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Kelas : F

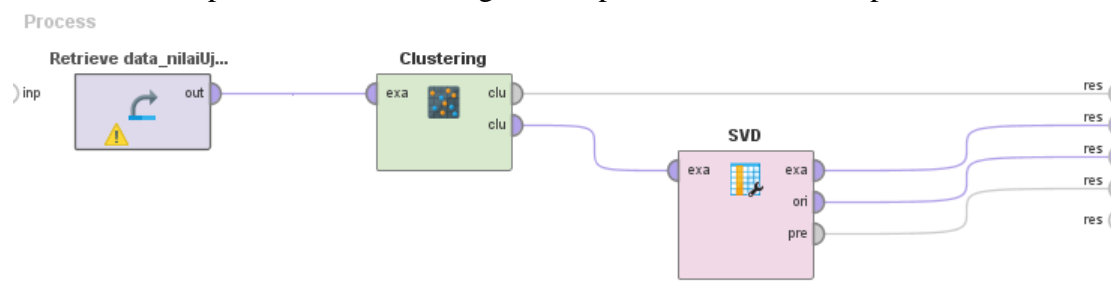
Modul X

## Praktikum

- Tabel Data Nilai Ujian

Row No.	NAMA	B.IND	B.ING
1	JOKO	8.540	8.400
2	AGUS	9.980	6.810
3	SUSI	6.200	9.150
4	DYAH	5.240	7.260
5	WATI	5.700	5.710
6	IKA	8.570	5.870
7	EKO	7.700	7.710
8	YANTO	6.600	5.700
9	WAWAN	9	8.120
10	MAHMUD	9.810	9.580

- Menambahkan operator K-Means dengan nilai parameter k=3, dan operator SVD.



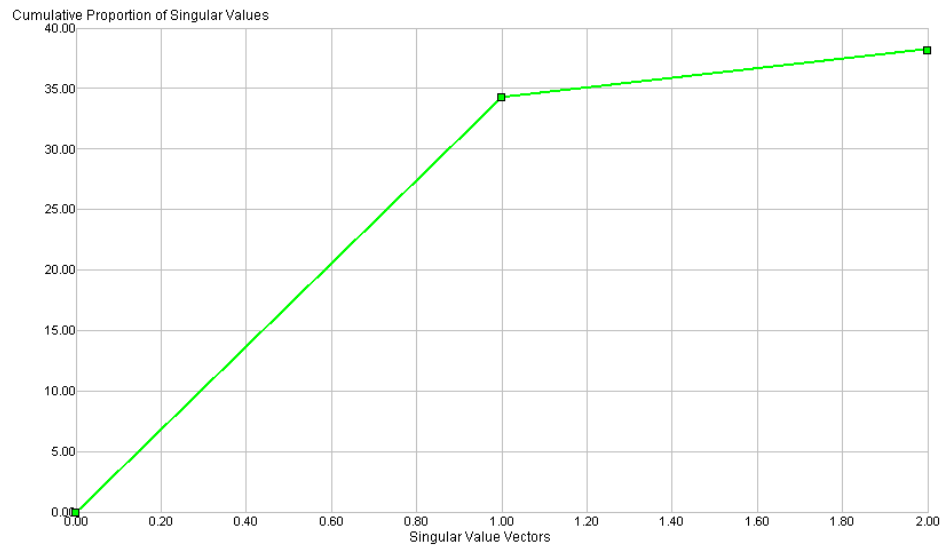
- SVD
  - o Nilai Eigenvalue

Component	Singular Value	Proportion of Singular V...	Cumulative Singular Val...	Cumulative Proportion o...
SVD 1	34.340	0.898	34.340	0.898
SVD 2	3.906	0.102	38.246	1.000

