

Instituto Tecnológico de Culiacán



Carrera: Ingeniería en Sistemas Computacionales

Materia: Temas Selectos de Bases de Datos

Alumnos:

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César Alfredo Astorga Ochoa

Trabajo: U3 T2 Minería de Datos

Fecha: 14-Mayo-2022

Horario de clase: 05:00 - 06:00 pm

Profesor: Daniel Esparza Soto

- Vista utilizada en SQL Server:

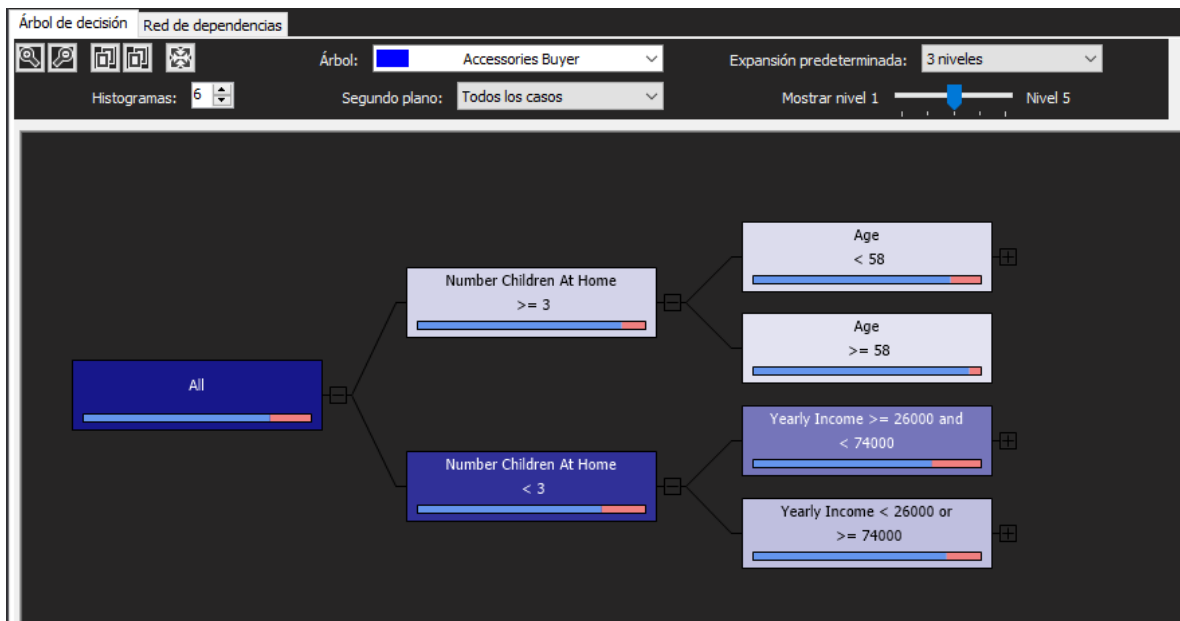
```
create view vw_accessoriescomponents as
select c.customerkey, c.geographykey, c.customeralternatekey, c.title, c.firstname,
c.middlename, c.lastname, c.namestyle, c.birthdate, c.maritalstatus, c.suffix,
c.gender, c.emailaddress, c.yearlyincome, c.totalchildren,
c.numberchildrenathome, c.englisheducation, c.spanisheducation, c.frencheducation,
c.englishoccupation, c.spanishoccupation, c.frenchoccupation, c.houseownerflag,
c.numbercarsowned, c.addressline1,
c.addressline2, c.phone, c.datefirstpurchase, c.commutedsdistance, g.city,
g.stateprovincename, g.spanishcountryregionname, x.region, x.age, case
x.[accessories] when 0 then 0 else 1 end as accessoriesbuyer, case x.[components]
when 0 then 0 else 1 end as componentsbuyer
from dbo.dimcustomer as c
inner join dimgeography g on c.geographykey = g.geographykey
inner join(select customerkey, region, age, sum(case [englishproductcategoryname]
when 'accessories' then 1 else 0 end) as accessories, sum(case
[englishproductcategoryname] when 'components' then 1 else 0 end) as components
from dbo.vdmpprep
group by customerkey, region, age) as x on c.customerkey = x.customerkey
```

- Gráficas resultantes de los 3 algoritmos:

