

Data Warehouse Model For Population Registration In Kerambitan Village Tabanan Regency

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Abstract

Kerambitan village is one of the 15 villages in Kerambitan sub-district, Tabanan regency, Kerambitan village has 7 service hamlets. Kerambitan village population has more than 3,338 inhabitants consisting of 1,700 men and 1,638 women with a sex ratio of 103.79. . To realize good governance, it needs to be recorded well so that the information can be utilized by related agencies which can be used for receiving assistance. During this time the process of recording population events such as recording the receipt of assistance is done manually where the information is done in tabular form so it does not clearly describe the respective information groups. Data warehouse (DW or DWH), also known as enterprise data warehouse (EDW), is a system used for reporting and analyzing data, and is considered a core component of business intelligence, The purpose of building a data warehouse is to provide a system that allows the right data to reach the right end user at the right time. Thus, the main purpose of implementing this data warehouse system is to provide relevant and timely information in an easily understood format so that service decisions to the public can be made more efficiently and effectively. The purpose of this research is to form a data warehouse model scheme of population records owned by kerambitan village government and through modeling this data warehouse also provides reliable information from a collection of data, in addition this research also retrieves some information from the data warehouse in build based on kerambitan village population records. In this study I chose to use the fact constellation scheme because there are fact tables that are interconnected with dimension tables and also fact tables that are related to other fact tables. The design model of the data warehouse is designed based on 3 excel table files, each of which has 1 table from the Government of Kerambitan Villages. In this case, 3 reports are proposed to be made based on the query results from the data warehouse. Through the application of a data warehouse that was formed, the executive or government can conduct analysis of the reports generated based on various dimensions that exist.

Keywords: Data Warehouse, Government, Kerambitan Villages, Data Warehouse Model, Fact Constellation Scheme,

1. Introduction

Kerambitan village is one of the 15 villages in Kerambitan sub-district, Tabanan regency, Kerambitan village has 7 service hamlets. Kerambitan village population has more than 3,338 inhabitants consisting of 1,700 men and 1,638 women with a sex ratio of 103.79 [1]. in the course of Kerambitan village government became one of the vital parts of the community in administration, law, planning and population, which can create good governance for people who are in the Kerambitan village environment,

To achieve good governance. all data needs to be recorded properly so that the information can be utilized by related institutions that can be used to receive assistance such as assistance from social services, health services, infrastructure and so on, which is one of the implementations of e-government, E-government (short for electronic government) is the use of technological communications devices, such as computers and the Internet to provide public services to citizens and other persons in a country or region. the term consists of the digital interactions between a citizen and their government (C2G), between governments and other government agencies (G2G), between

government and citizens (G2C), between government and employees (G2E), and between government and businesses/commerces (G2B). The most expected advantage of e-government is increased efficiency, convenience, and better accessibility of public services.[4]

During this time the process of recording population events such as recording the receipt of assistance is done manually where the information is done in tabular form so it does not clearly describe the respective information groups, so the data recorded is not able to provide information quickly and has not been able to provide information that can help the process of taking decision.

Information Systems is a combination of information technology and the activities of people who use the technology to support operations and management. [9] In a very broad sense, the term information system that is often used refers to interactions between people, algorithmic processes, data, and technology. In this sense, the term is used to refer not only to the use of information and communication technology (ICT) organizations, but also to the ways in which people interact with this technology in supporting decisions processes. [9] So that with adequate information technology support will help in the decision process that is fast and precise.

Population record data from kerambitan village which can be utilized by processing it into information, with the data being thought can be more efficient with the data warehouse, so that the data obtained is able to provide information and decision making.

In computing , a data warehouse (DW or DWH), is a system used for reporting and data analysis , and is considered a core component of business intelligence . [5] DWs are central repositories of integrated data from one or more disparate sources. They store current and historical data in one single place [2] that are used for creating analytical reports for workers throughout the enterprise. [3] Data warehouse a computer environment in order to use databases so that strategic information becomes faster and more reliable. The data warehouse is created by an ETL (Extraction Transformation Loading) process that gets data from a Transactional Processing System (TPS) or OLTP (OnLine Transactional Processing)[8].

The purpose of this research is to form a data warehouse model scheme of population records owned by kerambitan village government and through modeling this data warehouse also provides reliable information from a collection of data, in addition this research also retrieves some information from the data warehouse in build based on kerambitan village population records. implementing a data warehouse system can provide positive value for the company, including:

- Decision makers can access data records better
This is obtained by making decision makers to be able to access data that was previously unavailable, unknown, or unrelated information because the information is distributed to all existing database distributions, thus requiring data warehouse to integrate all of the data.
- Increased productivity of decision makers in government
Data warehouse integrates data from various separate systems into a form that provides a complete view of a government institution. Through the process of converting data into more meaningful information, the data warehouse enables executives to carry out more substantial, accurate, and consistent analyzes so that they can support the decision making process in their administrative areas.

