067
Proper Officers not available at all Time	3.05	1.319
Customers are not Presenting Proper Documents at right time	3.43	1.217
Single Window system is not effective	3.53	1.109

(Source: Primary data)

The table shows the mean score and standard deviation for the problem experienced by the respondents in Air cargo Customs procedure and documentation. Based on the mean score “Shortage of manpower (Officers)” (3.88) is the highest challenge faced by the respondents WCO (1999) stated that Maintaining the balance between effectiveness and efficiency for cargo inspection, particularly for express cargoes that demand high efficiency, is a challenge for the Customs Administration.

Murphy *et al.*, (1989) found that 35% of airports and air cargo companies interviewed perceived the administrative documentation as the major problem at airports. Moreover, the inefficiency of customs can form a source of delay at the airport and airports that provide reliable, timely customs clearance or even pre-clearance can build up a competitive advantage.

TABLE IV CARGO PACKAGING AND HANDLING

Packaging And Handling	Mean	Std. Deviation
Improper Cargo Packaging leads to Damage	3.78	1.310
Pilferage	3.68	1.289
Material Can’t be reused (manufacturing goods)	3.35	0.975
Carelessness of Manpower leads to damage	4.10	0.591
Improper Handling leads to Damage	3.43	1.259

(Source: Primary data)

The table shows the mean score and standard deviation for the problems in air cargo packaging and handling experienced by the employees. Based on the mean score “Carelessness of Manpower leads to damage” (4.10) is the main challenge experienced by the employees, followed by Improper cargo Packaging leads to Damage (3.78), Pilferage (3.68), Improper Packaging (3.43), Material can’t be reused (manufacturing goods) (3.35).

TABLE V TRUCK LAY BAY AND SPILL OVER CARGO

Truck Lay & Spill Over	Mean	Std. Deviation
Increase in Passenger baggage movement, cargo gets delayed (Spill Over)	3.88	1.067
By loading spill over cargo, exact cargo to load in airline gets damaged	3.40	1.008
Cargo Customers Dissatisfaction	3.35	1.252
Lack of Parking Space	3.63	0.979
System Procedural Delay	3.63	0.925
Airlines giving proper carting Order to the Trucks	3.83	1.107

(Source: Primary data)

The table shows the mean score for the problem in “truck lay bay”, the trucks to be parked in airport and “spillover cargo” in the airlines, experienced by the employees. Based on the mean score “Increase in Passenger baggage movement, cargo gets delayed (Spill Over)” (3.88) is the top strategy that is experienced by the employees, followed by Airlines giving proper carting order to the Trucks (3.83), Lack of Parking Space (3.63), System Procedural delay (3.63), By loading spill over cargo, exact cargo to load in airline gets damaged (3.40), cargo Customers dissatisfaction (3.35). The Result indicates that each and every variable denotes that Truck lay bay and spill over cargo.

TABLE VI HAZARDOUS AND DANGEROUS GOODS

Hazardous and Dangerous	Mean	Std. Deviation
Acceptable for transport on both Passenger and Cargo aircraft	3.55	1.280
Higher Officers Approval is done easily	3.13	1.343
DG Qualified manpower scares	3.45	0.932
Unskilled manpower in handling Dg goods	3.30	1.091
Mis-declared dangerous goods	3.43	1.174

(Source: Primary data)

The table shows the mean score for the challenges and problems in handling Hazardous and Dangerous cargo in air shipments, experienced by the employees. Based on the mean score “Acceptable for transport on both passenger and cargo aircraft” (3.55) is the top strategy that is experienced by the employees, followed by DG Qualified manpower scares (3.45), Mis-declared dangerous goods (3.43), Unskilled manpower in handling Dg goods (3.30), Higher Officers Approval is done easily (3.13). The result indicates that each variable denote that handling of dangerous and hazardous cargo should be done with special care.

The table shows the mean score for the problems with the Infrastructure in Chennai Airport, experienced by the respondents. Based on the mean score “Cargo Congestion in Airport” (3.73) is the top strategy that is experienced by the employees, followed by Airport is capable of handling future demand cargo (3.70), equipments are utilized

properly (3.53), Adoptable of New technology systems (3.45), Skilled manpower are handling the cargo (3.33).