- Nilai SVD vectors

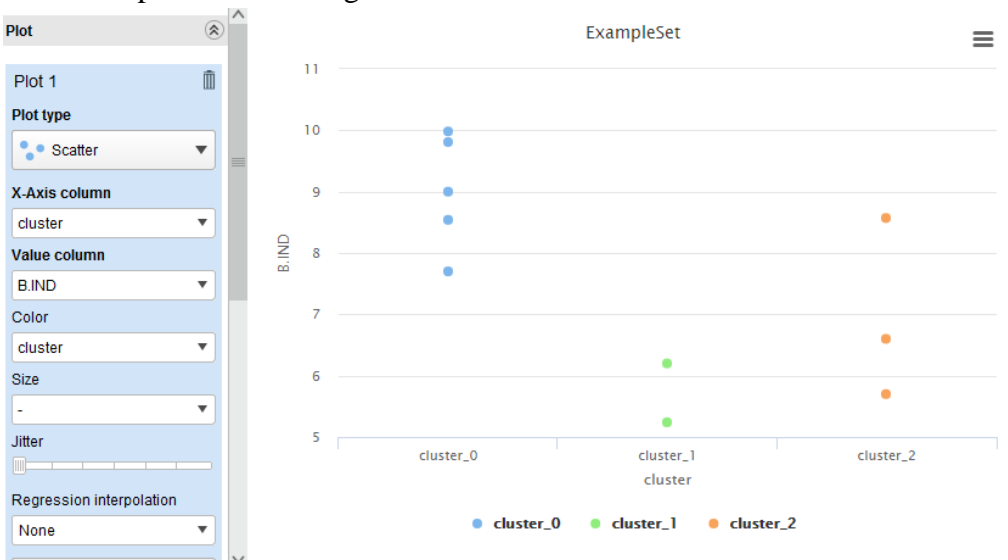
Attribute	SVD Vector 1
B.IND	0.723
B.ING	0.690

- Nilai Cumulative Variance

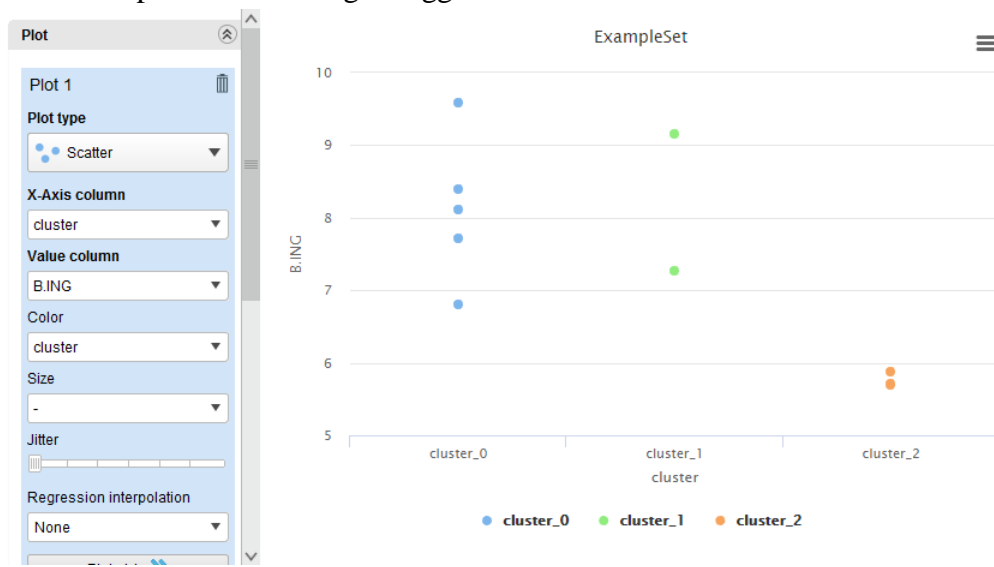


- Hasil clustering ExampleSet (K-Means)

- Kelompok siswa bidang B.Indonesia



- Kelompok siswa bidang B.Ingggris



- ExampleSet (SVD)

Row No.	NAMA	cluster ↑	svd_1
1	JOKO	cluster_0	0.349
2	AGUS	cluster_0	0.347
7	EKO	cluster_0	0.317
9	WAWAN	cluster_0	0.353
10	MAHMUD	cluster_0	0.399
3	SUSI	cluster_1	0.315
4	DYAH	cluster_1	0.256
5	WATI	cluster_2	0.235
6	IKA	cluster_2	0.299
8	YANTO	cluster_2	0.254