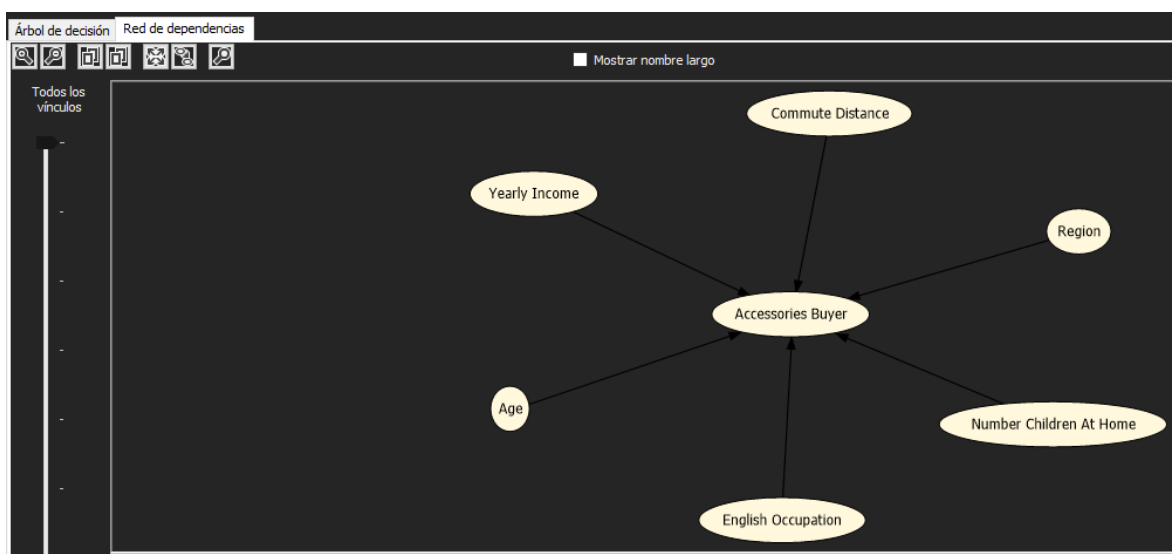
Accessories Buyer:

TM_Decision_Tree:

Árbol de decisión:

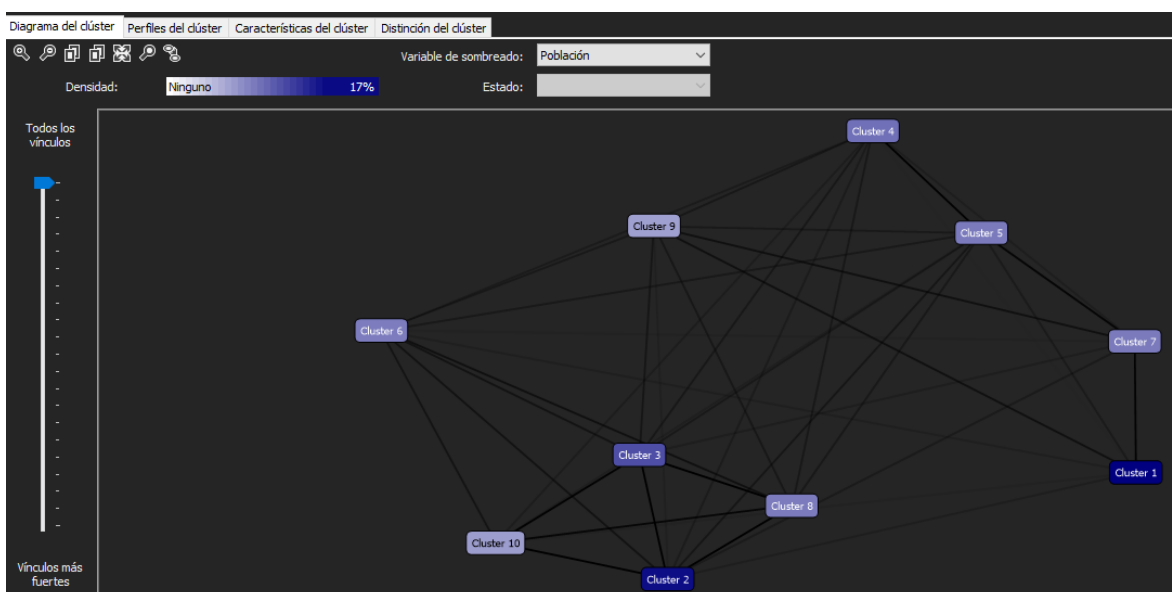


Red de dependencias:

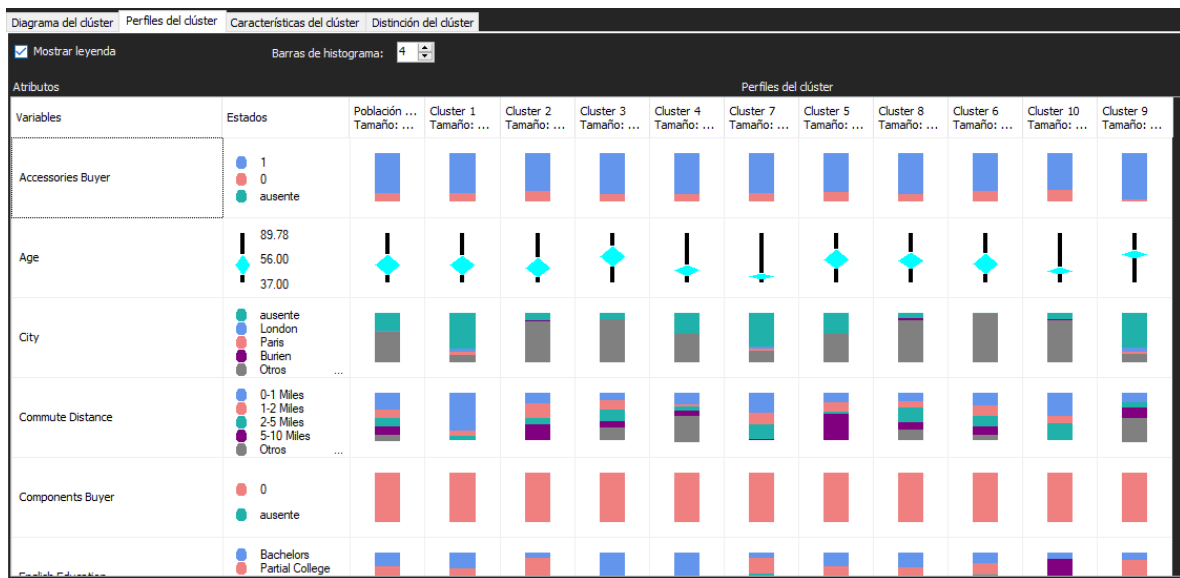


TM_Clustering:

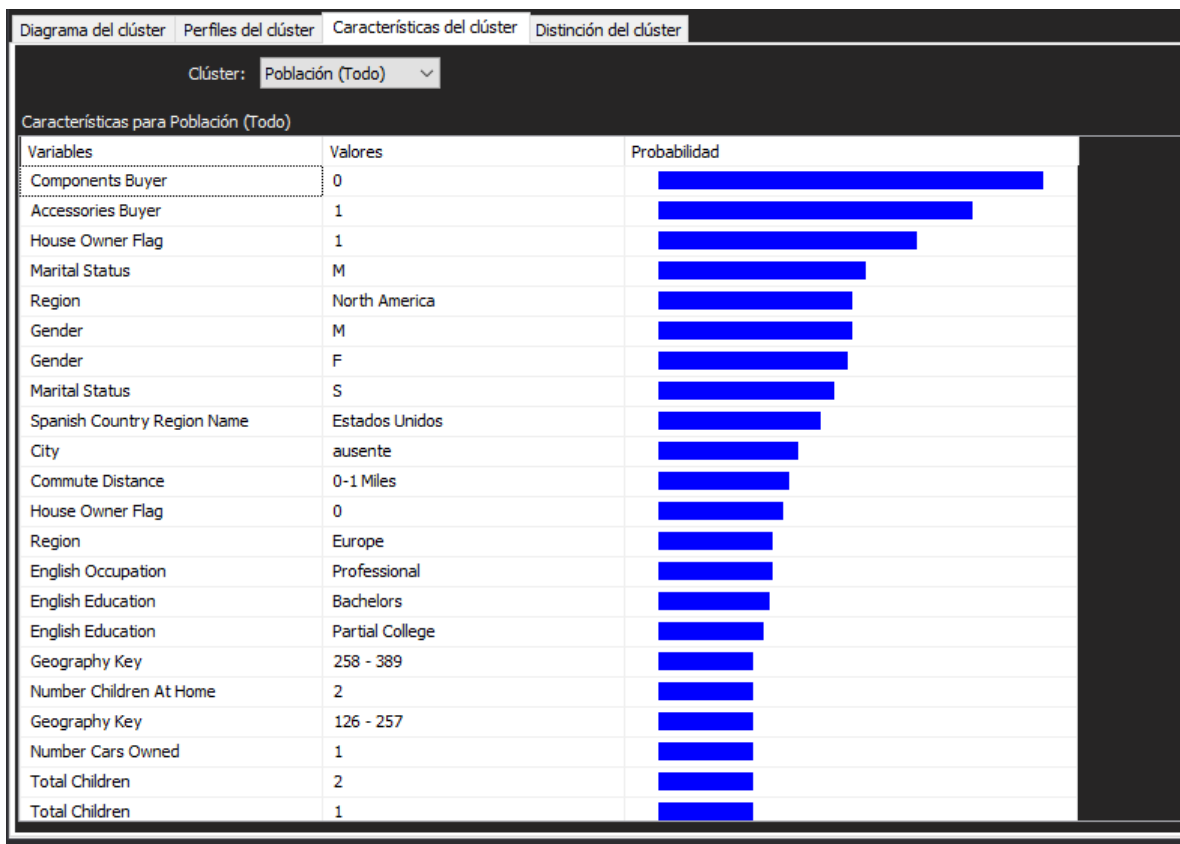
Diagrama de clúster:



Perfiles de clúster:



Características del clúster:

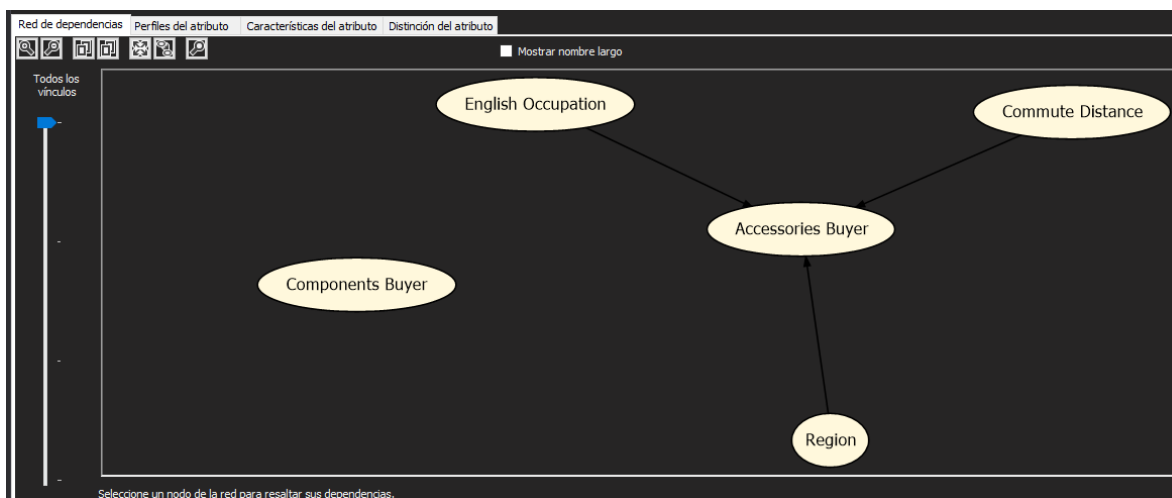


Distinción del clúster:

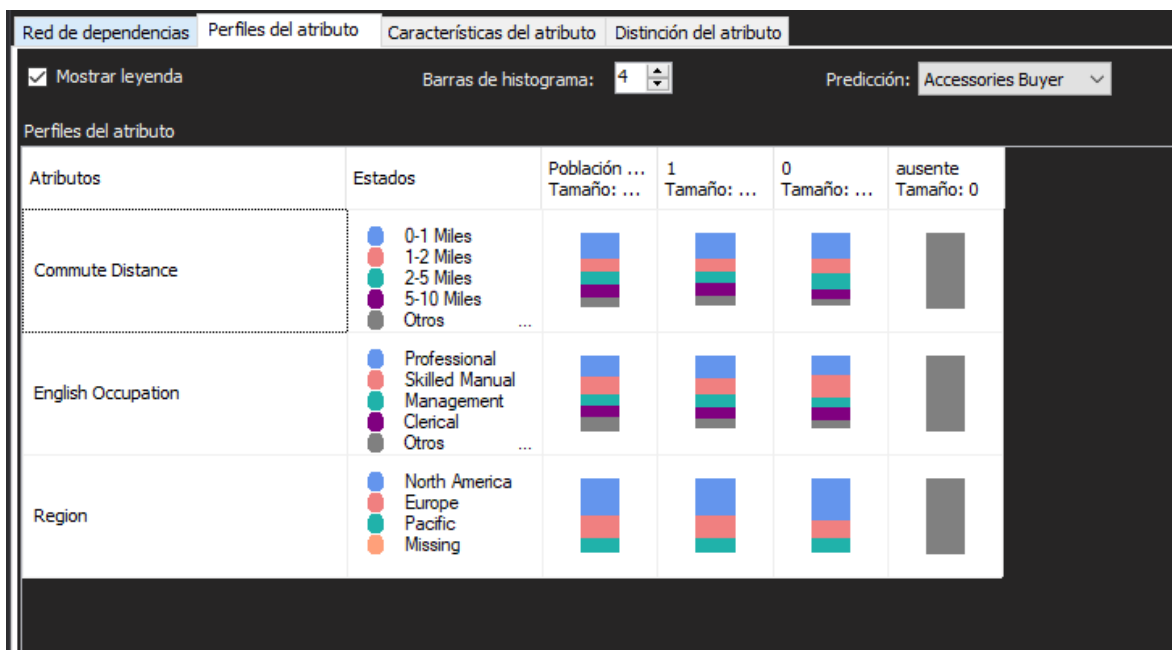


TM_NaiveBayes:

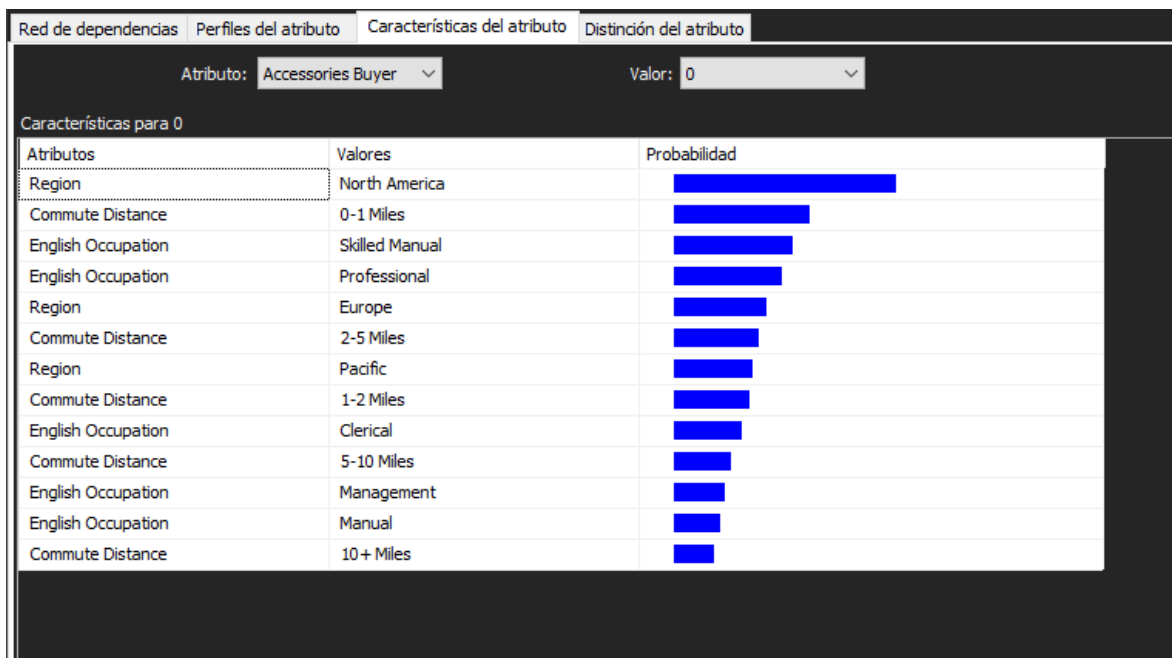
Red de dependencias:



Perfiles del atributo:



Características del atributo:



Distinción del atributo:



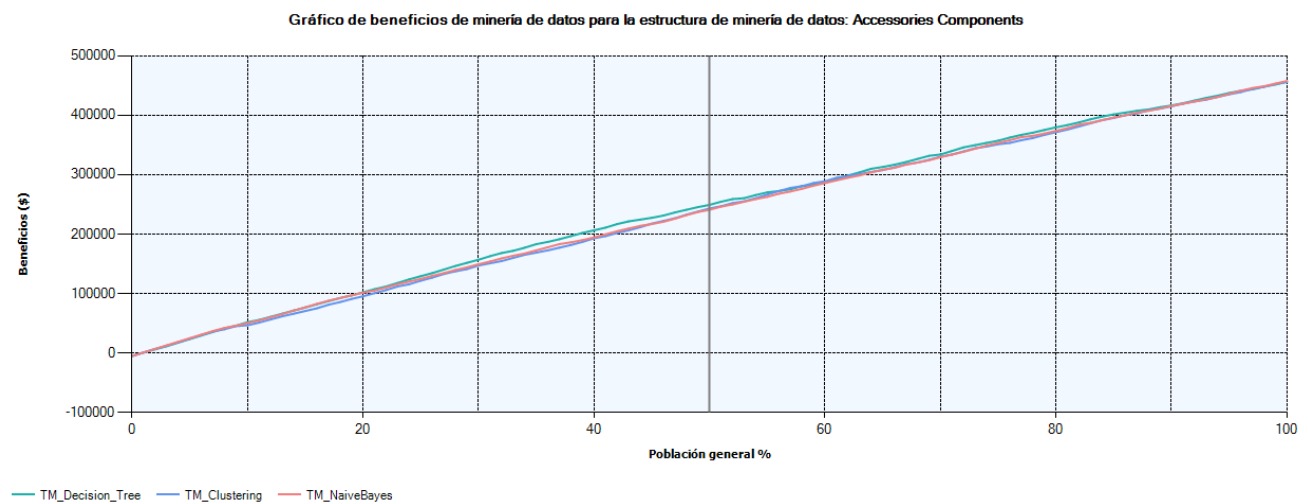
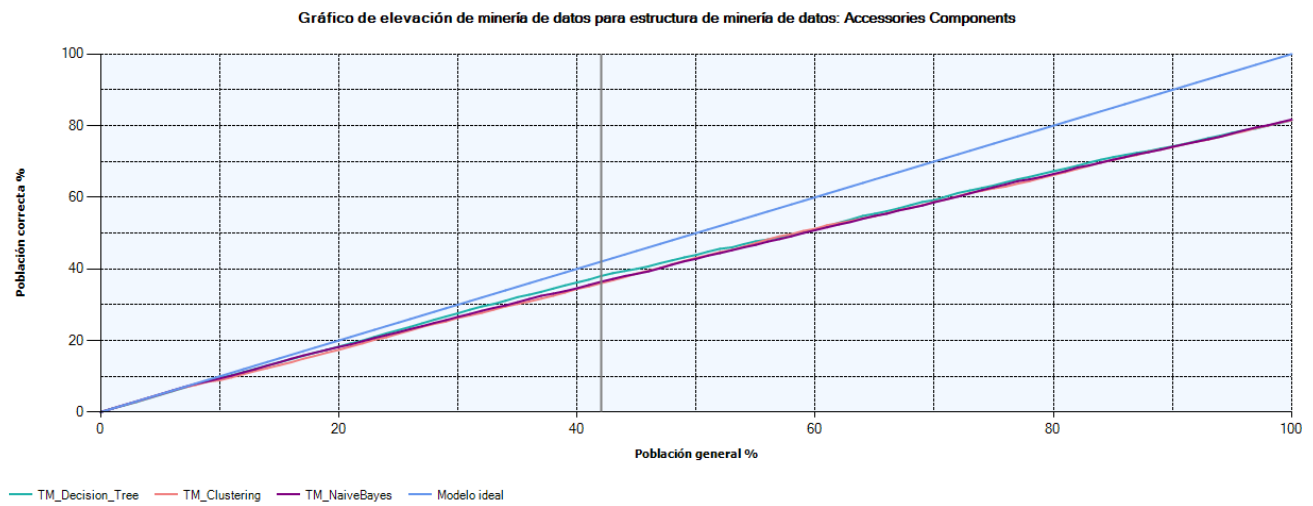
Components Buyer:

Árbol de decisión:



Nota: El components buyer sale vacío

- Grafica de precisión evaluando los 3 algoritmos. Definir cuál es el algoritmo con mayor precisión.



El árbol de decisión (TM_Decision_Tree) es el algoritmo con mayor precisión porque es el que más se acerca a la línea ideal en ambas gráficas.

- Predecir nuevos clientes con la tabla ProspectiveBuyer, definir que algoritmo se utilizará para la predicción y mostrar los resultados

Accessories Buyer:

Modelo de minería de datos

Origen: **TM_Decision_Tree**

Seleccionar tabla(s) de entrada

ProspectiveBuyer

Quitar tabla... Seleccionar tabla de casos... Modificar combinación...

