T&Q Allocation Optimization with Scoring

How to I effectively allocate our list of accounts among our territories to give us the best chance to meet our targets?

Optimizer Setup Steps

Work backward to work forward

Step 1: What is the Objective?
-What is ultimately being minimized or maximized?

Step 2: How will the Objective be obtained? Which variable can be changed in order to do so?
-Find the "x" variable in ax+b=y

Step 3: What is being multiplied by x?
-Identify the constant "a"

Step 4: What is constraining the x variable?
-(i.e. capacity cannot be exceeded)
-How does this translate formatically?

Step 5: What inputs do we need to properly constrain and assign the variable values?
-(i.e. production line capacity)

Step 6: ADVANCED. Are any of these rules flexible and how do we influence the assignment of an account to one territory over another?
-Which rules must be met 100% (i.e. if not met, that account cannot be assigned to that territory)
-Which rules can be used as a prioritization tool (i.e. a match will make it more likely for that account to be assigned to that territory vs a non-match, but a non-match is still possible)
-How strongly do the flexible rules influence the assignment? (i.e. is it more important for a territory to retain an account than to get accounts that match their industry preference?)

TIP: Always keep required dimensionality for each step and each line item in mind

Step 1:
Maximize overall chance to meet our targets.

Step 2:
Assign accounts to territories with greatest chance of closing the deal.
Variable = Account Assignments

Step 3:
"Greatest chance of closing the deal."
Constant = Territory's Compatibility with the Account

Step 4:
a. 1-to-1 Account-to-Territory relationship
b. Account must meet inflexible matching rules
c. Territories must hold a certain number of accounts

Step 5:
-4.a: 1
-4.b: Territory must be compatible (see Matching Rules below)
-4.c: Minimum Account Threshold

Matching Rule	Input(s)	Purpose
1. Currently Assigned	Current Account Assignments	continuity
2. Sub-Region	Account Region, Territory Region	proximity
3. Industry	Account Industry, Territory Industry	expertise

Step 6:
-Indicate which rules are flexible or inflexible
-Assign the flexible rules a priority weighting - the higher the weighting, the stronger influence that rule will have on the resulting assigment

Setup the Problem

Select rules to be Inflexible

1. Currently Assigned	☐
2. Sub-Region	☑
3. Industry	☐

Example: if Territory's sub-region does not match the Account's sub-region, the account **will not** be assigned to the territory

Assign Priority Weighting to Flexible Rules

1. Currently Assigned	60%
2. Sub-Region	
3. Industry	40%

An account is more likely to be assigned to a territory if it is currently assigned to that territory than if the territory's industry preferences match the account's industry (preferences assigned below)

Score if Match Found

1. Currently Assigned	1.6
2. Sub-Region	1
3. Industry	1.4

Score if Mismatch

1. Currently Assigned	1
2. Sub-Region	0
3. Industry	1

Rule Inputs → Compatibility Score

Current Account Assignments

Walmart	Territory 2
Amazon	Territory 3
Exxon Mobil	Territory 1
Apple	Territory 5
CVS Health	Territory 5

	Territory 1	Territory 2	Territory 3	Territory 4	Territory 5	Territory 6
Walmart	1	1.6	1	1	1	1
Amazon	1	1	1.6	1	1	1
Exxon Mobil	1.6	1	1	1	1	1
Apple	1	1	1	1	1.6	1
CVS Health	1	1	1	1	1.6	1

Account Sub-Region

Walmart	Sub-Region 2
Amazon	Sub-Region 2
Exxon Mobil	Sub-Region 1
Apple	Sub-Region 2
CVS Health	Sub-Region 2

Territory Sub-Region

Territory 1	Sub-Region 1
Territory 2	Sub-Region 1
Territory 3	Sub-Region 2
Territory 4	Sub-Region 1
Territory 5	Sub-Region 2
Territory 6	Sub-Region 2

	Territory 1	Territory 2	Territory 3	Territory 4	Territory 5	Territory 6
Walmart	0	0	1	0	1	1
Amazon	0	0	1	0	1	1
Exxon Mobil	1	1	0	1	0	0
Apple	0	0	1	0	1	1
CVS Health	0	0	1	0	1	1

Any Territories assigned a zero **will not** be assigned that Account (see Final Compatibility Socre calc below)