Through this research a data warehouse model and application will be formed that can assist executives in analyzing data that were previously still in the form of tabular documents but also integrated data that will facilitate the understanding of information content, so that it can be useful as a material consideration in decision making process carried out.

2. Related Works

in a previous study of data warehouses under the title "Data Warehouse Model for Fire Fighting Operations at the DKI Jakarta Provincial Fire Service" presents the design of 2 data warehouse design models for the DKI Jakarta fire department. The first data warehouse design model is categorized as a fact constellation schema, where there are 3 fact tables, 2 dimensional tables and 1 sub dimensional table, while the second data warehouse design model is a fact constellation schema which only consists of only 3 fact tables. Both of these data warehouse models are displayed with the intention that the application of data warehouse based on this fire extinguisher data will look different. The data warehouse design model is designed based on 4 excell file tables, each of which has 1 table downloaded from the DKI Jakarta fire department website on the data.jakarta.go.id website [6].

While the article titled "Designing Warehouse Data Model In Supporting Shipping Services Company" by Tanty Oktavia where in his research formulating a data warehouse model and

application design in accordance with the results of the needs analysis, which could later support the shipping service company, which in this study involved PT. Atlas Transindo Raya as the object of research. The methodology used in this study uses analysis and design methods. Where the analysis method is carried out literature study, conduct surveys and interviews, identify information needed by executives in decision making, and define data warehouse requirements to be built based on the Nine-Steps Methodology. Whereas the design method is done by designing a data warehouse application, as an interface display that contains supporting features from the user side. The results of this study are in the form and model of data warehouse applications that are formed based on operational data, processed in various dimensions, so that they can form a report to meet the needs of the executive for information [7].

3. Research Method

3.1. Collecting Data

Data collection in this study was obtained from literature study methods or secondary data that can be obtained from the Government of Kerambitan Villages, where the data obtained in the form of data as follows:

1. Population Data of Kerambitan Village in 2018.xls
2. Regional Incentive Assistance Recipient Data.xls
3. Central Incentive Assistance Beneficiary Data.xls

Here are some data i obtained from government of kerambitan village:

a. Population Data of Kerambitan Village in 2018.xls

In this Excel file there are 3160 data row records that consist of 16 columns that contains : NIK (ID Number), No_KK (Family Registry Number), nama lengkap (Full_name), Jenis Kelamin (Gender), tanggal lahir (date of birth), umur (age), agama (religion), status kawin (marital status), SHDK (relationship status in family), pekerjaan (last education), occupation, address, nama kecamatan (district name), nama desa (village name), nama banjar (hamlet name)