Origen	Campo	Alias	Mostrar	Grupo	Y/O	Criterios o argumento
TM_Decision_Tree	Accessories Buyer		<input checked="" type="checkbox"/>			=1
ProspectiveBuyer	FirstName		<input checked="" type="checkbox"/>			
ProspectiveBuyer	LastName		<input checked="" type="checkbox"/>			
ProspectiveBuyer	AddressLine1		<input checked="" type="checkbox"/>			
ProspectiveBuyer	AddressLine2		<input checked="" type="checkbox"/>			
ProspectiveBuyer	Phone		<input checked="" type="checkbox"/>			
ProspectiveBuyer	EmailAddress		<input checked="" type="checkbox"/>			
ProspectiveBuyer	BirthDate		<input type="checkbox"/>			

SQLQuery2.sql - D:\FREDO GARCIA (733)* SQLQuery1.sql - D:\FREDO GARCIA (777)*

```
select * from tablaResultados
order by 1 desc
```

93 %

Results Messages

	Expression	Accessories Buyer	FirstName	LastName	AddressLine1	AddressLine2	Phone	EmailAddress
1	0.89104603597169	1	Alfredo	Alvarez	8850 Via Del Sol	NULL	1 (11) 500 555-0143	aalvarez@fineartschool.net
2	0.89104603597169	1	Alexander	Clark	3243 Larton Ave	NULL	764-555-0135	aclark@humongousinsurance.com
3	0.89104603597169	1	Abigail	Devis	70 N.w. Plaza	NULL	1 (11) 500 555-0187	adavis@fabrikam.com
4	0.89104603597169	1	Adriana	Fernandez	1314 Greenview Court	NULL	610-555-0111	afernandez@alpineskihouse.com
5	0.89104603597169	1	Ann	Garcia	7469 Paraiso Ct.	NULL	1 (11) 500 555-0116	agarcia@fineartschool.net
6	0.89104603597169	1	Allison	Hall	Desoto Square	NULL	162-555-0176	ahall@contoso.com
7	0.89104603597169	1	Arthur	Martinez	9265 La Paz	NULL	1 (11) 500 555-0116	amartinez@cohoineyard.com
8	0.89104603597169	1	Alexa	Morgan	3140 Gingham Way	NULL	1 (11) 500 555-0126	amorgan@margiestravel.com
9	0.89104603597169	1	Alicia	Nara	769 Algiers Drive	NULL	1 (11) 500 555-0176	anara@northwindtraders.com
10	0.89104603597169	1	Arianna	Patterson	2279 Pineview Lane	NULL	998-555-0123	apatterson@margiestravel.com
11	0.89104603597169	1	Adrienne	Rubio	3841 Silver Oaks Place	NULL	1 (11) 500 555-0140	arubio@fineartschool.net
12	0.89104603597169	1	Alisha	Shama	6833 Filomena	NULL	922-555-0181	ashama@northwindtraders.com
13	0.89104603597169	1	Autumn	She	3664 Colt Ct.	NULL	963-555-0174	ashe@cohoineyard.com
14	0.89104603597169	1	Alison	She	2561 Nw 84th Avenue	NULL	366-555-0146	ashe@consolidatedmessenger.com
15	0.89104603597169	1	Abby	Srini	9191 Camelback Ct.	NULL	827-555-0177	asrini@adatum.com
16	0.89104603597169	1	Ann	Srini	9318 Hawkridge Terrace	NULL	1 (11) 500 555-0161	asrini@fineartschool.net
17	0.89104603597169	1	Anne	Suarez	5725 Glazier Drive	NULL	1 (11) 500 555-0179	asuarez@contoso.com
18	0.89104603597169	1	Alberto	Torres	7797 Richard Place	NULL	1 (11) 500 555-0173	atomes@adventure-works.com
19	0.89104603597169	1	Armando	Serrano	6344 Dartmouth Way	NULL	438-555-0115	aserrano@litwareinc.com
20	0.89104603597169	1	Anna	Wilson	7709 West Virginia Avenue	NULL	404-555-0164	awilson@adatum.com
21	0.89104603597169	1	Alvin	Wu	5243 Hamony Way	NULL	1 (11) 500 555-0196	awu@contoso.com
22	0.89104603597169	1	Adam	Yang	9836 Hanson Lane	NULL	1 (11) 500 555-0144	ayang@adatum.com

Query executed successfully. DESKTOP-85G10HU (15.0 RTM) DESKTOP-85G10HU\ALFRED... AdventureWorksDW2008

Components Buyer:

Modelo de minería de datos

- TM_Decision_Tree
 - Accessories Buyer
 - Age
 - City
 - Commute Distance
 - Components Buyer
 - Customer Key
 - English Education
 - English Occupation
 - Gender

Seleccionar modelo...

