

LAMPIRAN

Lampiran 1: Data jenis pekerjaan di Indonesia tahun 2018

NO	PROVINSI	PENGANGGURAN	PERDAGANGAN	PERTANIAN	INDUSTRI	TRANSPORTASI	AKOMODASI	ASURANSI	ADMIN PEMERINTAH	PENDIDIKAN	KESEHATAN	LAINNYA
1	ACEH	154.001	330.982	961.767	142.570	67.320	87.417	13.362	127.611	145.044	64.144	64.684
2	BALI	22.345	510.207	469.721	445.696	57.602	342.651	64.622	143.951	123.547	55.930	155.939
3	BANGKA BELITUNG	27.347	130.825	219.345	60.163	16.990	30.948	18.437	38.933	33.137	13.136	39.901
4	BANTEN	473.111	1.086.023	864.011	1.207.021	357.034	319.001	333.216	271.017	277.011	74.123	408.067
5	BENGKULU	27.944	131.605	520.964	61.466	22.428	32.720	21.331	61.255	52.496	27.985	11.528
6	D.I.YOGYAKARTA	65.602	382.341	420.122	337.235	75.001	202.023	34.342	72.012	115.023	35.033	138.036
7	DKI JAKARTA	290.120	1.236.044	39.255	583.246	504.241	696.453	187.035	247.055	238.029	102.063	768.085
8	GORONTALO	22.551	116.882	194.025	56.052	40.035	19.031	13.036	43.085	42.035	8.235	28.532
9	JAMBI	64.470	247.060	806.096	93.053	54.033	77.258	37.036	106.073	98.395	23.325	43.893
10	JAWA BARAT	1.860.235	4.770.269	3.200.468	4.490.832	1.050.239	1.490.296	420.832	540.492	990.132	370.183	1.230.329
11	JAWA TENGAH	770.563	3.260.673	4.760.295	3.750.319	530.489	1.220.294	220.345	400.384	680.492	200.392	1.090.394
12	JAWA TIMUR	810.935	3.660.693	6.680.324	3.120.529	570.603	1.380.732	260.957	540.273	960.278	240.392	970.630
13	KALIMANTAN BARAT	106.721	301.839	1.303.672	172.656	62.788	106.628	32.904	71.892	91.655	40.322	81.427
14	KALIMANTAN SELATAN	84.478	369.043	742.223	172.341	83.345	148.112	41.035	96.012	124.011	38.005	107.012
15	KALIMANTAN TENGAH	47.211	229.112	522.014	66.027	38.261	57.013	6.515	110.311	69.036	17.047	36.127
16	KALIMANTAN TIMUR	46.925	324.380	348.247	104.309	60.155	147.300	79.601	156.868	108.295	44.262	108.059
17	KALIMANTAN UTARA	16.272	66.811	80.917	9.958	19.165	18.461	8.158	50.371	19.148	10.906	18.325
18	KEPULAUAN RIAU	68.559	102.031	113.373	164.728	99.256	110.432	12.870	58.342	62.834	61.224	70.844
19	LAMPUNG	190.422	763.411	2.022.134	305.913	181.622	189.521	34.576	146.628	177.588	43.219	154.489
20	MALUKU	56.958	65.122	263.786	60.123	55.722	60.112	10.232	5.123	4.121	2.113	20.166
21	MALUKU UTARA	27.421	83.812	223.412	47.921	25.723	12.523	2.743	52.832	28.813	7.472	13.271
22	NUSA TENGGARA BARAT	83.210	460.552	909.123	185.840	82.601	112.012	21.857	118.770	147.060	29.590	92.190
23	NUSA TENGGARA TIMUR	76.326	236.782	1.455.828	160.353	55.123	65.223	35.039	136.998	135.209	43.785	40.215
24	PAPUA	53.818	130.412	1.210.811	44.291	63.731	24.975	9.074	147.701	41.493	22.852	34.322
25	PAPUA BARAT	28.086	62.445	178.876	27.692	16.435	15.550	892	51.493	23.195	6.664	8.381
26	RIAU	188.410	558.450	1.194.880	218.930	126.470	149.850	17.580	190.450	225.930	55.240	124.810
27	SULAWESI BARAT	16.388	90.321	305.567	62.433	22.362	20.331	15.621	44.126	31.127	25.673	32.354
28	SULAWESI SELATAN	224.885	652.232	1.617.680	304.224	136.237	154.251	41.745	262.878	253.103	76.317	95.099
29	SULAWESI TENGAH	50.082	218.628	640.113	141.144	47.064	55.189	12.523	127.186	75.449	27.791	54.587
30	SULAWESI TENGGARA	40.724	200.103	490.972	110.955	43.183	43.689	16.632	114.667	69.010	23.332	22.092
31	SULAWESI UTARA	76.389	238.112	325.337	87.244	82.093	62.112	16.522	78.090	48.448	19.920	63.990
32	SUMATRA BARAT	152.240	448.420	946.100	245.890	92.250	195.750	23.090	130.570	166.670	65.020	73.930
33	SUMATRA UTARA	403.221	1.319.112	2.658.223	567.123	260.990	417.771	44.552	317.003	361.110	118.992	296.111
34	SUMTRA SELATAN	175.555	688.000	1.941.400	279.300	169.100	190.000	26.500	151.711	221.555	66.441	156.999

