Research Topic

How retail location can affect business?

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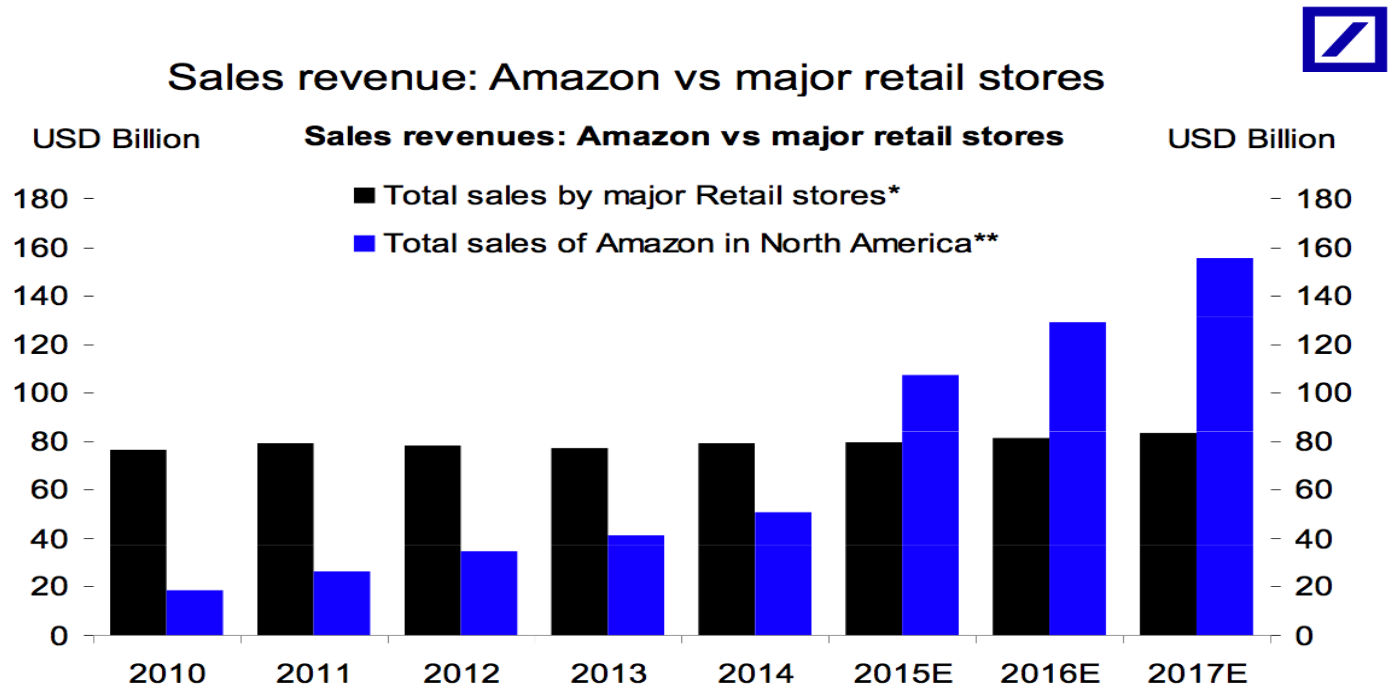
Why I want to study this?

Research Background

background

- Facing challenges from E-Commerce giants, such as Amazon
- However, the vast majority of retail sales in U.S still happen offline
- Understanding retail business and help them fight against E-Commerce became an interesting topic.

Sales revenue graph



*Note: This includes major retail store houses DDS, JCP, JWN, KSS and M
**Note: The estimated figures for 2015, 2016 and 2017 are the total global sales revenue projections for Amazon as reported by Bloomberg Finance LP.

Source: Bloomberg Finance LP, DB Global Markets Research

Research Question

Research Question

How retail location factors (demographic factors, spatial factors, etc.) affect retail business outcome (e.g. sales) of different types shopping center in U.S?

Literature Review

- Duggal, Niti . "Retail Location Analysis: A Case Study of Burger King & McDonald’s in Portage & Summit Counties, Ohio ." Ohiolink. December 2007.