NIK	NO_KK	NAMA LENGKAP	JK	TMPT_LHR	TGL_LHR	UMUR	AGAMA	STAT_KWN	SHDK	PDDK_AKHIR	PEKERJAAN	ALAMAT
32750106	51020424	IRI NENGAH SUKARDA	L	KERAMBITAN	06-12-1963	54	Hindu	Kawin	Kepala Keluarga	Diploma IV/Strata I	Belum/Tidak Bekerja	BANJAR DINAS TENGAH
32750151	51020424	NI PUTU SUDJANI	P	MEGWITANI	11-12-1968	49	Hindu	Kawin	Istri	SLTA/Sederajat	Pegawai Negeri Sipil	BANJAR DINAS TENGAH
51020421	51020424	I PUTU AGUNG MAHAPUTRA	L	BEKASI	21-09-1993	24	Hindu	Belum Kawin	Anak	Diploma IV/Strata I	Belum/Tidak Bekerja	BANJAR DINAS TENGAH
51020426	51020424	GEDE MADE KUSUMA WARDANA	L	BEKASI	26-04-1996	22	Hindu	Belum Kawin	Anak	SLTA/Sederajat	Pelajar/Mahasiswa	BANJAR DINAS TENGAH
51020426	51020419K	MADE SUKADA	L	DS KERAMBITAN	26-05-1967	51	Hindu	Kawin	Kepala Keluarga	SLTA/Sederajat	Pegawai Negeri Sipil	BANJAR TENGAH
51020453	51020419K	NI MADE SUITI	P	TISTA	13-06-1968	50	Hindu	Kawin	Istri	Tamat SD/Sederajat	Mengurus Rumah Tar	BANJAR TENGAH
51020422	51020419K	PUTU DANISWARA	L	KERAMBITAN	22-03-1998	20	Hindu	Belum Kawin	Anak	SLTA/Sederajat	Pelajar/Mahasiswa	BANJAR TENGAH
51020402	51020419K	MADE DENA WIYANTANTA	L	KERAMBITAN	02-07-2002	16	Hindu	Belum Kawin	Anak	Tamat SD/Sederajat	Pelajar/Mahasiswa	BANJAR TENGAH
51020471	51020419K	NI MADE RAWI	P	KERAMBITAN	31-12-1944	73	Hindu	Cerai Mati	Orangtua	Tamat SD/Sederajat	Petani/Pekelub	BANJAR TENGAH
51020416	51020419K	NYOMAN ADNYANA DRH MSI	L	BATURITI	16-12-1967	50	Hindu	Kawin	Kepala Keluarga	Akademi/Diploma II	Pedagang	BANJAR TENGAH KANGIN
51020448	51020419K	NI WAYAN WIYANI	P	BR TENGAH KANGIN	09-09-1973	44	Hindu	Kawin	Istri	Akademi/Diploma II	Karyawan Swasta	BANJAR TENGAH KANGIN
51020404	51020419K	PUTU GEDE HENDRA DARMAWAN	L	TENGAH KANGIN	04-11-1998	19	Hindu	Belum Kawin	Anak	SLTA/Sederajat	Pelajar/Mahasiswa	BANJAR TENGAH KANGIN
51020470	51020419K	NI MADE AYU DIANDRA DHARMAPATNI	P	TENGAH KANGIN	30-07-2008	9	Hindu	Belum Kawin	Anak	Tidak/Belum Sekolah	Belum/Tidak Bekerja	BANJAR TENGAH KANGIN
51020421	51020427K	MADE PUTRA WIJAYA	L	KUKUH	21-05-1985	33	Hindu	Kawin	Kepala Keluarga	SLTA/Sederajat	Karyawan Swasta	BANJAR TENGAH KAWAN
51020451	51020427K	PUTU ANIKA WIKAPUTRI	P	TABANAN	14-07-2015	2	Hindu	Belum Kawin	Anak	Tidak/Belum Sekolah	Belum/Tidak Bekerja	BANJAR TENGAH KAWAN
51020422	51020427K	KADEK ACASITYA KAYANA WIKAPUTRA	L	TABANAN	22-03-2017	1	Hindu	Belum Kawin	Anak	Tidak/Belum Sekolah	Belum/Tidak Bekerja	BANJAR TENGAH KAWAN
53710342	51020426	NI MADE MURDANI	P	TABANAN	02-07-1981	37	Hindu	Cerai Mati	Kepala Keluarga	SLTA/Sederajat	Wirawasta	BANJAR WANI KAWAN
51020426	51020419K	DRS I NYOMAN ARTA SUYASA	L	KERAMBITAN	26-12-1962	55	Hindu	Kawin	Kepala Keluarga	Diploma IV/Strata I	Karyawan Swasta	BR DINAS TENGAH KANGIN
51020485	51020419K	NI MADE WARTI	P	KERAMBITAN	25-07-1967	50	Hindu	Kawin	Istri	SLTA/Sederajat	Perangkas Desa	BR DINAS TENGAH KANGIN
51020403	51020419K	MADE VENDI ARYASA	L	TENGAH KANGIN	03-12-1995	22	Hindu	Belum Kawin	Anak	SLTP/Sederajat	Pelajar/Mahasiswa	BR DINAS TENGAH KANGIN
51020406	51020419K	NYOMAN VEGI ARI GIJNA	L	TENGAH KANGIN	06-06-1997	21	Hindu	Belum Kawin	Anak	SLTP/Sederajat	Pelajar/Mahasiswa	BR DINAS TENGAH KANGIN
51020409	51020419K	DEWA NYOMAN SUKIANA, S. PD	L	TABANAN	09-09-1957	60	Hindu	Kawin	Kepala Keluarga	Diploma IV/Strata I	Pegawai Negeri Sipil	BR DINAS TENGAH KANGIN
51020444	51020419K	NI MADE DUARMINI	P	WANAGIRI	04-11-1967	50	Hindu	Kawin	Istri	SLTA/Sederajat	Pegawai Negeri Sipil	BR DINAS TENGAH KANGIN
51020414	51020419K	DEWA GEDE DWI NOVA KUSUMA W	L	TABANAN	14-11-1991	26	Hindu	Belum Kawin	Anak	SLTA/Sederajat	Pelajar/Mahasiswa	BR DINAS TENGAH KANGIN
51020408	51020403	IDA BAGUS PANCA SURYANA, S IKOM	L	KEDAMPAL	08-11-1981	36	Hindu	Kawin	Kepala Keluarga	Diploma IV/Strata I	Karyawan Swasta	BR DINAS KEDAMPAL
51020470	51020403	IDA BAGUS GEDE ASWIN PRADIPTA	L	TABANAN	30-10-2013	4	Hindu	Belum Kawin	Anak	Tidak/Belum Sekolah	Belum/Tidak Bekerja	BR DINAS KEDAMPAL
51020470	51020403	IDA AYU MADE SUCIATI	P	TENGAH KANGIN	30-12-1954	63	Hindu	Cerai Mati	Orangtua	Tamat SD/Sederajat	Petani/Pekelub	BR DINAS KEDAMPAL

