



# MAJESCO

**The Future of Insurance Starts Here**

**Transaction Language (TL)  
Expression**



# AGENDA

- TL Expressions overview
- How to write TL Expression
  - Syntax
  - Examples
- Using TL expression editor
  - Sample TL expressions



# What are TL expressions

- IEL table is used for configuring master data and in most of the cases these master data is dependent upon some important policy attributes like LOB, state, Customer(System Columns of IEL table) etc.
- Also in some cases the master data to be selected is dependent upon other master data(user – defined columns of IEL Table)
- Hence system defined columns and in some cases user defined columns also plays a role in filtering out required master data.
- In order to ease filtering of data depending upon these columns a special type of expression was designed and named as 'TL'(Transactional Language) expression.
- Majesco has proprietary rights on this TL expression
- TL expression is always used on IEL table as it helps in filtering out required master data.

# How to write TL expression

- Syntax

SELECT <columnname> <col alias>

FROM <iel\_table\_name> <table alias>

WHERE {tl:<iel table name>~<table alias>~<col name>,<col name><~N>  
};

<columnname> - Value(master Data) of column to be selected.

<col alias> - Alias name for column

<iel\_table\_name> - IEL table from where data needs to be selected

<table alias> - Alias name for IEL table

<~N> - Exclude adoption related column in filtering. Get un adopted data as well.

{tl:} – Applying TL expression for filtering data



# How to write TL expression

Example: For populating policy type combo box:

```
SELECT outer.policy_type POLICY_TYPE  
FROM iel_cf_policy_type outer  
WHERE outer.entity_type = 'field:INSURED_TYPE'  
AND {tl:iel_cf_policy_type~outer~policy_type,entity_type~N}
```

- In above mentioned example tl: expression is applied on columns entity\_type(Used in where clause) as well as Policy\_type(Column from where data needs to be selected)
- If we replace the place holder 'field:INSURED\_TYPE' with value as 'Government' as mentioned in below mentioned query then we get results as mentioned in below attachment

```
SELECT outer.policy_type POLICY_TYPE  
FROM iel_cf_policy_type outer  
WHERE outer.entity_type = 'Government'  
AND {tl:iel_cf_policy_type~outer~policy_type,entity_type~N}
```



Microsoft Excel  
97-2003 Worksheet

# How to write TL expression

- Below mentioned is the resolved query After applying TL expression to the query in previous slide:

```
SELECT outer.policy_type POLICY_TYPE
FROM iel_cf_policy_type outer
WHERE outer.entity_type = 'Government'
AND outer.rowid = (SELECT rowid FROM IEO_cf_policy_type WHERE ( NVL(state_code,
'@@') = '@@' OR NVL(state_code, '@@') = '@@' ) AND( NVL(company_code, '@@') = '@@' OR
NVL(company_code, '@@') = '@@' ) AND( NVL(customer_code, '@@') = SUBSTR(USER, -2) OR
NVL(customer_code, '@@') = '@@' ) AND( NVL(program_code, '@@') = '@@' OR program_code IS NULL
) AND( NVL(market_segment_code, '@@') = '@@' OR market_segment_code IS NULL ) AND(
NVL(product_code, '@@') = '' OR product_code IS NULL ) AND( NVL(lob_code, '@@') = 'GL' OR lob_code
IS NULL ) AND( TO_NUMBER(NVL2(product_version, product_version, 0)) <= NVL2(customer_code, '0', '0'
) ) AND( NVL(effective_date, TO_DATE('01/01/1900', 'mm/dd/yyyy')) <= to_date('01/12/2017',
'MM/DD/YYYY') ) AND( NVL(expiration_date, TO_DATE('01/01/2000', 'mm/dd/yyyy')) >
to_date('01/12/2017', 'MM/DD/YYYY') OR NVL(expiration_date, TO_DATE('01/01/2000', 'mm/dd/yyyy')) =
TO_DATE('01/01/2000', 'mm/dd/yyyy')) AND( TO_NUMBER(NVL2(exp_product_version,
exp_product_version, 0)) > NVL2(customer_code, '0', '0' ) OR
TO_NUMBER(NVL2(exp_product_version, exp_product_version, 0)) = 0 ) AND (NVL(policy_type, '-
9.999999999999999999') = NVL(outer.policy_type, '-9.999999999999999999')) AND
(NVL(entity_type, '-9.999999999999999999') = NVL(outer.entity_type, '-9.999999999999999999')) AND
rownum < 2)
```

