$03_customer_seg_bankdata_report$

December 22, 2022

1 Customer Segmentation Report

2 Import Data

	CUST_ID	BALANCE	BALANCE_	FREQUENC	Y PURCHASI	ES ONEOF	F_PURCHASES	\			
0	C10001	40.900749		0.81818	2 95.4	10	0.00				
1	C10002	3202.467416		0.90909	1 0.0	00	0.00				
2	C10003	2495.148862		1.00000	0 773.1	17	773.17				
3	C10004	1666.670542		0.63636	4 1499.0	00	1499.00				
4	C10005	817.714335		1.00000	0 16.0	00	16.00				
	INSTALL	MENTS_PURCHA	SES CASH_	_ADVANCE	PURCHASES_	FREQUENC	Υ \				
0		9	5.4 (0.000000		0.16666	7				
1			0.0 6442	2.945483		0.00000	0				
2			0.0	0.000000		1.00000	0				
3			0.0 205	0.000000 5.788017	88017 0.083333						
4			0.0	0.000000		0.08333	3				
ONEOFF_PURCHASES_FREQUENCY PURCHASES_INSTALLMENTS_FREQUENCY \											
0	_		.000000		_	0.08					
1											
2											
3	3 0.083333 0.000000										
4		0	.083333	0.00000							
	CASH AD	VANCE FREQUE	NCY CASH	ADVANCE	TRX PURCH	ASES TRX	CREDIT_LIMI	T \			
0	_	0.000	_		0	2	1000.				
1		0.250	000		4	0	7000.	0			
2		0.000	000		0	12	7500.	0			
3		0.083	333		1	1	7500.	0			
4		0.000	000		0	1	1200.	0			
	PAYM	ENTS MINIMU	M PAYMENTS	S PRC FU	LL_PAYMENT	TENURE					
0	201.80		<u>-</u> 139.509787	_	0.000000	12					
1	4103.03	2597 1	072.340217	7	0.222222 12						
2	622.06		627.284787		0.000000	12					
3	0.00	0000	NaN	J	0.000000	12					

4 678.334763 244.791237 0.000000 12

3 Load Model Artifacts

4 Transform Dataset

0 1 2 3	C10002 C10003 C10004	BALANO 40.90074 3202.46741 2495.14886 1666.67054	19 16 52 12		0.818183 0.90909 1.00000 0.63636	2 1 0 4	95.40 0.00 773.17 1499.00)) 7)	F_PURCHASES 0.00 0.00 773.17 1499.00	\		
4	C10005	817.71433	35		1.00000	0	16.00)	16.00			
	INSTALL	MENTS_PURCH	HASES	CASH A	DVANCE	PUR	CHASES I	FREQUENC	Υ \			
0			95.4	_	000000		_	0.16666				
1			0.0		945483							
2			0.0	0.	000000			1.00000	0			
3			0.0	205.	788017	0.083333						
4			0.0	0.	000000			0.08333	3			
	ONEOFF_PURCHASES_FREQUENCY PURCHASES_INSTALLMENTS_FREQUENCY \											
0	0.000000 0.083333											
1	0.000000 0.000000											
2	1.000000 0.000000											
3	0.083333 0.000000											
4	0.083333 0.000000											
	CASH AD	JANCE FREQI	IENCY	CASH A	DVANCE.	TRX	PURCHAS	SES TRX	CREDIT_LIM	гт \		
0	onon_nb		00000	011011_11	DVIIIVOL_	0	1 01001111	2	1000			
1			50000			4		0	7000			
2			00000			0		12	7500			
3	0.083333			1			1	7500				
4		0.00	00000			0		1	1200			
	PAYMI	ENTS MININ	MUM_PA	YMENTS	PRC_FU	LL_P	AYMENT	TENURE	cluster			
0	201.802	2084	139.	509787		0.	000000	12	1			
1	4103.032	2597	1072.	340217		0.	222222	12	0			
2	622.066	6742	627.	284787		0.	000000	12	0			
3	0.000	0000		NaN		0.	000000	12	0			
4	678.334	1763	244.	791237		0.	000000	12	1			

5 Data Visualization

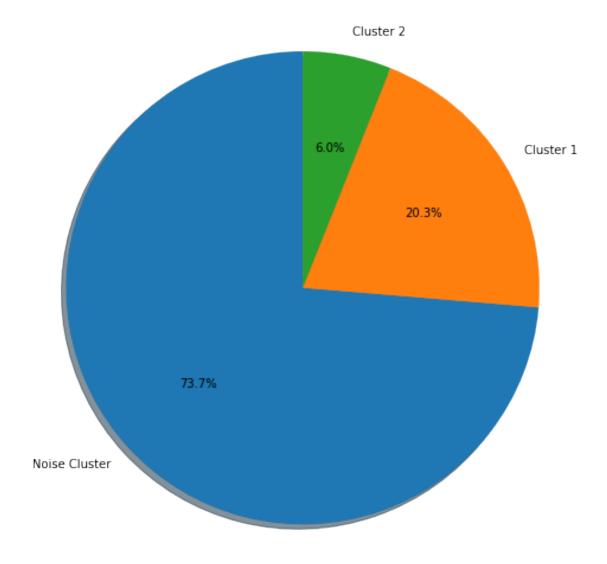
0 6594 1 1816

2 540

Name: cluster, dtype: int64

5.1 What does the Cluster Distribution Lool Like?

['Noise Cluster', 'Cluster 1', 'Cluster 2']



