Heuristic Model for Logistics Allocation using Network Analyst

Ronildo Silva – O Boticário Franchising S/A - Brazil
Adriano Martins Junqueira - Geopixel
Background

Ronildo Silva
- Civil Engineer and Post-Graduate in Geoprocessing, Business Administration, and Statistics with ~10y experience in GeoIntelligence, Market Research and Market Intelligence
- Knowledge in the Retail, Franchising and Door to Door segments

Adriano M. Junqueira
- Director of Geopixel – ESRI Partner and HERE Reseller in Brazil
- Responsible turn-key implementation of the project
O Boticário

- Brazilian cosmetic company founded in 1977
- The largest franchise network in the world in perfumery and cosmetics
- Approximately 3,750 stores in Brazil
- Almost 500,000 consultants (door-to-door)
- More than 10 million consumers in the Loyalty Program
- Operation in 8 countries
Geointelligence: where do we use?

• Product Launches
• Competitive Analysis
• Advertising/Media planning
• Client and Market Analysis
• Store Expansion
• POS Location - door to door
• Direct Marketing
• Territory planning
• …
Case study on POS Location – door to door

- Our Model POS
- Defining the best place
- Methodology / Results
- Lessons Learned
Case study on POS Location – door to door

Our Model POS

- Pick up in the POS
- Self-Service
- Delivery from / buy at the POS
  - (logistical model)
Case study on POS Location – door to door

Defining the best place

- Potential POS can be founded in places that might have:
  - Density of Consultants
  - Easy access to Consultants (street network model)
  - Flow of people (HERE POIs and Brazilian Census)
  - Potential of new consultants
1. Rank the cities in order of influence
2. Make a rank by potential consultants
3. Grouping the cities that are less than 30 minutes by car distance
4. In each group, the candidate city to receive a POS is the most important (Cities and potential consultants).
Case study on Door to Door POS

Methodology / Results

- Solution CS oBoticario.py
Case: state of Rio de Janeiro
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24 Cities candidates model Pick up
Maricá, Petrópolis, Itaborai, Angra dos Reis, Cabo Frio
Itaperuna, Resende, Nova Friburgo, Macaé ...
Case: state of Rio de Janeiro

6 cities candidates for the Self-Service / Delivery

01 Large (Rio de Janeiro*, São Gonçalo e Duque de Caxias)
01 Medium (Campos dos Goytacazes, Volta Redonda e Nova Iguaçu)
Lessons Learned

• Concerning GeoIntelligence, maps are just the tool to better visualize opportunities. You must have good data input to prove your hypothesis or find opportunities;

• If you have lack of data available, assumptions work perfectly, but must be carefully designed;

• Decision making process is easier and confident when supported by Geo-analytical information;

• Field team recommendations is the best insights for new improvements, should be considered!
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Thank you!
ronildo@oboticario.com.br
adriano@geopx.com.br