

## ABSTRAK

Perum LPPNPI (AirNav Indonesia) Cabang Palembang menghadapi kendala dalam pengelolaan tagihan biaya *Advance/Extend*, yakni kompensasi atas penerbangan di luar jam operasional bandara. Proses yang berjalan sepenuhnya bergantung pada pengerjaan konvensional dengan memanfaatkan *Microsoft Excel* dan *Microsoft Word*, dengan distribusi dokumen melalui *WhatsApp*, sehingga rentan terhadap kesalahan pencatatan (*human error*) dan tidak efisien dalam mengelola data dari 14 kantor cabang di wilayah Sumbangsels. Penelitian ini bertujuan membangun aplikasi berbasis *website* yang mampu mengotomatisasi rekapitulasi data penerbangan menjadi dokumen *invoice* digital dalam satu platform terpadu. Pengembangan sistem menggunakan metode *Waterfall* sebagai kerangka metodologi, dengan *Black-Box Testing* sebagai pendekatan pengujian sistem. Hasil penelitian menunjukkan bahwa aplikasi berhasil dibangun dengan tiga tingkatan hak akses, yaitu *Staff* Operasional, Admin Keuangan, dan Pihak Maskapai. Sistem mampu memproses data dari 14 cabang secara otomatis, menerbitkan dokumen *invoice* per cabang dalam format PDF, serta memfasilitasi unggah bukti transfer dan verifikasi pembayaran secara digital. Seluruh fungsionalitas sistem berjalan sesuai kebutuhan yang ditetapkan, sehingga efisiensi administrasi tagihan meningkat dan risiko kesalahan input berkurang signifikan dibandingkan sistem sebelumnya.

**Kata Kunci:** *Invoicing, Advance/Extend, Navigasi Penerbangan, Website, Waterfall*

## ABSTRACT

Perum LPPNPI (AirNav Indonesia) Palembang Branch faces challenges in managing Advance/Extend billing, which refers to compensation charged to airlines for flight operations outside official airport operating hours. The operational workflow currently in place depends entirely on spreadsheet and word processing tools specifically Microsoft Excel and Microsoft Word, with document distribution via WhatsApp, making it prone to data entry errors (human error) and inefficient in handling data from 14 branch offices across the South Sumatra (Sumbangsel) region. this study undertakes to develop a website-based application capable of automating the recapitulation of flight data into digital invoice documents within a single integrated platform. The system was built following the Waterfall development model, with functional validation carried out using Black-Box Testing. The results show that the application was successfully built with three user access levels: Operations, Finance Admin, and Airline. The system autonomously processes incoming data from all 14 branches automatically, generate invoice documents per branch in PDF format, and facilitate the Upload of payment transfer receipts along with digital payment verification. All system functionalities performed in accordance with the defined requirements, resulting in significantly improved billing administration efficiency and reduced data input errors compared to the previous system.

**Keywords:** Invoicing, Advance/Extend, Air Navigation, Website, Waterfall