



VILLANOVA
School of Business

Connecting Research and Practice

Dr. John Sedunov

Villanova University

8th Annual Risk Conference – April 1, 2015

Technology and Banking

- The development of new technology is important for banks:
 - ATMs
 - Online Banking
 - Mobile Banking
- Numerous costs and benefits associated with new banking technology
- Much of the technology question can be traced to soft and hard information (Williamson, 1988; Berger & Udell, 2002; Stein, 2002) and Relationship Banking (Boot, 2000; Petersen & Rajan, 2002; Berger, et al., 2005)



Technology and Banking

- My own work:
 - Attempts to understand how improving bank technology may (indirectly?) impact the availability of credit to soft-information borrowers
 - Separate out the effects of front- and back-office technology
 - Understand the determinants of front-office technology

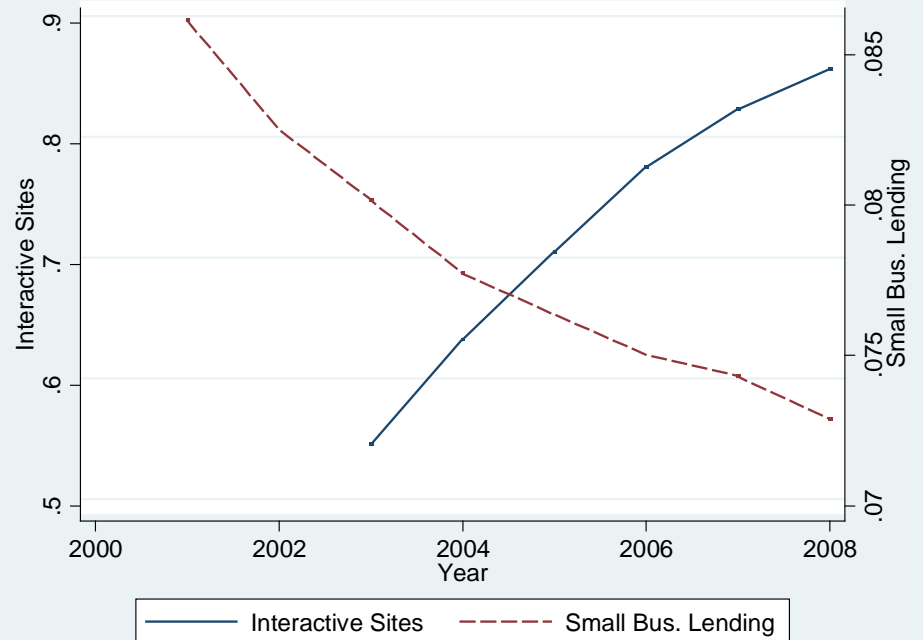
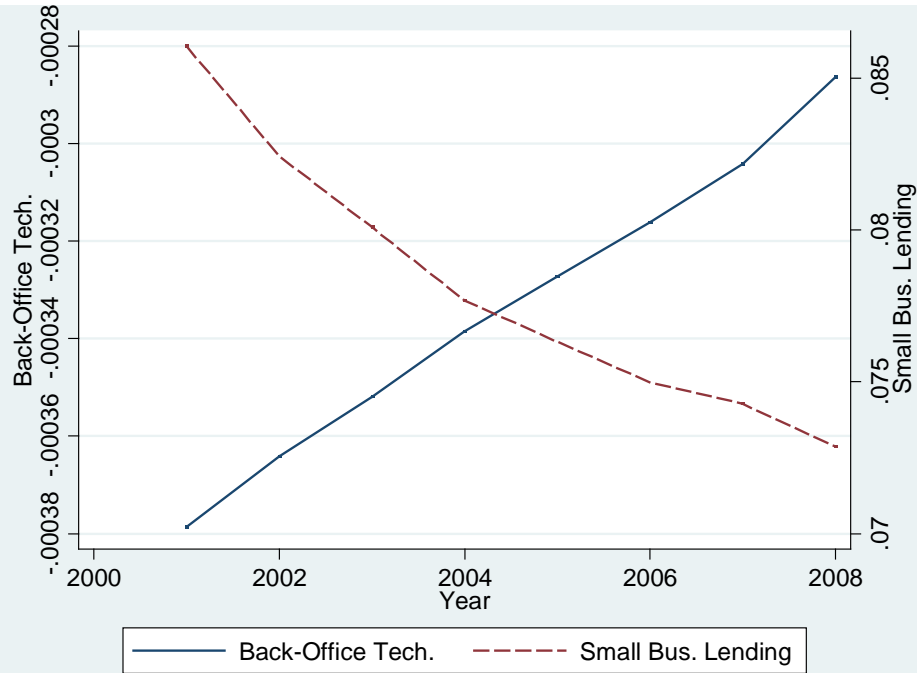


