PENERAPAN METODE DATA MINING TERHADAP DATA PENJUALAN SPAREPART MOTOR DENGAN MENGGUNAKAN ALGORITMA APRIORI

SKRIPSI

Diajukan untuk memenuhi salah satu syarat kelulusan Program Sarjana

LESTARI EVA KRISTINA
11152929

Program Studi Sistem Informasi

STMIK Nusa Mandiri Jakarta

Jakarta

2019
ABSTRAK

Lestari Eva Kristina (11152929), Penerapan Metode Data Mining Terhadap Data Penjualan Sparepart Motor Dengan Menggunakan Algoritma Apriori


Kata kunci : Suku Cadang, Analisis Asosiasi, Algoritma Apriori, Data Mining
ABSTRACT

Lestari Eva Kristina (11152929), Implementation of Data Mining Method of Motor Spareparts Sales Data using Algorithm Apriori

At present the growth of motorcycle sales in Indonesia in recent years has increased significantly. However, every motorbike needs maintenance especially on the motorcycle parts. There are a number of parts that undergo regular replacement. Moreover, PT. Yamaha Harapan Motor Sejahtera Branch IV takes a strategy to sell spare parts whose sales have not reached this target can be sold along with frequently sold motorcycle spare parts. This strategy can be applied by knowing patterns of purchasing spare parts to obtain purchasing patterns with data mining. One of them is by shopping cart where this process analyzes the habits of consumers by finding associations between different items into a shopping basket. The basic methodology of association analysis is divided into two stages: first, the High Frequency pattern analysis stage, this stage looks for combinations of items that meet the minimum requirements of the support value (supporting value). Second, the stage of association association formation, after all high frequency patterns have been found, then associative rules are sought that meet the minimum requirements for confidence by calculating the confidence of associative rules A:B. After testing with manual calculations and calculations using the Tanagra Version 1.4 software, it can be seen that the results obtained from the manual calculations are not much different from the calculations using the Tanagra Version 1.4 software so that in general the software has worked well because the calculation process is as expected.

Keywords: Spareparts, Association analysis, Algorithm Apriori, Data Mining
### DAFTAR ISI

<table>
<thead>
<tr>
<th>LEMBAR JUDUL SKRIPSI</th>
<th>.................................................................</th>
<th>i</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEMBAR PERSEMBAHAN</td>
<td>..................................................................................</td>
<td>ii</td>
</tr>
<tr>
<td>LEMBAR PERNYATAAN KEASLIAN SKRIPSI</td>
<td>.......................................................................</td>
<td>iii</td>
</tr>
<tr>
<td>LEMBAR PERNYATAAN PERSETUJUAN PUBLIKASI KARYA ILMIAH</td>
<td>.....................................................................</td>
<td>iv</td>
</tr>
<tr>
<td>LEMBAR PERSETUJUAN DAN PENGESAHAN SKRIPSI</td>
<td>.....................................................................</td>
<td>v</td>
</tr>
<tr>
<td>LEMBAR PERNYATAAN PERSETUJUAN PUBLIKASI KARYA ILMIAH</td>
<td>.....................................................................</td>
<td>vi</td>
</tr>
<tr>
<td>KATA PENGANTAR</td>
<td>..................................................................................</td>
<td>vii</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td>..................................................................................</td>
<td>ix</td>
</tr>
<tr>
<td>DAFTAR ISI</td>
<td>..................................................................................</td>
<td>xi</td>
</tr>
<tr>
<td>DAFTAR GAMBAR</td>
<td>..................................................................................</td>
<td>xiii</td>
</tr>
<tr>
<td>DAFTAR TABEL</td>
<td>..................................................................................</td>
<td>xiv</td>
</tr>
</tbody>
</table>

#### BAB I PENDAHULUAN
1. Latar Belakang ........................................................................ 1
2. Identifikasi Masalah .................................................................. 3
3. Maksud dan Tujuan .................................................................... 3
4. Metode Penelitian ..................................................................... 4
   1. Observasi ........................................................................ 4
   2. Wawancara ....................................................................... 4
3. Studi Pustaka ......................................................................... 5
5. Ruang Lingkup ......................................................................... 5
6. Hipotesis ............................................................................... 6

#### BAB II LANDASAN TEORI
1. Tinjauan Pustaka ..................................................................... 7
   2.1 Data Mining ...................................................................... 7
   2.1.1 Data Mining .................................................................. 7
   2.1.2 Proses Tahapan KDD ...................................................... 7
   2.1.3 CRISP-DM ................................................................... 11
   2.1.4 Algoritma Apriori ........................................................... 14
   2.1.5 Perangkat Lunak Data Mining .......................................... 14
   2.2 Penelitian Terkait ............................................................... 15
   2.3 Tinjauan Organisasi ............................................................ 17