# How to write TL expression

- Below mentioned result is retrieved from query of previous query(resolved query of TL)

POLICY_TYPE
Kidnap/Ransom and Extortion
Government Crime and Fidelity




# How to write TL expression

- The outer query of resolved query returned 54 records whereas the inner query returned 2 records matching the outer one.
- Hence 2 values for Policy type is returned which is to be displayed on combo box.
- While creating Policy for Crime and Fidelity LOB if user selects Insured of type 'Government Type' then Policy Type field on Crime and fidelity gets 'Kidnap/Ransom and Extortion' and 'Government Crime and Fidelity' data available on drop down.



# How to write TL expression

- Example

Search     01-CF-000054715-0

▼ 01-CF-000054715-0 ☐ Apply Commission Reduction

▼ Producers (1)

Bill Test

▼ **Crime And Fidelity**


▸ Locations

▸ Insuring Agreements

▸ Endorsements



Premium Summary

**Insured Information**

First Name  

Middle Name

Last Name

Insured Type   

▼ 01-CF-000054715-0

▼ Producers (1)


Bill Test

▼ **Crime And Fidelity**


▸ Locations

▸ Insuring Agreements

▸ Endorsements

Policy Type  

Coverage Type  

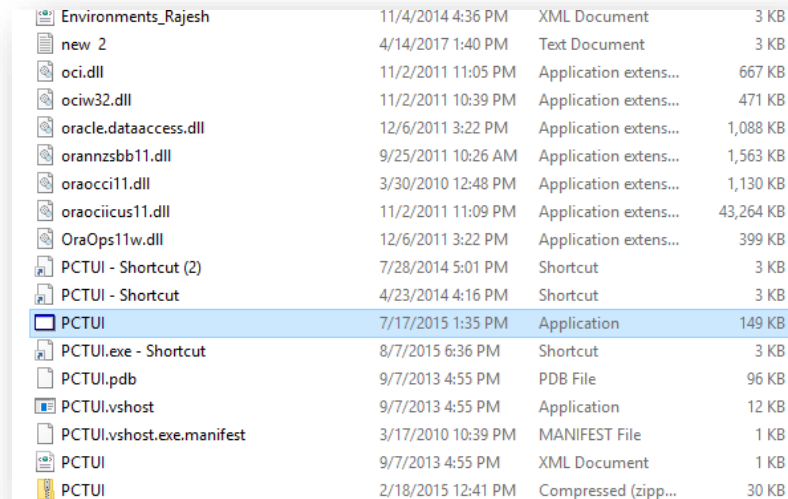
Primary State  

☐ Provide coverage for Certified Acts of Terrorism

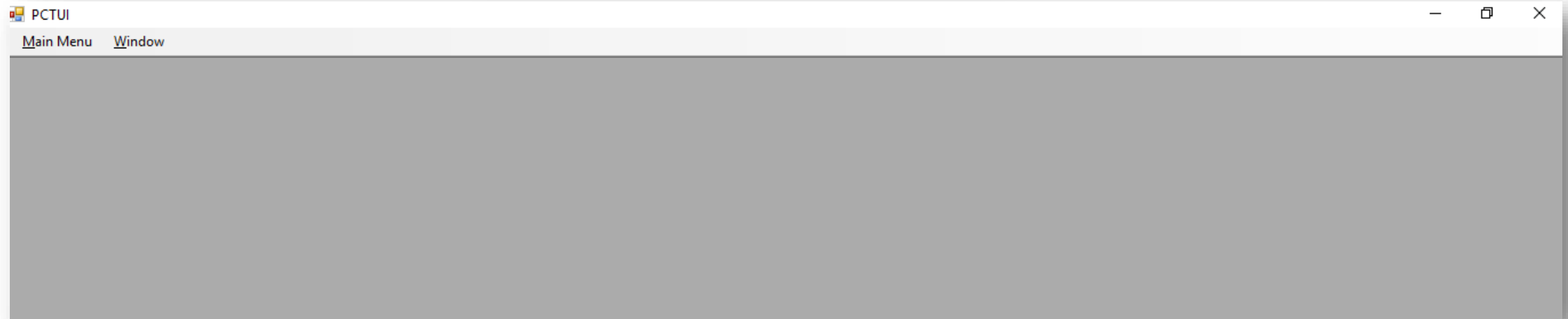
☐ Replace Terrorism Provisions (Applicable to Crime/Fidelity Only) Endorsement CR 07 51

