

ANALYSIS OF GROUND HANDLING TURNAROUND TIME

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ABSTRACT- By building bridges between cities for the flow of products, people, investment, and ideas, the air transport industry plays a crucial role in the global economy. To maximize consumer contribution, efficient operational strategies must be established to improve air travel capacity. Delay uncertainty is a major issue in meeting consumer standards, and punctuality in ground handling operations is crucial for improving service quality. Airports' ground handling operations, including passenger and turnaround aircraft, are the backbone of airports, and ensuring punctuality is essential for a sound financial state.

Keywords: Air transport; Ground handling operations; Passenger; Turnaround aircraft

1. INTRODUCTION

Rapid growth in the airline sector has increased the emphasis on delivering exceptional customer service. Ground handling time, the time between landing and taking off for the next flight, is a crucial aspect of aircraft turnarounds. Analyzing ground handling turnaround time is crucial for several reasons, including efficiency, cost savings, customer satisfaction, fuel efficiency, environmental impact, safety, and competition.

Effective ground handling times lead to shorter layovers between flights, ensuring dependable flight operation and reducing delays and disturbances. This increase in dependability increases customer loyalty and satisfaction, fostering confidence among customers and enhancing the airline's image.

Shorter turnaround times also increase passenger satisfaction, as reduced airport wait times help passengers feel less anxious and frustrated. This satisfaction increases customer retention and word-of-mouth recommendations.

Increased economic productivity is another benefit of turnaround time optimization. By reducing the amount of time planes are on the ground, airlines can maximize aircraft utilization and generate more money. Faster turnaround times enable airlines to run more flights each day, expanding their capacity and revenue potential. Good ground handling lowers operating expenses and enables airports to use their resources and facilities more efficiently, optimizing overall economic output in the aviation industry.

In summary, understanding how to utilize ground handling time effectively is essential for airlines to improve schedule adherence, passenger satisfaction, and economic productivity. By analyzing ground handling operations, conducting a time study, examining turnaround times, and suggesting best practices, airlines can create a mutually beneficial turnaround environment that results in more reliable schedules. By focusing on these factors, airlines can enhance their competitiveness, encourage long-term patronage, and promote sustainable growth in the competitive and fast-paced aviation sector.

2. MATERIALS AND METHODS

Monitoring the ground handling procedure of aircraft with the following pre-selected scope is the usual approach to solving the problem. An example would be a narrow-body aircraft. Time required: one week (to visit every location). Additionally, flights in good weather were included in this study. The collection of ground handling operations' essential ground handling activities on the air side was carefully reviewed, and those were analyzed for better understanding. As a result, several strategies were employed to successfully complete each objective.

2.1. Analytical Methods

Data mining was conducted using qualitative and quantitative methods, using Gantt charts and descriptive statistics. Critical phases of ground handling activities in a turnaround aircraft were identified using data. The duration of each step was examined using a detailed time schedule for ground operations.

2.2. Field Experiments and Surveys

Structured interview approaches were applied to convey and comprehend the logic of the current state of the ground operations. These techniques were divided into two primary categories: (1) Primary data and (2) Secondary data. In-person surveys were conducted to collect raw data. Regarding secondary data, process studies, time studies, audit checklists, standard manuals, and literature assessments of prior research were all completed. Critical ground handling personnel operations were identified for the optimization strategy using these rigorous approaches.

3. RESULTS AND DISCUSSION

In this study, key procedures that depend on the number of passengers were examined among all ground handling operations. Additionally, with the aid of surveys, the length of time for each crucial procedure was calculated. Thus, the following crucial actions for a turnaround aircraft were identified:

Disembarking: Passengers disembark after a plane stops, with the duration varying based on volume and potential crises. Ground personnel must prepare for unforeseen events, including births, deaths, illnesses, accidents, and injuries, using prior arrival plans.

Cleaning: High maintenance is essential for aircraft cleaning, focusing on each item and location, including meals, dinner plates, cockpit, aisle carpet, galley, toilets, hat racks, tables, chairs, and seat pockets.

Security search cabin: The airport security process ensures passenger and crew safety based on aircraft seat count.

Boarding clearance and passenger boarding: Aircraft Dispatcher informs Departure Gate employees to board passengers after cabin preparation, determining process time.

Catering: Catering trucks, which frequently have refrigerators, are used by airlines to provide food, beverages, and supplies to planes. The time is affected by the seats, the distance, and the meals. Bulk handling and placement tools include conveyor belts, cargo loaders, and belt loaders.

Water and toilet services: Passengers board, water tanker trucks filled with fresh water, waste tanks are cleaned, and deodorant is added using toilet trucks, depending on number and duration.

Fueling /Refueling: Aiming personnel must be competent to control fueling operations on an aircraft, using fuel trucks and hydrant stations. Time allocated varies based on passengers and trip distance.

4. CONCLUSION

With the help of the aforementioned information, a perceptive viewpoint on the value of ground-handling activities for shortening turnaround time was developed. The next step would be to suggest better ways to increase productivity before and after a flight, decreasing the operational hassle experienced by airlines to attain a turnaround time competency that is nearly optimal.

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