Seleccionar tabla(s) de entrada

- ProspectiveBuyer
 - AddressLine1
 - AddressLine2
 - BirthDate
 - City
 - Education
 - EmailAddress
 - FirstName
 - Gender
 - HouseOwnerFlag

Quitar tabla... Seleccionar tabla de casos... Modificar combinación...

Origen	Campo	Alias	Mostrar	Grupo	Y/O	Criterios o argumento
Función de predicción	PredictProbability		<input checked="" type="checkbox"/>			[TM_Decision_Tree].[Components Buyer]
TM_Decision_Tree	Components Buyer		<input checked="" type="checkbox"/>			=0
ProspectiveBuyer	FirstName		<input checked="" type="checkbox"/>			
ProspectiveBuyer	LastName		<input checked="" type="checkbox"/>			
ProspectiveBuyer	AddressLine1		<input checked="" type="checkbox"/>			
ProspectiveBuyer	AddressLine2		<input checked="" type="checkbox"/>			
ProspectiveBuyer	Phone		<input checked="" type="checkbox"/>			
ProspectiveBuyer	EmailAddress		<input checked="" type="checkbox"/>			
ProspectiveBuyer	BirthDate		<input type="checkbox"/>			

Expression	Components Buyer	FirstName	LastName	AddressLine1	AddressLine2	Phone	EmailAddress
1	0	Adam	Alexander	566 S. Main		516-555-0187	aalexander@lu...
1	0	Adrienne	Alonso	7264 St. Peter ...		607-555-0119	aalonso@alpin...
1	0	Alfredo	Alvarez	8850 Via Del Sol		1 (11) 500 555...	aalvarez@fine...
1	0	Arthur	Arun	7515 Royal Oa...		403-555-0186	aarun@advent...
1	0	Andrea	Bailey	2500 North Ste...		1 (11) 500 555...	abailey@lucern...
1	0	Angel	Bell	840 Charlotte ...		516-555-0185	abell@thephon...
1	0	Anna	Bennett	312 Via Del Ver...		433-555-0112	abennett@alpi...
1	0	Alyssa	Bennett	25136 Jefferso...		1 (11) 500 555...	abennett@cpa...
1	0	Arturo	Bhat	7040 Isabel Dr.		1 (11) 500 555...	abhat@adatun...
1	0	Abigail	Brown	4710 Northridg...		155-555-0188	abrown@treyr...
1	0	Abigail	Bryant	2639 Anchor C...		914-555-0199	abryant@north...
1	0	Angela	Bryant	6594 Jefferson...		148-555-0152	abryant@treyr...
1	0	Alexandra	Butler	5967 W Las Po...		469-555-0136	abutler@cohov...
1	0	Andrea	Carter	220 Rose Ann ...	#103	616-555-0135	acarter@conto...
1	0	Adam	Carter	4082 Roslyn R...		416-555-0186	acarter@margi...
1	0	Adrienne	Castro	5867 Sunrise B...		522-555-0132	acastro@alpine...
1	0	Alberto	Castro	2696 Santa Rit...		1 (11) 500 555...	acastro@theph...
1	0	Alicia	Chande	5935 Isabel		751-555-0139	achande@adat...
1	0	April	Chande	7939 Bayview ...		1 (11) 500 555...	achande@coho...
1	0	Alvin	Chander	6538 Camelbac...		1 (11) 500 555...	achander@coh...
1	0	Ashlee	Chander	9178 Camino S...		1 (11) 500 555...	achander@luce...
1	0	April	Chander	674 Woodchuc...		1 (11) 500 555...	achander@mar...
1	0	Alexander	Clark	3243 Lanton Ave		764-555-0135	aclark@humon...
1	0	Austin	Clark	1083 W. Hooks...		809-555-0143	aclark@lucerne...
1	0	Adam	Coleman	2964 St. Georg...		1 (11) 500 555...	acoleman@alpi...

El árbol de decisión (TM_Decision_Tree) es el algoritmo a usar en este caso por tener mayor precisión.