Lampiran 2 : Agglomeration Schedule metode *Average linkage*

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	21	25	.005	0	0	2
2	17	21	.019	0	1	5
3	3	8	.024	0	0	5
4	15	30	.025	0	0	6
5	3	17	.046	3	2	9
6	15	29	.049	4	0	11
7	5	27	.061	0	0	9
8	14	22	.122	0	0	15
9	3	5	.127	5	7	14
10	1	32	.134	0	0	18
11	9	15	.142	0	6	13
12	19	34	.152	0	0	21
13	9	31	.212	11	0	17
14	3	20	.230	9	0	22
15	6	14	.273	0	8	20
16	13	23	.337	0	0	18
17	9	24	.416	13	0	22
18	1	13	.468	10	16	20
19	2	16	.489	0	0	24
20	1	6	.491	18	15	24
21	19	26	.583	12	0	25
22	3	9	.618	14	17	23
23	3	18	.753	22	0	26
24	1	2	.924	20	19	26
25	19	28	.932	21	0	27
26	1	3	1.227	24	23	27
27	1	19	3.062	26	25	31
28	11	12	5.708	0	0	32
29	4	7	6.007	0	0	30
30	4	33	10.779	29	0	31
31	1	4	16.337	27	30	33
32	10	11	30.320	0	28	33
33	1	10	111.212	31	32	0

Lampiran 3 : Clustre Membership metode Average linkage

Cluster Membership

Case	4 Clusters	3 Clusters	2 Clusters
1:ACEH	1	1	1
2:BALI	1	1	1
3:BANGKA BELITUNG	1	1	1
4:BANTEN	2	1	1
5:BENGKULU	1	1	1
6:D.I YOGYAKARTA	1	1	1
7:DKI JAKARTA	2	1	1
8:GORONTALO	1	1	1
9:JAMBI	1	1	1
10:JAWA BARAT	3	2	2
11:JAWA TENGAH	4	3	2
12:JAWA TIMUR	4	3	2
13:KALIMANTAN BARAT	1	1	1
14:KALIMANTAN SELATAN	1	1	1
15:KALIMANTAN TENGAH	1	1	1
16:KALIMANTAN TIMUR	1	1	1
17:KALIMANTAN UTARA	1	1	1
18:KEPULAUAN RIAU	1	1	1
19:LAMPUNG	1	1	1
20:MALUKU	1	1	1
21:MALUKU UTARA	1	1	1
22:NUSA TENGGARA BARAT	1	1	1
23:NUSA TENGGARA TIMUR	1	1	1
24:PAPUA	1	1	1
25:PAPUA BARAT	1	1	1
26:RIAU	1	1	1
27:SULAWESI BARAT	1	1	1
28:SULAWESI SELATAN	1	1	1
29:SULAWESI TENGAH	1	1	1
30:SULAWESI TENGGARA	1	1	1
31:SULAWESI UTARA	1	1	1
32:SUMATRA BARAT	1	1	1
33:SUMATRA UTARA	2	1	1
34:SUMTRA SELATAN	1	1	1

Lampiran 6 : Syntax metode *Self Organizing Maps*

```

#memasukkan data

data=read.delim("clipboard")

data

library (kohonen)

pretty_palette <- c("#1f77b4", '#ff7f0e', '#2ca02c', '#d62728','#9467bd', '#8c564b',
'#e377c2')

data_imun <- data[,c(2,3,4,5,6,7,8,9,10,11,12)]

data_imun

data_imun_matrix <- as.matrix (data_imun)

names (data_imun_matrix) <- names(data_imun)

som_grid <- somgrid(xdim=2, ydim=17, topo="hexagonal")

som_model<- som(scale(data_imun), grid=som_grid, rlen=100, alpha=
c(0.05,0.01), keep.data=TRUE)

rm(som_grid, data_imun_matrix)

summary(som_model)

plot(som_model, type = "changes")

plot(som_model, type = "counts")

plot(som_model, type = "dist.neighbours")

plot(som_model, type = "codes",bgcol = pretty_palette,main="Clusters")

#clustering

dataimun <-som_model$codes

wss <- (nrow(data_imun)-1)*sum(apply(data_imun,2,var))

```

```
for (i in 1:12) { wss[i] <- sum(kmeans(data_imun,centers=i)$withinss)}  
  
plot(wss)  
  
#cluster dengan 4 kelompok  
  
peta<-cutree(hclust(dist(som_model$codes[[1]])), 4)  
  
peta  
  
plot(peta)  
  
plot(som_model, type="codes", bgcol=rainbow(2) [peta])  
  
add.cluster.boundaries(som_model, peta)
```