

E-commerce business models in the US home mortgage industry

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Abstract: The home mortgage industry is highly significant for the US economy in terms of Gross Domestic Product and employment. Despite the fact that mortgage lending is an information-intensive industry, residential mortgage lending has been characterized as traditional and slow to adopt IT. Thus, the potential impacts of e-commerce in this industry are great, making this preliminary study of IT impact in the industry (funded by the US National Science Foundation) a natural complement to the STAR project. Our findings show that IT is already having profound effects in this industry and promises more changes to come.

1. Introduction

The home mortgage industry is highly significant for the US economy in terms of its contribution to the Gross Domestic Product and employment. Despite the fact that mortgage lending is an information-intensive industry, residential mortgage lending has been characterized as traditional and slow to adopt IT. Thus, the potential impacts of e-commerce in this industry are great, making this preliminary study of IT impacts in the industry (funded by the US National Science Foundation) a natural complement to the STAR project (funded by IST KA II).

The impacts of IT are known to vary with the specific uses to which IT is put and with complementary changes in business processes, management practices, etc. The concept of e-commerce business models captures variations across organizations in the use of IT in customer-facing business processes and the ways in which these investments substitute for, or complement, traditional value activities, such as the maintenance of “bricks and mortar” retail outlets. Thus, the study of e-commerce business models is a useful way to understand the potential nature and magnitude of the impacts attributable to investments in IT coupled with organizational learning about how to deploy those investments most effectively.

This paper briefly summarizes our findings to date about the e-commerce business models employed by traditional lenders and new entrants in the US home mortgage industry. Our findings show that IT is already having profound effects in this industry and promises more changes to come.

2. Objectives

The overall objective of this study is to identify the impact of IT in general and electronic commerce in particular within various segments of a single industry—the US home mortgage industry. The reasons for focusing on a single industry are as follows: Different industries have fundamentally different structural attributes such as product or service type, maturity, concentration, and cost structure. IT has been shown empirically to provide greater business value in industries with certain attributes such as “clockspeed” (e.g., product lifecycle, speed of the supply chain, etc.) than in others. Furthermore, the maturity of industry-specific IT products and services also varies by industry, and IT adoption and usage is higher in industries with more mature IT sectors. Therefore, the potential positive or negative impacts of IT, for example, increased or reduced employment opportunities, will vary from industry to industry.

The drawback of studying a single industry is that specific findings, such as the direction and magnitudes of IT effects, are likely not to characterize other industries. We hope, however, that by studying several sectors within an industry (and eventually studying other industries) we can learn how industry attributes are associated with particular effects.

The US home mortgage industry offers an especially interesting focus for this research for several reasons.

- The industry is very important to the US economy in terms of contribution to the Gross Domestic Product and in terms of employment. Thus, IT impacts in this industry are likely to ripple through the economy.
- The industry has been characterized as conservative and slow to adopt IT. Other than basic record keeping and office support, uses of IT in the industry were quite minimal until the mid-1990s. Since then certain types of industry-specific automation (e.g., automated underwriting, online loan origination) have been adopted quite rapidly. The recentness of these occurrences makes them easier to study.
- IT is believed by industry experts to have had enormous impacts in the last ten years, such as accelerating an already noticeable trend toward vertical disintegration and reducing the cost of loan origination and servicing by 50%. (Employment in the industry is currently at an all time high because, despite operating efficiencies, the volume of business has increased. Whether this trend continues remains to be seen.)
- Despite increasing IT penetration, the mortgage lending process remains quite slow and paper-intensive. The potential for additional dramatic changes in employment and process “clockspeed” exist, through for example, more extensive electronic document exchange.
- The industry consists of tens of thousands of firms, most quite small, with many specialized business models. At the same time there is a noticeable trend toward concentration at the high end, suggesting that the industry will bifurcate into a few giant oligopolistic firms and many smaller ones. This evolutionary trajectory raises questions about the survivability of small firms. Will the gap in IT capabilities between large and small firms grow or will IT enable smaller firms to replicate some of the advantages of larger firms? Will IT enable new business models, thereby encouraging new business formation in the industry?
- The industry is relatively unregulated. (On the other hand, the impacts of governmental housing policies implemented through government-sponsored private enterprises have been enormous, making comparisons with the same industry in other countries challenging.)

Given these developments, the specific research question addressed in this report is: how are companies in this industry employing IT in their consumer-facing business practices?

3. Methodology

To answer the question of how companies in the US home mortgage industry are using IT in customer-facing business practices, we examined the websites of a sample of firms in the industry. We selected companies from three different segments in the industry:

- *Full service financial institutions*: The mortgage banking arms of full-service banking enterprises, that have physical, as well as virtual, customer service locations.
- *Specialized mortgage lenders*: Enterprises that specialize in mortgage lending and that have physical, as well as virtual, customer service locations. Only the largest companies in this category have any consumer banking business, and this business is currently quite small compared to their mortgage lending operations. (A few such companies have an online-only banking presence.) The largest companies in this category may, however, eventually be undistinguishable from companies in the first category.
- *Online Lenders*: Enterprises that are exclusively online-only mortgage lenders.

Within the first two segments, we attempted to examine not only the largest, national companies, but also some smaller, regional firms. However, this sample is biased toward firms at the larger end of the size distribution and toward firms that are relatively sophisticated in their use of IT. (We plan to examine some very small players in a future investigation.) Companies selected for this study, along with a summary of our observations, can be found in Table 1.