Figure 1. Population Data of Kerambitan Village in 2018

b. Regional Incentive Assistance Recipient Data.xls

In this Excel file there are 277 data record rows consisting of 26 columns that contains : NIK (ID Number), No_KK (Family Registry Number), nomor kartu bantuan (beneficiary card id), nama lengkap (Full_name), alamat (address), nama kecamatan (district name), nama desa (village name), nama banjar (hamlet name), SHDK (relationship status in family), tanggal lahir (date of birth), TMT, Nama Faskes (Name of Health Facilities), status peserta (member status), iuran (health fee), Tanggal Registrasi (Registration Date)

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NO.	NIK	NIK DUKCAPIL	KK DUKCAPIL	NOMOR KARTU	NAMA	NAMA DI DUKCAPIL
128	5102047112370023	5102047112370023	5102041903082719	0002105226549	NI KETUT TEMEN	NI KETUT TEMEN
204	5102043112370012	5102043112370012	5102041903082719	0002105555027	I WAYAN REBAH	I WAYAN REBAH
277	5102045404520001	5102045404520001	5102041903083073	0002108951098	NI WAYAN SURYATI	NI WAYAN SURYATI
61	5102047112520030	5102047112520030	5102041903082971	0002105225201	NI KETUT RISTI	NI KETUT RISTI
72	5102043112470022	5102043112470022	5102041903082971	0002105225425	I WAYAN SUJANA	I MADE SUJANA
276	5102040906680001	5102040906680001	5102041903083307	0002108951087	I PUTU SUDIARSA	I PUTU SUDIARSA
271	5102042912500010	5102042912500010	5102041903082890	0002108951032	I KETUT MERTA	I KETUT MERTA
275	5102047112650045	5102047112650045	5102041903083012	0002108951076	NI NENGAH SRIASIH	NI NENGAH SRIASIH
30	5102047112660072	5102047112660072	5102041903082980	0002105224582	NI NENGAH SUMERTI	NI NENGAH SUMERTI
188	5102047112530032	5102047112530032	5102041903083465	0002105279965	NI KETUT NYANDRI	GUSTI PUTU ASTINI
269	5102042405560001	5102042405560001	5102041903082792	0002108951019	I KETUT KARIADA	I KETUT KARIADA
270	5102046512570001	5102046512570001	5102041903082792	0002108951021	NI NYOMAN ARIANI	NI NYOMAN ARIANI
273	5102046912500010	5102046912500010	5102041903082979	0002108951054	NI NENGAH LODER	NI NENGAH LODER
274	5102045106950001	5102045106950001	5102041903082905	0002108951065	NI WAYAN ARI WINA WULANDARI	NI WAYAN ARI WINA WULANDARI
34	5102043012540005	5102043012540005	5102041903082905	0002105224661	I NYOMAN KAMAR	I NYOMAN KAMAR
35	5102047012580002	5102047012580002	5102041903082905	0002105224683	NI NYOMAN BUDIASIH	NI NYOMAN BUDIASIH
36	5102043012630005	5102043012630005	5102041903082905	0002105224705	I KETUT KAKAK	I KETUT KAKAK
37	5102043012660003	5102043012660003	5102041903085900	0002105224727	I NENGAH KIKIK	I KETUT SUINA
80	5102045003900002	5102045003900002	5102041903082905	0002105225583	LUH KOMANG SANISTRI DEWI	LUH KOMANG SANISTRI DEWI
130	5102045112070002	5102045112070002	5102041903082905	0002105226584	LUH KETUT AYU DESITA ANGGARENI DEWI	LUH KETUT AYU DESITA ANGGARANI DEWI
272	5102043012650003	5102043012650003	5102041903082905	0002108951043	I NENGAH KIKIK	I NENGAH KIKIK
3	5102045609560001	5102045609560001	5102041903083411	0002105224029	NI WAYAN LANDRI	NI WAYAN LANDRI
7	5102045404520002	5102045404520002	5102040704110318	0002105224121	NI WAYAN SURYATI	GUSTI A NYOMAN MADRI