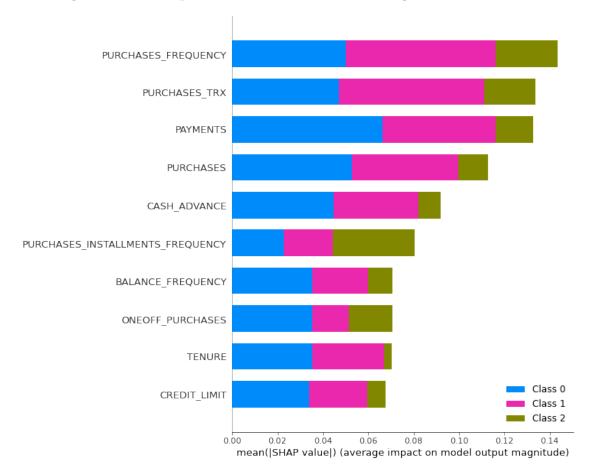
6 Determine Cluster Centers

cluster	BALANCE I	BALANCE_FREQ	UENCY	PURCHA	SES	ONEOFF_PURCHASES	\	
0	937.806150		1.0	582.	895	178.815		
1	958.125169		1.0		000	0.000		
2	73.222225			431.		0.000		
cluster	INSTALLMENTS_	_PURCHASES	CASH_A	DVANCE	PURC	HASES_FREQUENCY	\	
0		163.48	0.	000000		0.583333		
1		0.00	96.	134078		0.00000		
2		419.94	0.	000000		1.000000		
cluster 0 1	ONEOFF_PURCHA	0	CY PU	RCHASES	_INST	ALLMENTS_FREQUEN 0.3333 0.0000 1.0000	33 00	\
cluster	CASH_ADVANCE_	_FREQUENCY	CASH_A	DVANCE_	TRX	PURCHASES_TRX \		
0		0.000000			0.0	9.0		
1		0.083333			1.0	0.0		
2		0.000000			0.0	12.0		
cluster	CREDIT_LIMIT	PAYMENTS	MINI	MUM_PAY	MENTS	PRC_FULL_PAYME	NT	TENURE
0	4000.0	1232.78107	,	357.0	86194	0.0000	00	12.0
1	1950.0	442.85716	i	315.0	54229	0.0000	00	12.0
2	2000.0	408.75430	1	174.1	21900	0.1666	67	12.0

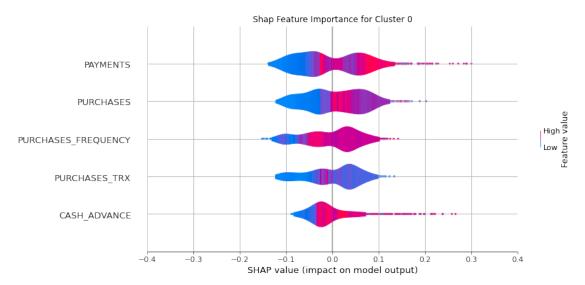
7 Explain Clusters

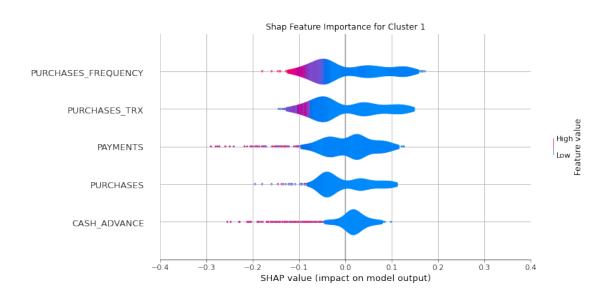
8 Custom Functions

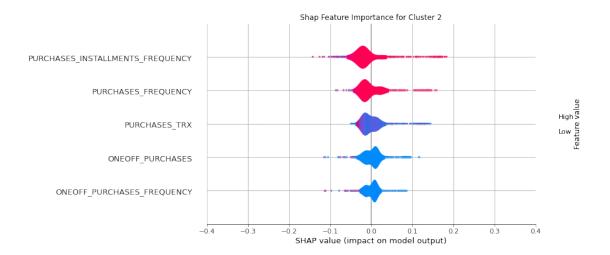
8.1 Average Feature Importance on Cluster Building



8.2 Explain Single Cluster vs Rest







['ONEOFF_PURCHASES',
'CASH_ADVANCE',
'PAYMENTS',
'PURCHASES_TRX',
'PURCHASES_INSTALLMENTS_FREQUENCY',
'PURCHASES',
'PURCHASES',
'PURCHASES_FREQUENCY',
'ONEOFF_PURCHASES_FREQUENCY']

