

## ABSTRAK

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Judul Laporan Skripsi : Implementasi Algoritma *K-Means* pada Rancang Bangun Sistem Aplikasi *Customer Relationship Management* (CRM) untuk menentukan *reward customer* berbasis web  
Pembimbing : Rahmat Rian Hidayat, ST, MMSI

Pertumbuhan industri yang terus meningkat mendorong PT Porta Griya Indah, perusahaan industri, untuk mempertahankan pelanggan mereka. Saat ini, perusahaan masih menggunakan metode manual seperti telepon, WhatsApp, dan Email dalam mengelola hubungan dengan pelanggan, menyulitkan pihak marketing untuk menjalin hubungan yang baik. Untuk mengatasi tantangan ini, perusahaan perlu menerapkan strategi Customer Relationship Management (CRM). Guna mencari cara agar penjualan meningkat disertai loyalitas pelanggan maka pilihan yang tepat dilakukan adalah dengan memberikan reward kepada customer. Oleh karena itu, penelitian ini bertujuan untuk membangun sistem aplikasi Customer Relationship Management berbasis website dengan algoritma K-Means Clustering untuk menentukan reward customer secara tepat dan cepat. Data akan dikelompokkan menjadi dua cluster, yaitu layak menerima reward dan tidak layak menerima reward berdasarkan kriteria dan bobot penilaian. Hasil penelitian menunjukkan bahwa sistem ini berhasil membantu pihak marketing berkomunikasi dengan pelanggan, memfasilitasi penyampaian permasalahan dan kebutuhan pelanggan kepada direktur, serta memudahkan pemilihan pelanggan terbaik yang berhak menerima reward untuk meningkatkan loyalitas. Penerapan sistem ini dapat meningkatkan efisiensi PT Porta Griya Indah dalam mempertahankan pelanggan dan meningkatkan tingkat kepuasan pelanggan di tengah pertumbuhan industri yang terus berkembang.

**Kata Kunci** : Pertumbuhan industri, Customer Relationship Management (CRM), PT Porta Griya Indah, algoritma K-Means Clustering, penjualan, loyalitas pelanggan, reward pelanggan, sistem aplikasi berbasis website.

## ABSTRACT

Name : Angela Odetio Barimbing  
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Study Program : Information Technology  
Title Thesis : Implementation of the K-Means Algorithm  
in the Design of Customer Relationship  
Management (CRM) Application Systems  
to determine customer web-based rewards  
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*The increasing industrial growth drives PT Porta Griya Indah, an industrial company, to retain their customers. Currently, the company still utilizes manual methods such as telephone, WhatsApp, and email to manage customer relationships, making it challenging for the marketing team to establish good connections. To overcome this challenge, the company needs to implement a Customer Relationship Management (CRM) strategy. In order to find ways to increase sales accompanied by customer loyalty, the appropriate choice is to provide rewards to customers. Therefore, this research aims to develop a website-based Customer Relationship Management application using the K-Means Clustering algorithm to determine customer rewards accurately and swiftly. The data will be divided into two clusters: eligible for rewards and not eligible for rewards, based on predefined criteria and evaluation weights. The research results indicate that this system successfully assists the marketing team in communicating with customers, facilitates the delivery of customer issues and needs to the director, and simplifies the selection of the best customers eligible for rewards to enhance loyalty. Implementing this system can enhance the efficiency of PT Porta Griya Indah in retaining customers and improving customer satisfaction amidst the continuously growing industrial expansion.*

**Keywords: Industrial growth, Customer Relationship Management (CRM), PT Porta Griya Indah, K-Means Clustering algorithm, sales, customer loyalty, customer rewards, website-based application system.**