Trends in Banking Technology

Year	Small Business Loan Ratio	Back-Office Technology	Website	Front-Office Technology
2001	0.0860	0.00038	0.80	N/A
2002	0.0824	0.00036	0.80	N/A
2003	0.0801	0.00035	0.83	0.55
2004	0.0777	0.00034	0.84	0.63
2005	0.0763	0.00033	0.84	0.71
2006	0.0750	0.00032	0.84	0.78
2007	0.0743	0.00030	0.86	0.83
2008	0.0729	0.00029	0.90	0.86
Total	0.1227	0.00056	0.82	0.72
2008-2001	0.0131***	0.00009***	0.10***	0.31***
t-statistic	13.39	46.25	17.42	44.23



Technology and Banking



Technology and Banking

Main Findings:

- Better technology is associated with less lending to small businesses
- Determinants of Front-Office Technology:
 - Size
 - Competition
 - Lending
- Some results are stronger for smaller banks



Online Banking

- DeYoung (2005) – First bank websites, now over 90% of banks have a transactional website
- Hernandez-Murillo, Llobet, and Fuentes (2010): website adoption is:
 - Positively related to county-level demographics and market concentration;
 - Negatively related to branching intensity, capital/assets, nonperforming loans



Online Banking

- Goddard, McKillop, and Wilson (2008, 2009): Credit unions that do not provide transactional websites are more likely to fail or be acquired
- DeYoung (2005): Internet-only banks have scale economies, and can grow fast
 - Internet banks are somewhat small, and may be operating below optimal scale
 - Profitability gaps between “brick-and-mortar” shrink as internet banks grow



Online Banking

- Hernando and Nieto (2007) find that online banking was associated with lower costs and higher profitability in Spanish banks
 - The internet is a complement rather than a substitute for physical bank branches
 - Claim backed up by Cicirette, Hasan, and Zazzara (2009) for Italian banks
- Bauer and Hein (2006) find younger customers or customers with previous remote banking experience are more likely to use online banking



Other Research Developments

- Degryse, Laeven, and Ongena (2009): Geographical reach of banks are smaller when rival banks have better technology, are large, and are hierarchically organized
- DeYoung, et al. (2011): Increases in borrower-lender distance accelerated rapidly in the mid-1990's
 - Due to credit scoring technology at lending banks
- Berger and Udell (2014): Large banks do not have equal advantages in hard lending technologies
 - Advantages do not increase monotonically in firm size
 - Small banks have comparative advantage in relationship lending to the largest firms
- He (2014): Mobile Banking Study –
 - Rivalry adoptions spur technological innovation
 - Increases with market concentration



Connecting Research and Practice

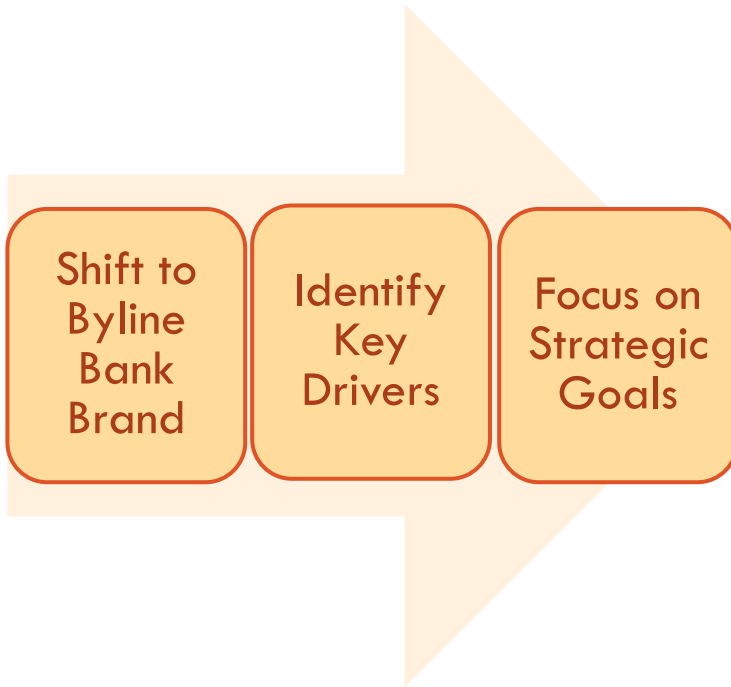
- How can we better connect research and practice?
- How can we better connect students and local firms?
- A few ideas –
 - Small, focused roundtables
 - Guest speakers
 - Local case studies