- Kean, Rita, LuAnn Gaskill, and Larry Leistritz. "Effects of community characteristics, business environment, and competitive strategies on rural retail business performance." Proquest. 1998.

Research Contribution

- Use demographic variables to predict retail sales
- Help business owners to conduct strategic planning based on their geometric location and objectives
- Identify retail locations with high revenue protential

How to answer my question?

Research Data Source

- U.S Census Data

- Major Shopping Center Data in U.S.
http://doc.arcgis.com/en/esri-demographics/data/shopping-centers.htm
the Major Shopping Centers variables include center name, type of center, total retail sales, distance to the nearest competing center, distance to the nearest major city, and total number of stores, longitude, latitude, etc.

Research Data Source

Variable list

- ~ 100 variables

Esri Demographic and Business Data List

Major Shopping Centers

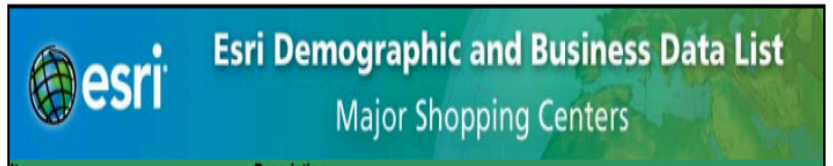
Item	Description
Major Shopping Center Mall Database	
MALLCODE	Unique Identifier code - used to cross reference with store data
MALLNAME	Mall /Shopping Center Name
MALLCOUNTY	County where project is located
MALLLOCA	Intersecting streets where project is located
MALLCITY	City where project is located
MALLSTATE	State where project is located
MALLZIP	ZIP Code where project is located
GLA	Gross Leasable area (Sq.Ft.)
SITESIZE	# of acres
TOTSALES	total retail sales (including anchor stores)
DISTONMALL	Distance to nearest competing center
TYPEMALL	Type of center ("O"=Open, "E"=Enclosed)
LEVELS	# of Levels
SHAPE	Shape code for design (see Shape Tab)
DATEOPENED	Year Opened/To Open
SPACEAVAIL	Is space available - Yes/No?
TENANTNEED	Types of tenants needed
EXPANSION	Expansion planned - Yes/No?
WHENEXPAND	When will expansion be completed
DISTONCITY	Distance to nearest major city

Research Data Source

Variable list

- Store Type Identify

STORETYPE	Description
3A	Anchor
4G	Barbers, Beauty
3M	Children's Apparel
5T	Entertainment
3U	Food & Restaurants
4A	Gifts, Cards, Books



Item	Description
5H	Hi-Tech
3W	Jewelry
3J	Men's Wear
5Z	Miscellaneous
5S	Services
3D	Shoes
4M	Specialty Store
4B	Temporary Tenant
3S	Unisex/Family Clothing
3G	Women's Wear

CENTER_CLASS_ID	CENTER_CLASS_NAME
CC	Community Center

CENTER_CLASS_ID	CENTER_CLASS_NAME
CC	Community Center
EC	Entertainment Center
LC	Lifestyle/Specialty Center
OF	Other
PC	Power Center
RC	Regional Center
SR	Super Regional Center
UU	Unknown
VR	Value Retail Center

DESIGN_TYPE_ID	DESIGN_DESCRIPTION
E	Enclosed
O	Open
U	Unspecified

SHAPE_ID	SHAPE_DESCRIPTION
A	A-Shaped
B	B-Shaped
C	Cross-Shaped
D	Dumbbell-Shaped
E	E-Shaped
F	F-Shaped
G	G-Shaped
H	H-Shaped
I	Irregular-Shaped
L	L-Shaped
M	M-Shaped
N	N-Shaped
O	Round-Shaped
P	P-Shaped
Q	Square-Shaped
R	Rectangle-Shaped
S	Strip-Rectangle
T	T-Shaped
U	U-Shaped
V	V-Shaped
W	W-Shaped
X	X-Shaped
Y	Y-Shaped

Analyses

- Spatial regression analysis
- PCA

Computational tool

- R
- Python
- Geoda

THANKS

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