- Cluster Model
  - Description

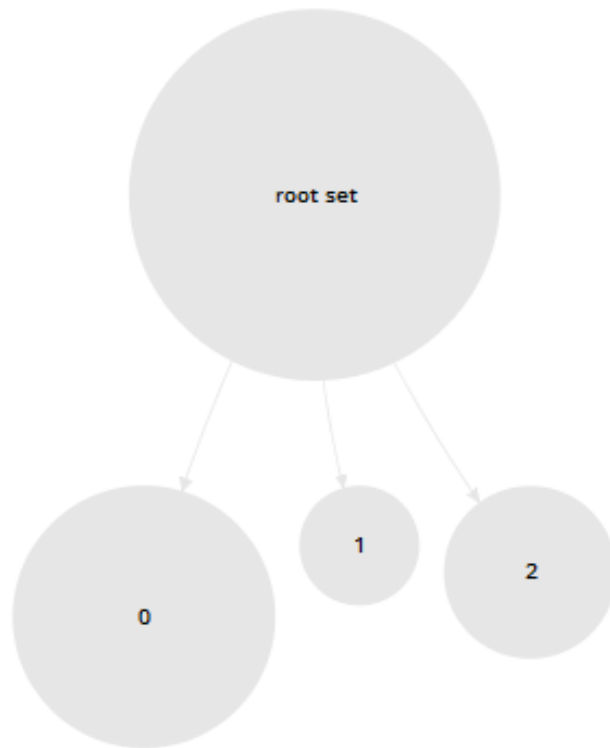
## Cluster Model

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Cluster 0: 5 items
Cluster 1: 2 items
Cluster 2: 3 items
Total number of items: 10

```

- Graph



## TUGAS

- Membuat tabel data nilai ujian 30 siswa

NO_SISWA	NAMA	B.IND	B.ING	MTK	IPA
S-101	JOKO	5.48290834	8.46541996	6.28607389	6.83753129
S-102	AGUS	8.52203118	6.03069431	5.23764137	9.7582983
S-103	SUSI	8.04321836	7.63813835	8.98138452	7.41141582
S-104	DYAH	6.25129035	6.23462895	5.00123261	8.25332661
S-105	WATI	6.17901754	7.36103192	6.93122495	8.31530661
S-106	IKA	5.97322569	9.54417873	8.00789832	9.23909336
S-107	EKO	6.46320773	7.21953199	9.06316264	6.66845388
S-108	YANTO	7.99645394	5.32226162	8.263971	5.62957799
S-109	WAWAN	5.47152755	8.56476735	8.45587941	5.90503251
S-110	MAHMUD	5.99481356	5.41010336	5.11386981	9.42828489
S-111	BUDI	9.02583705	8.75975138	9.03687973	6.91611655
S-112	SANTI	5.50752735	7.75084577	5.71675122	5.65746002
S-113	DIAN	8.537445	7.59240127	7.77889519	8.20898498
S-114	DANI	7.17884086	7.72535922	9.60307033	5.0017646