An Analysis of Branch Profitability



Background



Current Industry

- Technological advances
- Future of brick and mortar banking?

Strategic Goals

- Maximize value of branches
- Focus on customer relationships



Overview of Analysis

- **Branch Activity**
 - Neighborhood Loan Opportunities
 - Accounts Opening/Closing
- **Branch Expenditures**
 - Own vs. Lease
 - Square Footage
- **Neighborhoods**
 - Areas of Economic Growth

Where to consolidate and where to invest?

Background

Overview of
Analysis

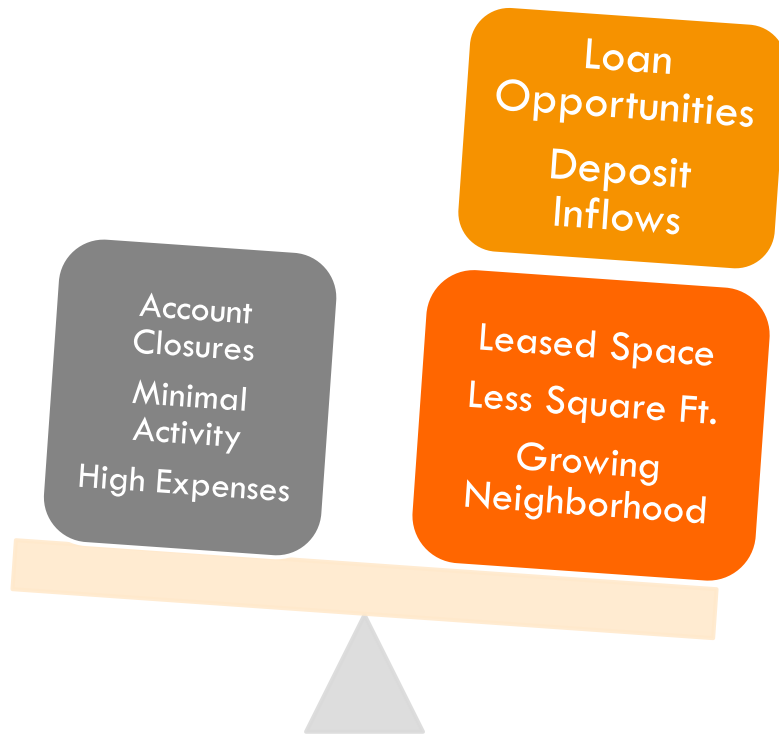
Key Drivers

Results of
Analysis

Conclusion



Key Drivers



Branch Performance

- Loan opportunities
- Deposit inflows
- Leased space
- Less square footage
- Growing neighborhood

