

Conceptual design alternatives for new in-flight food delivery and waste collection system in commercial transport aircraft

ABSTRACT

The in-flight service has been acknowledged as one of the main criteria that are highly considered by flying passengers for their preference and loyalty to an airline, especially in-flight meal services. Although the quality of served foods and beverages is substantially improved over the years, the applied process of food delivery and waste collection inside the cabin has essentially remained similar as it was decades ago. This study presents the generation of alternative conceptual designs for new improved in-flight food delivery and waste collection system through systematic engineering design methodology. The design requirements analysis is conducted with the help of Quality Function Deployment method while the morphological matrix method is applied in deriving the conceptual alternative designs. All in all, five alternative design concepts of the in-flight food delivery and waste collection system have been developed in this study for future evaluation to select the best among them.

Keyword: In-flight meal; Quality function deployment; Morphological matrix; Aircraft system; Engineering design