# Using TL Tool

- Open PCTUI application available under TL Tool folder:



Environments_Rajesh	11/4/2014 4:36 PM	XML Document	3 KB
new 2	4/14/2017 1:40 PM	Text Document	3 KB
oci.dll	11/2/2011 11:05 PM	Application extens...	667 KB
ociw32.dll	11/2/2011 10:39 PM	Application extens...	471 KB
oracle.dataaccess.dll	12/6/2011 3:22 PM	Application extens...	1,088 KB
orannzsb11.dll	9/25/2011 10:26 AM	Application extens...	1,563 KB
oraocci11.dll	3/30/2010 12:48 PM	Application extens...	1,130 KB
oraociicus11.dll	11/2/2011 11:09 PM	Application extens...	43,264 KB
OraOps11w.dll	12/6/2011 3:22 PM	Application extens...	399 KB
PCTUI - Shortcut (2)	7/28/2014 5:01 PM	Shortcut	3 KB
PCTUI - Shortcut	4/23/2014 4:16 PM	Shortcut	3 KB
PCTUI	7/17/2015 1:35 PM	Application	149 KB
PCTUI.exe - Shortcut	8/7/2015 6:36 PM	Shortcut	3 KB
PCTUI.pdb	9/7/2013 4:55 PM	PDB File	96 KB
PCTUI.vshost	9/7/2013 4:55 PM	Application	12 KB
PCTUI.vshost.exe.manifest	3/17/2010 10:39 PM	MANIFEST File	1 KB
PCTUI	9/7/2013 4:55 PM	XML Document	1 KB
PCTUI	2/18/2015 12:41 PM	Compressed (zipp...	30 KB



- Edit Environments.xml and tnsnames.ora available under TL Tool folder for your target environment details.
- Then select Main Menu -> prepare/paste query and then click on Parse TL. This would prepare corresponding query of tl: expression

Parse TL Expression Query

SELECT outer.policy\_type POLICY\_TYPE  
FROM iel\_cf\_policy\_type outer  
WHERE outer.entity\_type = 'Government'  
AND (iel\_cf\_policy\_type~outer~policy\_type.entity\_type~N)

Environment

p15qa10

Customer

99

LoB

GL

Company Code

@@

State

@@

Program Code

@@

Market Segment Code

@@

Product Version

@@

Custom Pack Version

@@

Control Date (mm/dd/yyyy)