Figure 2. Regional Incentive Assistance Recipient Data

c. Central Incentive Assistance Beneficiary Data.xls

In this Excel file there are 549 data record rows consisting of 11 columns that contains : Kode Wilayah (Region Code),NOKA_BPJS, PSNOKA, alamat (address), nama (name), No_KK (Family Registry Number), NIK (ID Number),tanggal lahir(date of birth), jenis kelamin (gender), SHDK (relationship status in family)

A	B	C	D	E	F	G	H	I	J
NO	KD_WIL	KD_WIL_CAPIL	NOKA_BPJS	PSNOKA_BPJS	NM_PROPCAPIL	NM_KABCAPIL	NM_KECCAPIL	NM_DESACAPIL	ALAMAT
1	5102020006	5102042006	0000820040027	0000820040771	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD PEKANDELAN BANJAR PEKANDELAN
2	5102020006	5102042006	0000820040027	0000820041524	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD PEKANDELAN BANJAR PEKANDELAN
3	5102020006	5102042006	0000820040027	0000820042288	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD PEKANDELAN BANJAR PEKANDELAN
4	5102020006	5102042006	0000820040027	0000820040027	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD PEKANDELAN BANJAR PEKANDELAN
5	5102020006	5102042006	0000820040027	0000820041726	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD PEKANDELAN BANJAR PEKANDELAN
6	5102020006	5102042006	0000820042852	0000820042852	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD PEKANDELAN BANJAR PEKANDELAN
7	5102020006	5102042006	0000820042852	0000820045214	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD PEKANDELAN BANJAR PEKANDELAN
8	5102020006	5102042006	0000820042852	0000820043223	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD PEKANDELAN BANJAR PEKANDELAN
9	5102020006	5102042006	0000820042852	0000820044718	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD PEKANDELAN BANJAR PEKANDELAN
10	5102020006	5102042006	0000820046338	0000820047519	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD WANI BANJAR WANI
11	5102020006	5102042006	0000820046338	0000820047295	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD WANI BANJAR WANI
12	5102020006	5102042006	0000820046338	0000820047475	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD WANI BANJAR WANI
13	5102020006	5102042006	0000820046338	0000820046338	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD WANI BANJAR WANI
14	5102020006	5102042006	0000820046338	0000820046507	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD WANI BANJAR WANI
15	5102020006	5102042006	0000820047982	0000820048623	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD KEDAMPAL BANJAR KEDAMPAL
16	5102020006	5102042006	0000820047982	0000820049095	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD KEDAMPAL BANJAR KEDAMPAL
17	5102020006	5102042006	0000820047982	0000820049141	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD KEDAMPAL BANJAR KEDAMPAL
18	5102020006	5102042006	0000820047982	0000820050636	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD KEDAMPAL BANJAR KEDAMPAL
19	5102020006	5102042006	0000820047982	0000820047982	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD KEDAMPAL BANJAR KEDAMPAL
20	5102020006	5102042006	0000820047982	0000820051277	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD KEDAMPAL BANJAR KEDAMPAL
21	5102020006	5102042006	0000820052234	0000820052559	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD KEDAMPAL BANJAR KEDAMPAL
22	5102020006	5102042006	0000820052234	0000820052739	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD KEDAMPAL BANJAR KEDAMPAL
23	5102020006	5102042006	0000820052234	0000820052234	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD KEDAMPAL BANJAR KEDAMPAL
24	5102020006	5102042006	0000820054168	0000820054168	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD TENGAH KANGIN BANJAR TENGAH KANGIN
25	5102020006	5102042006	0000820054168	0000820055373	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD TENGAH KANGIN BANJAR TENGAH KANGIN
26	5102020006	5102042006	0000820054168	0000820055338	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD TENGAH KANGIN BANJAR TENGAH KANGIN
27	5102020006	5102042006	0000820054168	0000820055147	BALI	KAB. TABANAN	KERAMBITAN	KERAMBITAN	BD TENGAH KANGIN BANJAR TENGAH KANGIN

Figure 3. Central Incentive Assistance Beneficiary Data

3.2. Designing Data Warehouses

At this stage the model design is based on the results of the analysis of the problems faced Because the data is taken directly from Kerambitan village government, there is no OLTP (Online Transactional Processing) or TPS (Transactional Processing System) design which is usually used for reading data to be moved to the data warehouse. So the Data Warehouse model that is built will be formed based on existing Excel data files, so that the existing Excel data files will be manually entered into the data warehouse and subsequently based on the data warehouse there will be several opportunity reports that can be generated for the need to support the decision-making system of Kerambitan village government.