Account Industry

Walmart	Consumer
Amazon	Consumer
Exxon Mobil	Energy
Apple	Consumer
CVS Health	Healthcare

	Territory 1	Territory 2	Territory 3	Territory 4	Territory 5	Territory 6
Walmart	1	1	1.4	1	1	1.4
Amazon	1	1	1.4	1	1	1.4
Exxon Mobil	1.4	1.4	1	1.4	1.4	1.4
Apple	1	1	1.4	1	1	1.4
CVS Health	1	1.4	1.4	1.4	1.4	1

Territory Industry Preference

	Territory 1	Territory 2	Territory 3	Territory 4	Territory 5	Territory 6
Consumer			17%			50%
Energy	15%	36%		67%	50%	10%
Finance	39%				13%	
Healthcare		29%	50%	33%	25%	
Technology	31%		17%			
Telecom	15%	36%	17%		13%	40%
All Industries	100%	100%	100%	100%	100%	100%

Account Industry Preferred by Territory

	Territory 1	Territory 2	Territory 3	Territory 4	Territory 5	Territory 6
Walmart	0	0	1	0	0	1
Amazon	0	0	1	0	0	1
Exxon Mobil	1	1	0	1	1	1
Apple	0	0	1	0	0	1
CVS Health	0	1	1	1	1	0

Enhance Results by Ranking Industry Preference

Compatibility Score

Territory Preference Rank

	Territory 1	Territory 2	Territory 3	Territory 4	Territory 5	Territory 6
Consumer	NaN	NaN	2	NaN	NaN	1
Energy	4	3	NaN	1	2	5
Finance	1	NaN	NaN	NaN	2	NaN
Healthcare	NaN	3	1	2	4	NaN
Technology	1	NaN	2	NaN	NaN	NaN
Telecom	4	2	3	NaN	5	1

Territory Preference Score

	Territory 1	Territory 2	Territory 3	Territory 4	Territory 5	Territory 6
Consumer	1	1	1.833	1	1	2
Energy	1.5	1.667	1	2	1.833	1.333
Finance	2	1	1	1	1.833	1
Healthcare	1	1.667	2	1.833	1.5	1
Technology	2	1	1.833	1	1	1
Telecom	1.5	1.833	1.667	1	1.333	2

Calculate Final Compatibility Score

Current Assignment Score
x Sub-Region Score
x Industry Score
x Industry Preference Rank
= Final Compatibility Score

	Territory 1	Territory 2	Territory 3	Territory 4	Territory 5	Territory 6
Walmart	0.0	0.0	13.1	0.0	8.5	11.7
Amazon	0.0	0.0	20.9	0.0	8.5	11.7
Exxon Mobil	20.2	11.4	0.0	11.0	0.0	0.0
Apple	0.0	0.0	13.1	0.0	13.6	11.7
CVS Health	0.0	0.0	13.1	0.0	19.0	8.3

Calculate Absolute Compatibility

Final Compatibility Score > 0

Absolute Compatibility

	Territory 1	Territory 2	Territory 3	Territory 4	Territory 5	Territory 6
Walmart	0	0	1	0	1	1
Amazon	0	0	1	0	1	1
Exxon Mobil	1	1	0	1	0	0
Apple	0	0	1	0	1	1
CVS Health	0	0	1	0	1	1

Constrain the Problem (refer to Step 4)

4.a. 1-to-1 Account-to-Territory Assignment
4.b. Territory must be compatible
4.c. Minimum Account Threshold must be met

CONSTRAINTS	No Data		None	
Account Reassignment = 1	Boolean	Account Reassignments = 1	All	Account
Account Reassignment <= Compatibility	Boolean	Account Reassignments <= Absolute Compatibility	All	Account, Territory
Min Accounts Threshold	Boolean	Account Reassignments >= Min Accounts per Territory	All	Territory

Min Accounts per Territory 2

Optimize the Allocation of Accounts

T5.3 Optimize Account Allocation

Process

T5.3 Optimize Account Allocation:

- T5.3 T&Q Allocation and Scoring feat. Jess B.

Run Cancel

FINAL RESULTS

Walmart	Territory 3
Amazon	Territory 3
Exxon Mobil	Territory 1
Apple	Territory 5
CVS Health	Territory 5

OBJECTIVE

Final Compatibility Score	594.7