01/12/2017

Parse

SELECT outer.policy\_type POLICY\_TYPE  
FROM iel\_cf\_policy\_type outer  
WHERE outer.entity\_type = 'Government'  
AND outer.rowid = (SELECT rowid FROM  
IEO\_cf\_policy\_type WHERE ( NVL(state\_code,'@@') = '@@'  
OR NVL(state\_code,'@@') = '@@' ) AND( NVL(company\_code,  
'@@') = '@@' OR NVL(company\_code,'@@') = '@@' ) AND(  
NVL(customer\_code,'@@') = SUBSTR(USER,-2) OR NVL  
(customer\_code,'@@') = '@@' ) AND( NVL(program\_code,  
'@@') = '@@' OR program\_code IS NULL ) AND( NVL  
(market\_segment\_code,'@@') = '@@' OR  
market\_segment\_code IS NULL ) AND( NVL(product\_code,  
'@@') = " OR product\_code IS NULL ) AND( NVL(lob\_code,  
'@@') = 'GL' OR lob\_code IS NULL ) AND( TO\_NUMBER(NVL2  
(product\_version,product\_version,0))<= NVL2(customer\_code,  
'0','0')) AND( NVL(effective\_date,TO\_DATE('01/01/1900',  
'mm/dd/yyyy')) <=to\_date('01/12/2017','MM/DD/YYYY')) AND(  
NVL(expiration\_date,TO\_DATE('01/01/2000','mm/dd/yyyy')) >  
to\_date('01/12/2017','MM/DD/YYYY') OR NVL  
(expiration\_date,TO\_DATE('01/01/2000','mm/dd/yyyy')) =  
TO\_DATE('01/01/2000','mm/dd/yyyy')) AND( TO\_NUMBER  
(NVL2(exp\_product\_version,exp\_product\_version,0)) > NVL2  
(customer\_code,'0','0') OR TO\_NUMBER(NVL2  
(exp\_product\_version,exp\_product\_version,0) = 0 )  
AND (NVL(policy\_type,'9.99999999999999999999) = NVL  
(outer.policy\_type,'9.99999999999999999999) AND  
(NVL(entity\_type,'9.99999999999999999999) = NVL  
(outer.entity\_type,'9.99999999999999999999) AND rownum < 2

# Using TL Tool

- ~N option: This syntax in TL expression is used to exclude adoption related conditions.
- It actually include data which are not adopted as well for selection.
- The right sided resolved query can be executed on target environment database to see the data that would be fetched during run time

# Using TL Tool

The screenshot displays the TL Tool Query Builder interface. The top toolbar includes icons for execution, saving, and editing. The 'Query Builder' tab is active, showing an SQL query in the main editor. The query is as follows:

```
SELECT outer.policy_type POLICY_TYPE
FROM iel_cf_policy_type OUTER
WHERE outer.entity_type = 'Government'
AND outer.rowid =
  (SELECT rowid
   FROM IEO_cf_policy_type
   WHERE ( NVL(state_code, '00') = '00'
        OR NVL(state_code, '00') = '00' )
        AND ( NVL(company_code, '00') = '00'
        OR NVL(company_code, '00') = '00' )
        AND ( NVL(customer_code, '00') = SUBSTR(USER, -2)
        OR NVL(customer_code, '00') = '00' )
        AND ( NVL(program_code, '00') = '00'
        OR program_code IS NULL )
        AND ( NVL(market_segment_code, '00') = '00' )
```

Below the query editor, the 'Query Result 2' tab is open, showing the results of the query. The status bar indicates 'All Rows Fetched: 2 in 0.2 seconds'. The results are displayed in a table with the following data:

POLICY_TYPE
1 Kidnap/Ransom and Extortion
2 Government Crime and Fidelity

# Sample TL expressions

- Sample 1:

**SELECT**

**outer.rtc\_loss\_cost**

**FROM**

**iel\_gl\_rtc\_res\_fuel outer**

**WHERE**

**outer.state\_code = '{field:RISK\_STATE}'**

**AND outer.class\_code = '{field:CLASS\_CODE}'**

**AND {tl:iel\_gl\_rtc\_res\_fuel~OUTER~class\_code,rtc\_loss\_cost}**



# Sample TL expressions

- Sample 2: TL expression with CP expression using range of data

**SELECT**

**outer.factor special\_veh\_type\_factor**

**FROM**

**iel\_ca\_mtorcycle\_liab outer**

**WHERE**

**({CP:**

**o1 = LOB\_CA\_VEHICLES/;**

**s1 = o1.engine\_size ~alias=ENGINE\_SIZE;**

**}) BETWEEN outer.size\_of\_engine\_min AND outer.size\_of\_engine\_max**

**AND {tl:iel\_ca\_mtorcycle\_liab~outer~size\_of\_engine\_min,size\_of\_engine\_max}**

# Sample TL expressions

- Sample 3: TL expression with CP expression simple compare

**SELECT loss\_cost**

**FROM**

**iel\_ca\_liability\_lc llc**

**WHERE**

**UPPER(major\_class) = UPPER('23.Trucks, Tractors And Trailers Classifications')**

**AND**

**UPPER(coverage) = UPPER('Personal Injury Protection')**

**AND**

**{CP:**

**o1=LOB\_CA\_VEHICLES/;**

**s1= o1.TERRITORY\_CODE ~alias =TERRITORY;**

**}) = territory**

**AND {tl:iel\_ca\_liability\_lc~llc~territory,major\_class,coverage}**

# Sample TL expressions

- Sample 4:

```
SELECT NVL2(
  (SELECT 1 FROM
    ({CP:
      o1 = LOB_CA_ADDL_INTRST/ADDNL_RATING_DET/~alias = ad_rt;
      s1 = ad_rt.form;
    }) add_rtn,
    iel_ca_adnl_int_form_name outer
  WHERE
    add_rtn.form = outer.form
    AND outer.is_name_req = 'Y'
    AND {tl:iel_ca_adnl_int_form_name~outer~form,form_name}
    AND ROWNUM < 2
  ),'Y','N'
)
FROM dual WHERE 1=1
```

# Sample TL expressions

- Sample 5:

**SELECT** rate base\_rate

**FROM**

iel\_ca\_ma\_nol iel

**WHERE**

({CP:

o1=LOB\_CA\_ADDL\_COV/NON\_OWNED\_LIAB\_COV/;

s1=NVL(o1.TOT\_EMP\_ALL\_LOC,0)~alias=TOT\_EMP\_ALL\_LOC;

}) **BETWEEN** emp\_from and emp\_to

**AND**

**UPPER**(COVERAGE) = 'NON OWNED OTHER THAN SOCIAL BI'

**AND** {tl:iel\_ca\_ma\_nol ~iel~coverage,emp\_from,emp\_to}

# Sample TL expressions

- Sample 6:

```
SELECT CASE WHEN
    ({CP:
        o1=LOB_CA_ADDL_COV/NON_OWNED_LIAB_COV/;
        s1=NVL(o1.EXT_COV_IND_LIAB,'N')~alias=EXT_COV_IND_LIAB;
    }) = 'Y'
    THEN
        (SELECT
            FACTOR
        FROM
            IEL_CA_MA_FACTORS iel
        WHERE UPPER(coverage) = 'NON OWNED EXTENDED'
            AND {tl:IEL_CA_MA_FACTORS ~iel~coverage})
    ELSE
        0
    END NON_OWNED_EXT_FACTOR
FROM DUAL
```

# Sample TL expressions

- Sample 7:

```
SELECT  
  NVL2(  
    SELECT 1  
  FROM  
    (SELECT min(bi_limits_each_person) min_bi_limit_each_pers  
      FROM iel_ca_unins_split_limits iel  
      WHERE {tl:iel_ca_unins_split_limits~iel~bi_limits_each_person}  
    ) iel  
  WHERE ({CP:  
    o1= LOB_CA_STATE_COV_LIMITS[state_code='{global:RISK_STATE}']/  
      CA_VEHICLE_COVERAGES/VEH_UNINSURED_MOTORIST_COV/;  
    s1 = NVL(o1.bi_each_person_limit,0)~alias=bi_each_person_limit;  
    }) > iel.min_bi_limit_each_pers  
  AND ROWNUM < 2) ,'Y','N')  
FROM DUAL
```