S-115	AHMAD	7.55404196	9.53372294	9.83759906	6.88498682
S-116	BAYU	8.4727305	7.87801531	9.61011646	8.48638841
S-117	RISA	7.38318847	8.97348755	7.48385039	9.09269648
S-118	RANI	5.86015927	6.17124051	9.58321763	6.16234296
S-119	YANI	5.45936578	9.09982342	6.9887617	9.09435498
S-120	RATIH	5.42270339	7.08890182	8.68696899	5.05125996
S-121	INDAH	9.22416619	9.73682436	6.21136068	8.11160383
S-122	JONO	5.38905684	5.7102987	6.30472515	9.86743769
S-123	SARAH	8.79443849	6.28043097	8.96691408	9.4141758
S-124	RAMA	8.29166659	9.23156891	9.36088963	7.70918316
S-125	BAMBANG	5.88867138	5.88191091	8.25394	7.98642358
S-126	HADI	5.08241586	5.9836807	8.81096932	9.04080898
S-127	NANA	5.20769637	5.97277395	6.85176648	5.38490313
S-128	FEBRI	6.48354064	7.62890409	5.03879303	6.08886206
S-129	DENI	6.1346519	7.7732835	7.52029865	7.16981068
S-130	TONI	5.56722848	6.58166681	7.58597689	7.16329178

- SVD

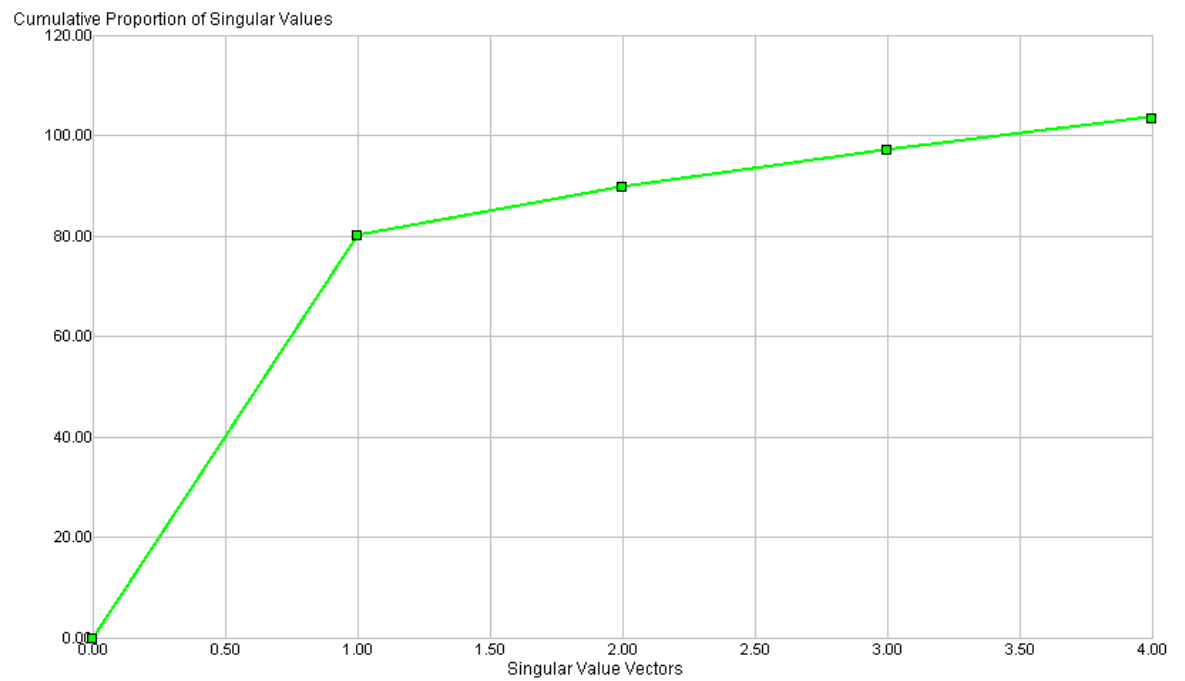
- o Nilai Eigenvalue

Component	Singular Value	Proportion of Singular V...	Cumulative Singular Val...	Cumulative Proportion o...
