ABSTRAK

BUMDes Air Bersih Desa Kalirejo masih menerapkan sistem administrasi secara manual dalam pencatatan data pelanggan, perhitungan meteran air, serta penyampaian informasi tagihan, sehingga berpotensi menimbulkan kesalahan perhitungan (human error), keterlambatan layanan, dan kesulitan dalam penyusunan laporan. Penelitian ini bertujuan untuk merancang dan membangun sistem informasi administrasi air yang terintegrasi dengan WhatsApp Gateway guna meningkatkan efisiensi pengelolaan administrasi dan transparansi informasi kepada pelanggan. Metode pengumpulan data yang digunakan meliputi wawancara, observasi, dan studi pustaka. Pengembangan sistem dilakukan menggunakan metode Waterfall yang terdiri dari tahapan communication, planning, modeling, construction, dan deployment. Sistem dibangun menggunakan bahasa pemrograman PHP dengan database MySQL serta integrasi WhatsApp Gateway sebagai media notifikasi otomatis. Pengujian sistem dilakukan melalui metode Black Box Testing dan User Acceptance Test (UAT). Hasil penelitian menunjukkan bahwa sistem yang dibangun mampu mengotomatisasi perhitungan tagihan air, mempermudah pencatatan meteran, mempercepat penyampaian informasi tagihan kepada pelanggan melalui WhatsApp, serta membantu pimpinan BUMDes dalam memantau laporan keuangan dan tunggakan secara real-time. Kesimpulan dari penelitian ini adalah bahwa sistem informasi administrasi air terintegrasi WhatsApp Bot dapat meningkatkan efektivitas dan efisiensi pengelolaan administrasi air bersih di BUMDes Desa Kalirejo. Untuk pengembangan selanjutnya, disarankan penambahan fitur pembayaran online dan peningkatan keamanan sistem.
***Kata kunci**: Sistem Informasi, Administrasi Air, WhatsApp Gateway, BUMDes, Aplikasi Web*

ABSTRACT

The Air Supply Unit of BUMDes Kalirejo Village still applies a manual administrative system in managing customer data, recording water meter usage, and delivering billing information, which may lead to calculation errors, service delays, and reporting difficulties. This study aims to design and develop a web-based water administration application integrated with a WhatsApp Bot to improve administrative efficiency and billing information transparency. Data collection methods include interviews, observations, and literature studies. The system was developed using the Waterfall method, consisting of communication, planning, modeling, construction, and deployment stages. The application was built using PHP programming language, MySQL database, and integrated with a WhatsApp Gateway for automatic notifications. System testing was conducted using Black Box Testing and User Acceptance Testing (UAT). The results indicate that the developed system successfully automates water bill calculations, simplifies meter recording, accelerates bill notification delivery via WhatsApp, and assists BUMDes management in monitoring financial reports and outstanding payments in real time. It can be concluded that the web-based water administration application integrated with a WhatsApp Bot improves the effectiveness and efficiency of clean water administration management at BUMDes Kalirejo Village. Future development is recommended to include online payment features and enhanced system security.

Keywords: *Information System, Water Administration, WhatsApp Gateway, BUMDes, Web Application*