# Sample TL expressions

- Sample 8:

```
SELECT factor deductible_factor FROM iel_ca_liability_deductibles outer WHERE
    deductible = ({CP:
        o1=LOB_CA_LOCATIONS/LOCATION_CA_COVERAGE/LOC_COV_CA_LIAB/;
        s1=o1.deductible;})
AND UPPER(coverage) = DECODE(({CP:
    o1=LOB_CA_LOCATIONS/LOCATION_CA_COVERAGE/LOC_COV_CA_LIAB/;
    s1=UPPER(o1.deductible_type)~alias=deductible_type;}), 'CSL', UPPER('Combined Single
Limit'), 'PD', UPPER('Property Damage Per Accident'))
AND UPPER(zone_rated_switch) = UPPER ('Non-Zone Rated')
AND {tl:iel_ca_liability_deductibles~outer~factor,coverage}
UNION
SELECT
    1.0 deductible_factor
FROM dual WHERE ({CP:
    o1=LOB_CA_LOCATIONS/LOCATION_CA_COVERAGE/LOC_COV_CA_LIAB/;
    s1=o1.deductible;})= 0
```

# Sample TL expressions

- Sample 9:

```
SELECT
  NVL2((
    SELECT 1
    FROM
      (SELECT min(bi_limits_each_person) min_bi_limit_each_pers
       FROM iel_ca_unins_split_limits iel
       WHERE {tl:iel_ca_unins_split_limits~iel~bi_limits_each_person}
      ) iel
    WHERE ({CP:
      o1=
LOB_CA_STATE_COV_LIMITS[state_code='{global:RISK_STATE}']/CA_VEHICLE_CO
VERAGES/VEH_UNINSURED_MOTORIST_COV/;
      s1 = NVL(o1.bi_each_person_limit,0)~alias=bi_each_person_limit;
      }) > iel.min_bi_limit_each_pers
    AND ROWNUM < 2) ,'Y','N')
FROM DUAL
```

# Sample TL expressions

- Sample 10:

```
SELECT CASE WHEN (UPPER('{global:VEHICLE_SPECIAL_TYPE}')=UPPER('Snowmobiles')) THEN
  (SELECT limit FROM
    iel_ca_snowmob_medpay iel
  WHERE
    {tl:iel_ca_snowmob_medpay~iel~coverage}
  )
ELSE
  (SELECT limit_each_person
FROM ({CP:

o1=LOB_CA_STATE_COV_LIMITS[state_code='{global:RISK_STATE}']/CA_VEHICLE_COVERAGES/VEH_MEDICAL
_PAYMENTS_COV;
  s1=o1.limit_each_person;
  }
  )
WHERE ROWNUM < 2
)
  END LIMIT_EACH_PERSON
FROM DUAL
```

# Sample TL expressions

- Sample 11:

```
SELECT DECODE(COUNT(*), 0, 'Y', 'N') FROM dual,  
(SELECT MAX_OCCURANCE FROM IEL_WK_OFFICER_MAX_OCC iwomo  
  WHERE 1=1 AND excl_inc = 'EXCLUSION'  
  AND state = '{field:STATE}'  
  AND type = '{field:TYPE}'  
  AND {tl:IEL_WK_OFFICER_MAX_OCC~iwomo~state,type~N}  
) tab  
WHERE tab.MAX_OCCURANCE <  
(  
  {CP:  
    o1 = LOB_OFFICER_EXCL;  
    s1 = COUNT(*) ~ alias=actual_instances;  
    startingPoint=parent~reason=Needs to skip Officer Exclusion gid;  
    cond = o1.state='{field:STATE}';  
    cond = o1.type='{field:TYPE}';  
  } )
```

# Sample TL expressions

- Sample 12:

**SELECT**

**loss\_cost**

**FROM**

**iel\_ca\_liability\_lc llc**

**WHERE**

**UPPER(major\_class) = UPPER('23.Trucks, Tractors And Trailers Classifications')**

**AND**

**UPPER(coverage) = UPPER('Personal Injury Protection')**

**AND**

**{CP:**

**o1=LOB\_CA\_VEHICLES/;**

**s1= o1.TERRITORY\_CODE ~alias =TERRITORY;**

**}) = territory**

**AND {tl:iel\_ca\_liability\_lc~llc~territory,major\_class,coverage}**

# Assignment

- Identify and write all system column name and purpose.
- Create a tl expression with adoption and without adoption and compare the difference.





THANK YOU!