SVD 1	80.272	0.775	80.272	0.775
SVD 2	9.614	0.093	89.885	0.867
SVD 3	7.479	0.072	97.365	0.940
SVD 4	6.261	0.060	103.626	1.000

- o Nilai SVD Vectors

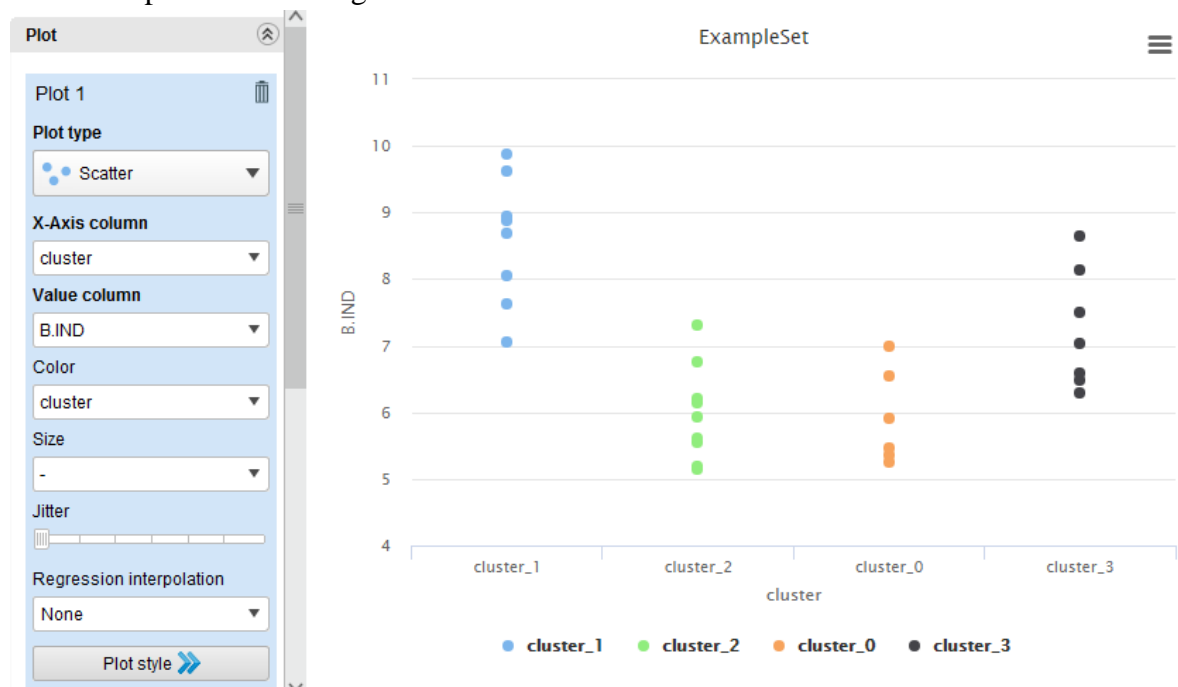
Attribute	SVD Vector 1	SVD Vector 2	SVD Vector 3
B.IND	0.477	-0.336	-0.515
B.ING	0.516	-0.073	-0.397
MTK	0.495	0.838	0.136
IPA	0.512	-0.423	0.748

- Nilai Cumulative Variance

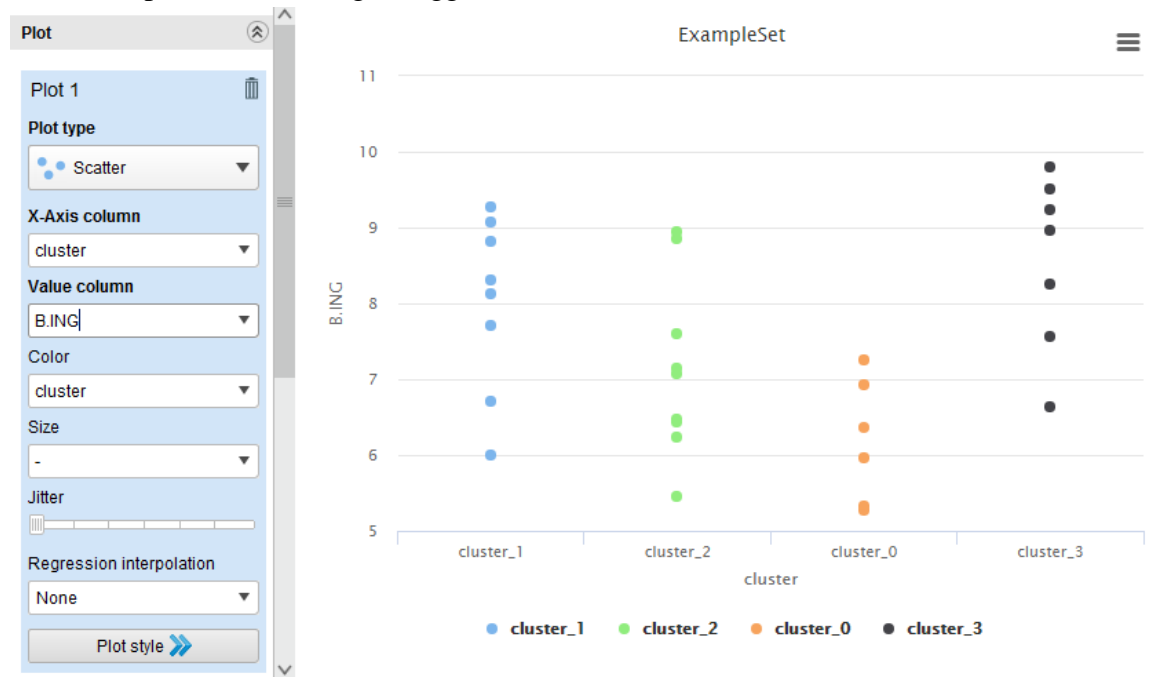


- ExampleSet (K-Means)

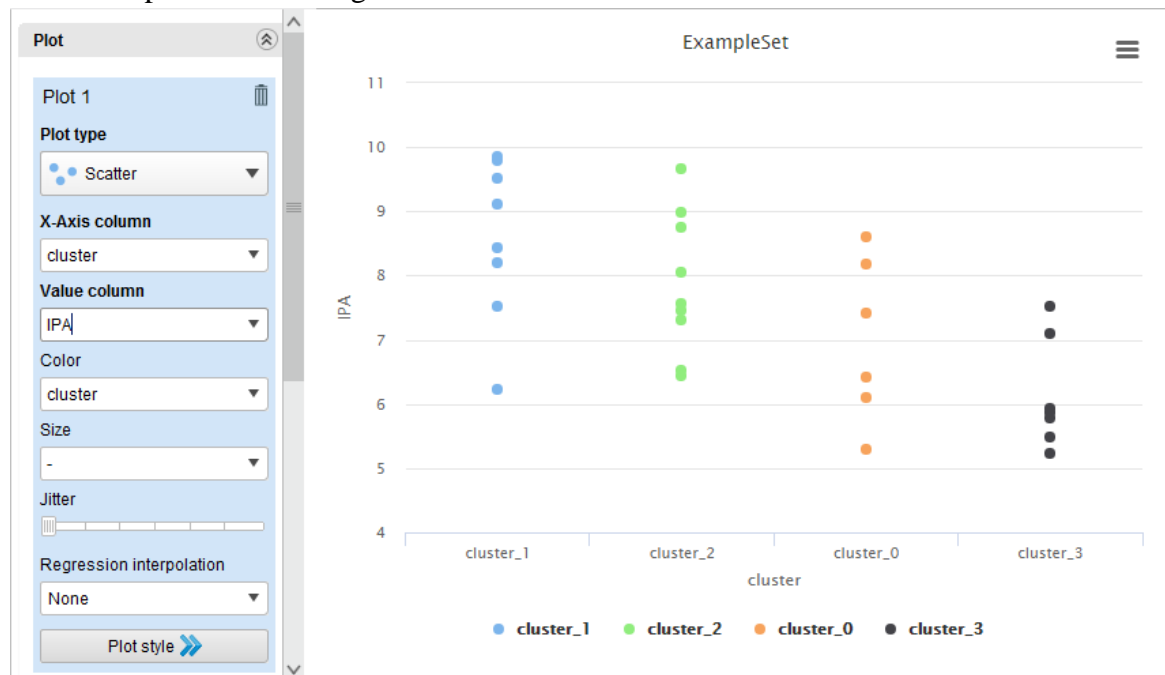
- Kelompok siswa bidang B.Indonesia



- Kelompok siswa bidang B.Ingggris



- Kelompok siswa bidang IPA



- Kelompok siswa bidang MTK



- ExampleSet (SVD)

- Cluster\_0

NAMA	cluster ↑	B.IND	B.ING	MTK	IPA
SUSI	cluster_0	5.915	6.933	8.880	6.421
WAWAN	cluster_0	5.351	5.972	9.658	7.413
BUDI	cluster_0	6.984	7.246	8.753	8.179
SARAH	cluster_0	6.536	5.279	8.138	5.289
RAMA	cluster_0	5.256	6.367	9.729	8.609
TONI	cluster_0	5.465	5.324	8.311	6.100



○ Cluster\_1

NAMA	cluster ↑	B.IND	B.ING	MTK	IPA
JOKO	cluster_1	8.044	6.702	7.341	9.525
DYAH	cluster_1	8.869	6.006	5.518	8.429
SANTI	cluster_1	8.947	8.306	8.481	9.787