4. Result and Discussion

4.1. Model Desain Data Warehouse

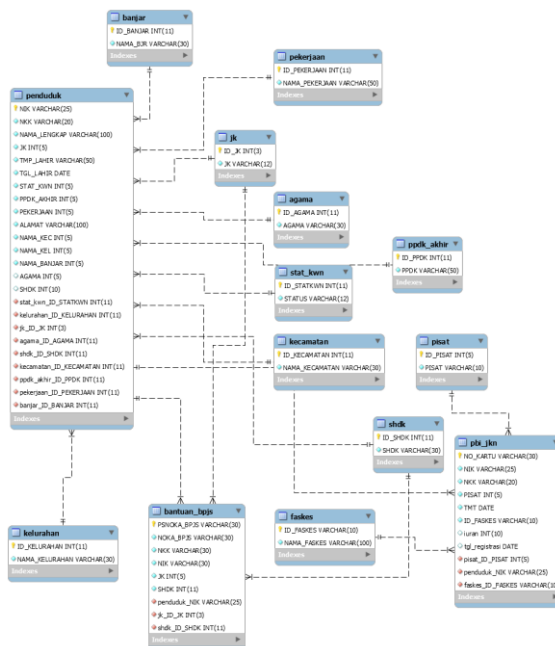


Figure 4. Fact Constellation model data warehouse

Based on an analysis of 3 excell tables obtained from Kerambitan village government, a data warehouse is modeled in Figure 4 below where we have 3 fact tables namely : Penduduk (Representation of Population Data), pbi_jkn (Representation of Regional Incentive Assistance Recipient Data), bantuan_bpjs (Representation of Central Incentive Assistance Beneficiary Data). in this study I chose to use the fact constellation scheme because there are fact tables that are interconnected with dimension tables and also fact tables that are related to other fact tables.

Forming the tables in the data warehouse is formed based on the 3 Excell files mentioned above, namely:

1. Population Data of Kerambitan Village in 2018.xls
2. Regional Incentive Assistance Recipient Data.xls
3. Central Incentive Assistance Beneficiary Data.xls

4.2. Making the Extraction Transformation and Loading (ETL) process

Making the Extraction Transformation and Loading (ETL) process is based on making reports that will be adjusted to the data contained in the proposed data warehouse design model. In this case, 3 reports are proposed to be made based on the query results from the data warehouse model mentioned above and the reports are:

1. Population Reports that have a number of Regional and central incentive assistance recipients
2. The Population Report that has a recipient card for regional incentive assistance with work is farmers
3. population reports that have data on recipients of central incentive assistance with work as casual daily laborers

Following below explains how the three reports are built with the data warehouse model above as illustrated in Figure 4 above, following the SQL statement needed to pull data from each table in the data warehouse model above.

1. Population Reports that have a number of Regional and central incentive assistance recipients
Following is the sql statement for making the report :
SELECT
bantuan_bpjs.PSNOKA_BPJS,pbi_jkn.NO_KARTU,pbi_jkn.NIK,pbi_jkn.NKK,penduduk.N

AMA LENGKAP, pisat.pisat, pbi_jkn.TMT, pbi_jkn.ID_FASKES,
pbi_jkn.iuran, pbi_jkn.tgl_registrasi FROM pbi_jkn INNER JOIN penduduk INNER JOIN
bantuan_bpjs INNER JOIN pisat ON penduduk.NIK = pbi_jkn.NIK AND pbi_jkn.PISAT =
pisat.ID_PISAT AND penduduk.NIK = bantuan_bpjs.NIK

+ Opsi

PSNOKA_BPJS	NO_KARTU	NIK	NKK	NAMA LENGKAP	pisat	TMT	ID_FASKES	iuran	tgl_registrasi
820230884	2105224749	5102042708620001	5102041903082887	WAYAN SUNARSA	PESERTA	2017-01-01	1	23000	2016-11-25

Figure 5. Population that have a number of Regional and central incentive assistance recipients

- The Population Report that has a recipient card for regional incentive assistance with work is farmers