Background

Overview of
Analysis

Key Drivers

Results of
Analysis

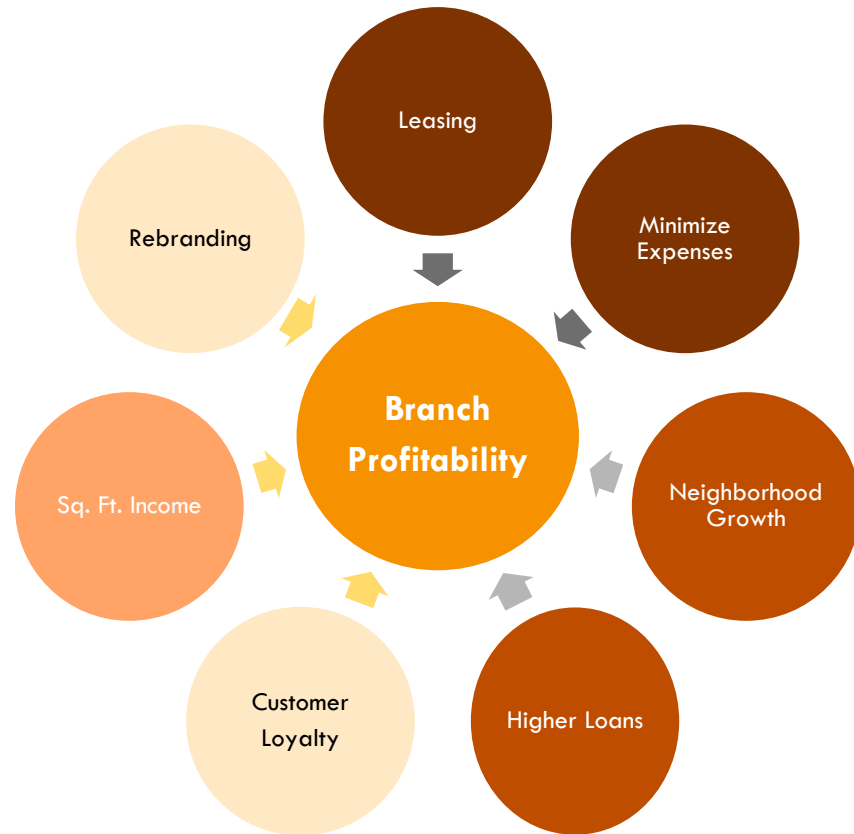
Conclusion



Results of Analysis

Take Aways

- Enhance franchise through select consolidations and investments in branch network
- Focus on service and perception
 - Retain customer accounts
 - Market the new brand
- Build on neighborhood relationships
 - ByLine's competitive advantage



Background

Overview of
Analysis

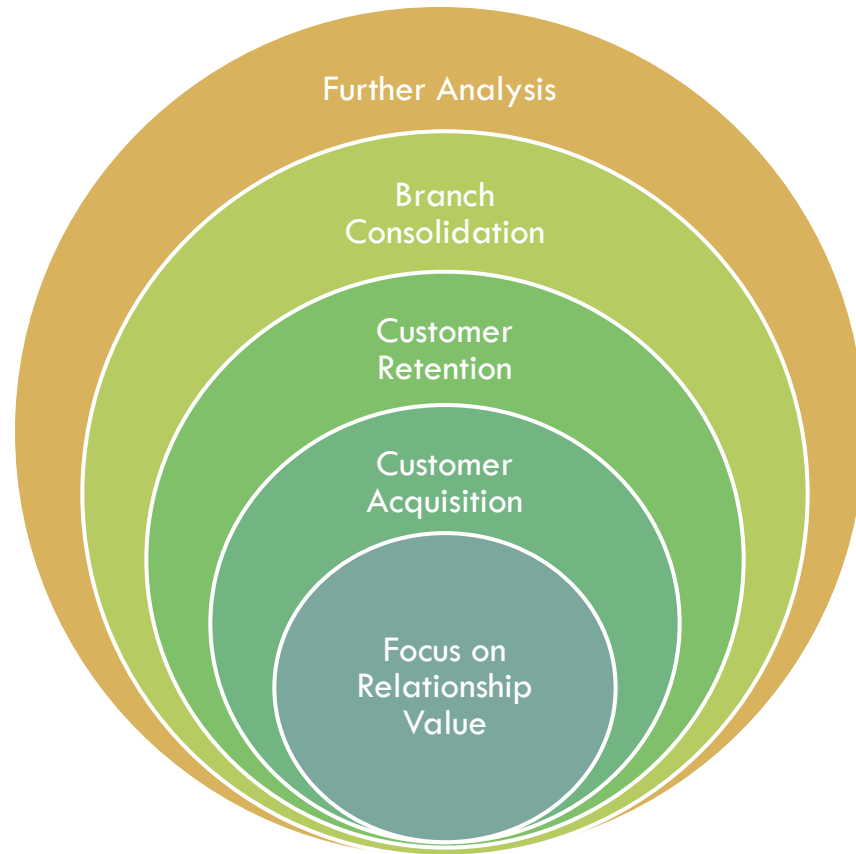
Key Drivers

Results of
Analysis

Conclusion



Conclusion



Background

Overview of
Analysis

Key Drivers

Results of
Analysis

Conclusion

Connecting Research and Practice

Questions?

Connecting Research and Practice

- How can we better connect research and practice?
- How can we better connect students and local firms?

DePaul Center for Financial Services

cfs@depaul.edu