DANI	cluster_1	7.634	9.279	8.619	9.853
RANI	cluster_1	8.677	7.706	5.146	7.530
INDAH	cluster_1	7.053	9.071	5.822	8.204
JONO	cluster_1	9.611	8.131	5.503	9.110
DENI	cluster_1	9.876	8.810	5.395	6.235

○ Cluster\_2

NAMA	cluster ↑	B.IND	B.ING	MTK	IPA
AGUS	cluster_2	5.546	6.476	6.752	8.986
YANTO	cluster_2	5.136	7.152	6.039	7.565
DIAN	cluster_2	7.312	6.232	5.824	6.523
AHMAD	cluster_2	5.940	7.598	5.509	8.759
BAYU	cluster_2	5.617	6.436	5.345	8.042
RISA	cluster_2	6.206	5.453	5.691	6.448
YANI	cluster_2	6.767	7.067	5.691	9.670
RATIH	cluster_2	5.185	8.858	5.753	7.462
BAMBANG	cluster_2	6.139	8.950	5.142	7.299

- Cluster\_3

NAMA	cluster ↓	B.IND	B.ING	MTK	IPA
WATI	cluster_3	6.598	9.231	7.237	5.864
IKA	cluster_3	6.289	8.260	8.937	7.511
EKO	cluster_3	6.474	9.806	9.663	5.934
MAHMUD	cluster_3	8.643	6.629	7.701	5.227
HADI	cluster_3	7.510	8.959	6.934	7.089
NANA	cluster_3	7.024	9.501	9.975	5.791
FEBRI	cluster_3	8.131	7.560	9.073	5.475

- Cluster Model

- Description

## Cluster Model

```
Cluster 0: 6 items
Cluster 1: 8 items
Cluster 2: 9 items
Cluster 3: 7 items
Total number of items: 30
```

- Graph