Following is the sql statement for making the report :

```
SELECT penduduk.NIK, penduduk.NKK, penduduk.NAMA LENGKAP,
penduduk.ALAMAT, penduduk.PEKERJAAN, pekerjaan.NAMA PEKERJAAN,
pbi_jkn.NO_KARTU, pbi_jkn.ID_FASKES, faskes.NAMA_FASKES
FROM penduduk INNER JOIN pbi_jkn INNER JOIN pekerjaan inner JOIN faskes ON
penduduk.NIK = pbi_jkn.NIK AND pbi_jkn.ID_FASKES = faskes.ID_FASKES AND
penduduk.pekerjaan = pekerjaan.ID_Pekerjaan AND pekerjaan.NAMA_Pekerjaan
= 'PETANI/PEKEBUN' ;
```

NIK	NKK	NAMA LENGKAP	ALAMAT	PEKERJAAN	NAMA PEKERJAAN	NO_KARTU	ID_FASKES	NAMA_FASKES
5102042311760001	5102041903082963	I KOMANG SUGIARTA	BR DINAS WANI KAWAN	22	PETANI/PEKEBUN	2105224244	1	KERAMBITAN II
5102040201500002	5102040701110087	I WAYAN SUARYA	BR DINAS KEDAMPAL	22	PETANI/PEKEBUN	2105224907	1	KERAMBITAN II
5102041711520001	5102041903083154	I KETUT PUTRA	BR DINAS KEDAMPAL	22	PETANI/PEKEBUN	2105225008	1	KERAMBITAN II
5102043112590033	5102041903082909	I NENGAH SUDIRA	BR DINAS WANI KAWAN	22	PETANI/PEKEBUN	2105225447	1	KERAMBITAN II
5102043112560029	5102041903082864	I KETUT NURATA	BR DINAS TENGAH KANGIN	22	PETANI/PEKEBUN	2105225482	1	KERAMBITAN II
5102042912490006	5102041903083087	I KETUT SUKERATA	BR DINAS WANI	22	PETANI/PEKEBUN	2105225864	1	KERAMBITAN II
5102042105640001	5102041903082898	ANAK AGUNG MADE SUARDIKA	BR DINAS TENGAH KANGIN	22	PETANI/PEKEBUN	2105225965	1	KERAMBITAN II
5102047110720002	5102041903082898	NI NENGAH SULATRI	BR DINAS TENGAH KANGIN	22	PETANI/PEKEBUN	2105226145	1	KERAMBITAN II
5102047012470003	5102041903082935	NI NENGAH JEMPEN	BR DINAS TENGAH KAWAN	22	PETANI/PEKEBUN	2105226202	1	KERAMBITAN II
5102041905540001	5102041903083411	I NYOMAN TEKEN	BR DINAS KEDAMPAL	22	PETANI/PEKEBUN	2105226347	1	KERAMBITAN II
5102046012710002	5102041903083223	NI WAYAN NURATI	BR DINAS TENGAH	22	PETANI/PEKEBUN	2105226505	1	KERAMBITAN II
5102041001680001	5102041903083246	I NENGAH SUBAGIAADI	BR DINAS KEDAMPAL	22	PETANI/PEKEBUN	2105226608	1	KERAMBITAN II
5102047112570039	5102041903082864	NI NYOMAN PRASTI	BR DINAS TENGAH KANGIN	22	PETANI/PEKEBUN	2105226729	1	KERAMBITAN II
5102043011540002	5102041903083231	I MADE SUDIRA	BR DINAS TENGAH KANGIN	22	PETANI/PEKEBUN	2105227001	1	KERAMBITAN II
5102047112370111	5102041903083036	A.A SAGUNG PUTRI	BR DINAS PEKANDELAN	22	PETANI/PEKEBUN	2105227067	1	KERAMBITAN II
5102041811520001	5102041903083412	I KETUT KARTA	BR DINAS TENGAH KANGIN	22	PETANI/PEKEBUN	2105227326	1	KERAMBITAN II
5102047112480032	5102040801110134	NI KETUT RATNA	BR DINAS TENGAH	22	PETANI/PEKEBUN	2105227449	1	KERAMBITAN II
5102042301490001	5102040801110136	I MADE RUPEK	BR DINAS PEKANDELAN	22	PETANI/PEKEBUN	2105227484	1	KERAMBITAN II
5102047112450133	5102041903082963	NI KETUT LEDRI	BR DINAS WANI KAWAN	22	PETANI/PEKEBUN	2105227528	1	KERAMBITAN II
5102044606890006	5102041001110002	NI KOMANG SERINADI	BR DINAS TENGAH KAWAN	22	PETANI/PEKEBUN	2105554948	1	KERAMBITAN II
5102045709830003	5102041903083253	NI KETUT SUKERNI	BR DINAS TENGAH KANGIN	22	PETANI/PEKEBUN	2108215765	1	KERAMBITAN II
5102040306420001	5102040701110102	I KETUT NYINGKIR	BR DINAS KEDAMPAL	22	PETANI/PEKEBUN	2108654392	1	KERAMBITAN II
5102045403430001	5102041903083341	NI MADE REMPON	BR DINAS KEDAMPAL	22	PETANI/PEKEBUN	2108654458	1	KERAMBITAN II
5102040405620002	5102041903082630	I NENGAH SUDIANA	BR TENGAH	22	PETANI/PEKEBUN	2108654469	1	KERAMBITAN II
5102044710670001	5102041903082630	NI KETUT SULASIH	BR TENGAH	22	PETANI/PEKEBUN	2108654471	1	KERAMBITAN II