TABLE VII INFRASTRUCTURE AT AIRPORT

Infrastructure	Mean	Std. Deviation
Airport is capable of handling future demand cargo	3.70	1.265
Skilled manpower is handling the cargo (I2)	3.33	0.917
Cargo Congestion in Airport	3.73	0.960
Equipment’s are utilized properly	3.53	1.154
Adoptable of New technology systems	3.45	1.339

(Source: Primary data)

The result indicates that lack of Infrastructure in Chennai Airport which leads to decrease in Customer service.

TABLE VIII PEARSON CORRELATION COEFFICIENT BETWEEN VARIOUS CHALLENGES IN AIR CARGO OPERATIONS

Correlation	Challenges In Air Cargo Operations	Customs Clearance & Documentation	Packaging & Handling	Truck Lay Bay & Spill Over	Hazardous and Dangerous Cargo	Infrastructure
Challenges In Air Cargo Operations	1	-.071	.293	.463**	.000	-.036
Customs Clearance & Documentation		1	.263	.450**	.512**	.396*
Packaging & Handling			1	.412**	.293	-.004
Truck Lay Bay & Spill Over				1	.470**	.032
Hazardous and Dangerous Cargo					1	.483**
Infrastructure						1

*Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

The above table describes correlation coefficient between challenges in air cargo operations. From the above table it is clear that the correlation between Customs Clearance & Documentation and Hazardous and Dangerous Cargo is high when compare to other factors which is showing 51.2 percent.

VI. DISCUSSIONS

The results of employee’s perception towards the Challenges in air cargo shows, that “lack of skilled manpower are identified as major challenges in air cargo operations” (Mean 3.95) is the main challenge face that is experienced by the respondents. It was found that the major problem in customs clearance and documentation is “Shortage of proper officers at right time (working hours)” (Mean 3.88) is the top challenges that are delivered by the respondents.

It is observed from the study that the cargo packaging and handling are affects the operations and service, in that “Carelessness of manpower leads damage” (Mean 4.10).

The result seems that improper and unskilled manpower affect the handling of cargo which leads to damage. According to Dangerous Goods regulations (both federal and provincial), while handling transportation of dangerous cargo via road “safety mark”, must be used which can be a combination of “design, symbol, device, sign, label, placard, letter, word, number, abbreviation.

It was found that the major problem in truck lay bay is “Airlines are not giving carting order to the trucks, at right time” (Mean 3.83) is the main challenges faced by the respondents.

Based on the analysis, spill over cargo in air shipments mostly happens because of “Increase in passenger baggage movement, cargo gets delayed” (Mean 3.88). The problems occur may unfortunate but it affects the cargo movement when it comes to combination aircraft. It is observed from the study that the movement of dangerous and hazardous cargo is affected because of “Not Acceptable for transport on both passenger and cargo aircraft” (Mean 3.55). The result seems that Airlines are not ready to accept these kinds

of goods along with a passenger. On analyzing the results of respondent's perception towards the infrastructure in the airport affect the movement and service of operations. Based on the mean score "cargo congestion" (Mean 3.73) is the top category that is experienced by the respondents. Tsekeris (2011) stated that the privatization initiative of the 1990's was to ensure an unceasing rise in efficiency levels for the airport infrastructure and in turn boost regional development. One of the most common concerns in the developing world is the long dwell time for air cargo. To improve efficiency, Cargo handlers at air cargo terminals should ensure efficient timely and secure handling of the cargo.

VII. CONCLUSION

India is developing as one of the fastest growing air cargo markets across the globe and presents ample opportunities for industry operators. India is also considered as key aviation market and its potential for growth is strengthened by policy reforms of the Indian government like privatization of airports and foreign investment in airport infrastructure all over the place of the country. It primarily measures and compares the challenges and problems faced in the air cargo industry with reference to Chennai airport. The challenges are addressing several challenges such as infrastructure, handling, and packaging of cargo, challenges in handling hazardous and dangerous cargo and customs clearance and documentation. Thus the study has made to identify those problems and to provide the relevant suggestions. All the Customs procedures can be done at the Airport warehouse and cargo can be taken to the airport by

the carriers as per priority to avoid the congestion and delay in the process.

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