#### BAB III METODOLOGI PENELITIAN
1. Desain Penelitian ................................................................. 24
2. Instrument Penelitian ............................................................. 27
3. Metode Pengumpulan Data, Populasi dan Sample Penelitian ........ 28
4. Metode Analisis Data ............................................................. 29

#### BAB IV HASIL PENELITIAN DAN PEMBAHASAN

---

|x|
4.1 Hasil Penelitian.................................................................32
4.2 Daftar Produk Suku Cadang PT Yamaha Harapan Sejahtera ..............32
4.3 Penerapan Algoritma Apriori .................................................34

BAB V KESIMPULAN DAN SARAN ....................................101
5.1 Kesimpulan........................................................................101
5.2 Saran 101

DAFTAR PUSTAKA ..................................................................103
DAFTAR RIWAYAT HIDUP .......................................................105
LEMBAR KONSULTASI BIMBINGAN ...................................106
DAFTAR GAMBAR

Gambar II.1 Tahap CRISP-DM ................................................................. 13
Gambar II.2 Struktur Organisasi PT. Harapan Motor Sejahtera .................. 19
Gambar III.1 Tahapan Penelitian .......................................................... 24
Gambar IV.1 Format Tabular .................................................................. 92
Gambar IV.2 Format Tabular II ............................................................... 92
Gambar IV.3 Tampilan Awal Aplikasi Tanagra ........................................ 93
Gambar IV.4 Tampilan Menu Aplikasi Tanagra ........................................ 93
Gambar IV.5 Tampilan Menu New .......................................................... 94
Gambar IV.6 Tampilan Pilih File .............................................................. 94
Gambar IV.7 Tampilan Aplikasi Terkoneksi dengan Format Tabular .......... 95
Gambar IV.8 Tampilan Nama Attributes ................................................ 95
Gambar IV.9 Tampilan Attributes Terinput .............................................. 96
Gambar IV.10 Tampilan Components ..................................................... 96
Gambar IV.11 Tampilan Menu Frequent Itemset 1 .................................... 97
Gambar IV.12 Tampilan input parameters frequent itemset ...................... 97
Gambar IV.13 Tampilan Hasil Frequent Itemset ........................................ 98
Gambar IV.14 Tampilan Association Rule Parameters .............................. 98
Gambar IV.15 Tampilan hasil pembentukan Association Rule ................... 99
Gambar IV.15 Tampilan hasil pembentukan Association Rule ................... 99
## DAFTAR TABEL

| Tabel IV.I Daftar Produk Suku Cadang | 32 |
| Tabel IV.2 Data Penjualan Produk Suku Cadang Bulan Januari 2018 | 34 |
| Tabel IV.3 Data Penjualan Produk Suku Cadang Bulan Februari 2018 | 35 |
| Tabel IV.4 Data Penjualan Produk Suku Cadang Bulan Maret 2018 | 37 |
| Tabel IV.5 Data Penjualan Produk Suku Cadang Bulan April 2018 | 38 |
| Tabel IV.6 Data Penjualan Produk Suku Cadang Bulan Mei 2018 | 40 |
| Tabel IV.7 Data Penjualan Produk Suku Cadang Bulan Juni 2018 | 41 |
| Tabel IV.8 Data Penjualan Produk Suku Cadang Bulan Juli 2018 | 43 |
| Tabel IV.9 Data Penjualan Produk Suku Cadang Bulan Agustus 2018 | 44 |
| Tabel IV.10 Data Penjualan Produk Suku Cadang Bulan September 2018 | 46 |
| Tabel IV.11 Data Penjualan Produk Suku Cadang Bulan Oktober 2018 | 47 |
| Tabel IV.12 Data Penjualan Produk Suku Cadang Bulan November 2018 | 49 |
| Tabel IV.13 Data Penjualan Produk Suku Cadang Bulan Desember 2018 | 50 |
| Tabel IV.14 Pola Transaksi Penjualan Produk Suku Cadang Motor | 46 |
| Tabel IV.15 Format Tabular Penjualan Produk Suku Cadang Motor | 53 |
| Tabel IV.16 Format Tabular Penjualan Produk Suku Cadang Motor Lanjutan | 54 |
| Tabel IV.17 Daftar Support dari tiap 1 itemset | 62 |
| Tabel IV.18 Calon 2 Itemset | 66 |
| Tabel IV.19 Minimal Support 2 Itemset | 80 |
| Tabel IV.20 Hasil Asosiasi Minimum Confidence 60% | 83 |
| Tabel IV.21 Aturan Asosiasi Final | 88 |
DAFTAR PUSTAKA