Figure 6. The Population Report that has a recipient card for regional incentive assistance with work is farmers

- population reports that have data on recipients of central incentive assistance with work as casual daily laborers

Following is the sql statement for making the report :

```
SELECT bantuan_bpjs.PSNOKA_BPJS, bantuan_bpjs.NOKA_BPJS, bantuan_bpjs.NIK,
penduduk.NAMA LENGKAP, jk.JK, shdk.SHDK, penduduk.PEKERJAAN,
pekerjaan.NAMA PEKERJAAN
FROM bantuan_bpjs INNER JOIN penduduk INNER JOIN jk INNER JOIN shdk INNER
JOIN pekerjaan ON bantuan_bpjs.NIK = penduduk.NIK AND bantuan_bpjs.JK = jk.ID_JK
AND bantuan_bpjs.SHDK = shdk.ID_SHDK AND penduduk.PEKERJAAN =
pekerjaan.ID_Pekerjaan AND pekerjaan.NAMA_Pekerjaan = 'BURUH HARIAN
LEPAS'
```

+ Opsi

PSNOKA_BPJS	NOKA_BPJS	NIK	NAMA LENGKAP	JK	SHDK	PEKERJAAN	NAMA PEKERJAAN
1054757158	1054757158	5102043112560030	I NYOMAN NGARA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820042852	820042852	5102040501640002	I NYOMAN NATA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820072361	820072361	5102041412650001	I MADE SUNARTA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820077399	820072361	5102043112670006	I NYOMAN SURATA	LAKI-LAKI	MERTUA	3	BURUH HARIAN LEPAS
820082665	820082665	5102040611690001	ANAK AGUNG MAYUN SUARDIKA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820091068	820091068	5102040811720001	I MADE PUTRA SANA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820096784	820096784	5102043012500002	I WAYAN PUSPA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820112038	820112038	5102042308780001	I PUTU MERTAADI	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820218126	820218126	5102043112470019	ANAK AGUNG KETUT CAKRA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820218554	820218126	5102041101720002	ANAK AGUNG NYOMAN ARTIKA	LAKI-LAKI	FAMILI LAIN	3	BURUH HARIAN LEPAS
820221489	820221489	5102040504670001	I NENGAH SUJANA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820230884	820230884	5102042708620001	I WAYAN SUNARSA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820238499	820238499	5102040101790001	I NENGAH WIDIARTA	LAKI-LAKI	ANAK	3	BURUH HARIAN LEPAS
820239827	820239614	5102040103860001	I NYOMAN WIARDANA	LAKI-LAKI	FAMILI LAIN	3	BURUH HARIAN LEPAS
820255149	820254014	5102043112560028	I MADE BAKTI	LAKI-LAKI	MERTUA	3	BURUH HARIAN LEPAS

Figure 7. population reports that have data on recipients of central incentive assistance with work as casual daily laborers

5. Conclusion

Based on the results of data collection, analysis, and database design carried out in Kerambitan village government, then some conclusions can be drawn as follows:

1. Through the application of a data warehouse that was formed, the executive or government can conduct analysis of the reports generated based on various dimensions that exist.
2. Besides functioning as a reporting support tool, the resulting data warehouse application can also be used as a tool to analyze decisions based on existing population and beneficiary data
3. Through this data warehouse, it can also provide information about residents in Kerambitan villages

The suggestions regarding the results of research conducted are:

1. It is necessary to design an information system in the form of web / desktop in order to facilitate the provision of interactive information
2. Conducting further research on the application of data mining systems so that the analysis process can be carried out in more depth and patterned based on existing approaches in the concept of data mining.

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