The Expansion of a Retail Chain
An Analysis of Walmart’s Store Location Strategy in the United States

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Walmart & The Retail Environment

• World’s Largest Retailer
• Success Based on Low Cost Distribution
  – Logistical Superiority
  – Economies of Scale
• Stores Located
  – Close to Each Other
  – Close to Distribution Centers to minimize costs

Related Literature

• Basker
  – Impact of Walmart in the broader economy: examining consumers, competitors, labor market

• Holmes
  – Dispersion of Walmart in the United States through 2005
  – One focus: examine impacts of distribution costs on store locations

• Graff
  – Analysis of Walmart’s expansion as compared with key competitors (Target, K-Mart)

Expansion

By sheer store numbers, the ambitious nature of Walmart’s store expansion is obvious

Graph includes all types of stores (Supercenters, Sam’s Clubs, etc.)

Expansion

Geographically, it is also well established that Walmart grew in the US via a radial pattern of expansion around its origin in Bentonville

Walmart Stores Opened up to 1965

Red = New Store
Walmart Stores Opened 1996-2000

Red = New Store
Black = Existing Store

A clear pattern of radial store expansion outward from Arkansas is obvious

Walmart Stores Opened 2001-2006

Red = New Store
Black = Existing Store

However: is the “radial” idea the only good description of Walmart’s overall expansion strategy?

Are there other components to Walmart’s location strategy that have not been well appreciated?

Walmart Distribution Centers as of 2006

Blue = Distribution Center
Black = Store

Could analysis of Walmart’s distribution network give additional insight into the company’s store location strategies?
Case Study

- Examine geographic growth of Walmart in the US, with a focus on 1990 to 2005
- 2,433 stores as of 2005
  - Discount ("DS"): 752
  - Supercenter ("SC"): 493
  - DS Converted to SC: 1,188
- 76 Distribution Centers ("DC")
  - Discount DCs: 42
  - Grocery DCs: 34
- Analysis by US Census Region (Four in Total)

Research Question

- Are stores constructed in a continuous radial manner by year around distribution centers?

  - Correlation Analysis
    - Variables
      - 1. Year Constructed
      - 2. Distance (store to DC)

  Expectation: year constructed and store-to-distribution center distance will be positively correlated (distances increasing over time)

Results: Distance and Year Constructed Correlations by Region

<table>
<thead>
<tr>
<th></th>
<th>Northeast</th>
<th>Midwest</th>
<th>South</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discount</td>
<td>-.611**</td>
<td>-.414**</td>
<td>-.234**</td>
<td>-.503**</td>
</tr>
<tr>
<td>Supercenter</td>
<td>-.793**</td>
<td>-.472**</td>
<td>-.483**</td>
<td>-.549**</td>
</tr>
<tr>
<td>Converted</td>
<td>-.546**</td>
<td>-.424**</td>
<td>-.426**</td>
<td>-.448**</td>
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</tbody>
</table>

** Correlation is significant at the 0.01 level

Key Result: all correlations are negative
Supercenter Openings: Northeast 1996

Yellow Dot = New Supercenter
Blue Dot = Existing Supercenter

Supercenter Openings: Northeast 1997

Yellow Dot = New Supercenter
Blue Dot = Existing Supercenter

Supercenter Openings: Northeast 1998

Yellow Dot = New Supercenter
Blue Dot = Existing Supercenter

Supercenter Openings: Northeast 1999

Yellow Dot = New Supercenter
Blue Dot = Existing Supercenter

Supercenter Openings: Northeast 2000

Yellow Dot = New Supercenter
Blue Dot = Existing Supercenter

Supercenter Openings: Northeast 2001

Yellow Dot = New Supercenter
Blue Dot = Existing Supercenter
Walmart’s expansion around distribution centers is the exact opposite of “sequential radial”:

- far-flung but targeted locations first
- locations closer to distribution centers later
Conclusions

• Our complete study results (not all presented here) indicate that lower income and less densely-populated locations appear to be preferred by Wal-Mart during initial expansion

• Wal-Mart constructs stores in increasingly higher income and more dense locations over time

**Key conclusion:** Walmart appears willing to incur increased transportation costs in order to locate initial stores in what appear to be their desired target markets