We observed the websites of the selected organizations and consulted readily available public sources such as company prospectuses and news articles. Most of the industry rankings in Table 1 come from a proprietary database published by National Mortgage News. The data come from surveys voluntarily completed by companies in the industry. National Mortgage News does not verify these self-reports and notes that some companies do not respond to particular questions (especially questions about the costs of operations) and may define key terms differently (especially “online operations”—a category in which some lenders include telephone sales). Therefore, these data should be viewed as approximations of size rather than valid measures.

4. Results

Our investigation yielded several tentative findings about the consumer-oriented electronic commerce business models of companies in the US home mortgage industry. They include:

- Variations in how IT is used to support consumer-facing operations can be observed across the sample.

For example, while most companies provide capabilities for consumers to make online loan applications, Aurora Loan Services does not. This difference apparently reflects that company’s strategic positioning, rather than lack of IT sophistication, since the company provides capabilities for consumers to obtain information about their loans serviced by Aurora and to make online payments. In addition, Aurora

provides elaborate online support for business partners (brokers, servicers, and investors).

In the online lender category, LendingTree does not fund loans, but combines aspects of the mortgage broker and referral agent business models. E-Loan and Quicken Loans both fund loans, but e-Loan has expanded into automobile loans, credit-cards, and consumer loans.

- Several companies in the sample have used IT deliberately in their competitive positioning.

For example, ABN AMRO bought Mortgage.com in 2001 during the dot.com meltdown. Interest rates were falling at that time, and mortgage lenders risked losing customers who wanted to refinance their loans at lower rates. ABN AMRO quickly resurrected Mortgage.com as a place where ABN AMRO's existing customers could use smart refinancing tools—consistent with the company's reputation for excellence in customer retention. (Mortgage.com also enables potential new customers to apply for loans online.)

As another example, AmSouth Bank began offering online banking and bill paying services free for the life of the customer's account in 2001 and saw its online banking subscribership grow five times faster than its competitors.

Wells Fargo's use of data warehousing and data mining has enabled much more accurate predictions of loan default rates than were previously possible, resulting in savings in interest expenses and new revenues from partnerships with mortgage insurance companies.

- The varying IT competitive strategies observed in this industry are heavily influenced by the nature of each company's complementary assets and existing position in the market.

For example, the large national players such as Countrywide, IndyMac, and WaMu are aggressively pursuing online customers even in areas where they do not have branches. As a result, they rank high in online originations and appear to be competing as Internet firms directly with the online-only lenders. On the other hand, regional banks appear to be taking a more conservative, bricks-and-clicks approach, focusing their online offerings on their own regions and existing customer bases. In that way, they are defending against the Internet-only firms by leveraging their branch offices. Indeed, contrary to early expectations about the ability of IT to replace branch offices, regional banks now seem to be expanding their physical presence with more branch banks.

- IT appears to have enabled new business models in this industry. New entrants, both online-only and brick-and-clicks, armed with strong IT (as well as strong business) capabilities appear able to grow rapidly relative to less-well endowed established competitors. Some small companies may be able to assemble IT capabilities that put them on a par with larger competitors.

Despite the dot-com meltdown, we looked at three online-only lenders that exhibit considerable success: e-Loan, Quicken Loans, and LendingTree. Also, among our bricks-and-clicks lenders, several relatively recent entrants with strong IT capabilities (IndyMac, Aurora Loan Services, and HomeBanc) have grown rapidly to impressive rankings in the industry, suggesting that superior IT capabilities may be a strong competitive asset.

Tiny Landmark Bank, with its single branch office, founded an online bank (giantbank.com) in 1999. The online loan center within giantbank uses LendingTree's Lend-X technology to enable giantbank's customers to get loan offers from lenders around the country—and to enable giantbank to offer services nationwide without the necessity of building an IT infrastructure. (No data are available to gauge the success of this particular service, but giantbank reported record earnings in 2002.)

- The B2C capabilities of the companies in our sample are often equaled or exceeded by their IT capabilities to support interactions with business partners such as mortgage brokers, correspondent banks, realtors, investors, etc.

Many companies in the US home mortgage industry sell loans they originate to other companies (servicers and/or investors). In addition, many companies in the industry buy loans from originators (to service and/or to package for sale to investors). The varied, specialized business models of mortgage lenders reflect the vertical disintegration in the industry, which use of IT is believed to accelerate.

Business models that entail buying and selling loans, instead of or in addition to in-house origination and servicing, require partnerships with companies that source or purchase loans. Use of IT to support these relationships may be even more important than using IT to support relationships with consumers. For example, all the companies we examined in the specialized bricks-and-clicks mortgage lender category prominently feature extranets and advanced IT support tools for brokers, correspondent banks, realtors, or other business partners. The B2B capabilities of Countrywide and IndyMac are especially noteworthy.

In a related vein, companies like WaMu are using in-house technologies to complement their customer-facing online activities. WaMu uses data mining and customer relationship management to support its strategy of cross-selling consumer products.

- Claims made by some of these companies about the impacts of their B2C and B2B IT investments suggest the potential for major changes over time in both industry clockspeed and industry employment.

Careful examination of the “online” lending on the websites of these companies reveals that much of process still occurs offline. Hardcopy documents must be copied, signed, and express mailed back and forth between consumer and lender. Once the loan is “closed”, it must still be legally recorded. These paper-intensive processes take time and involve considerable manual labor. Industry-wide initiatives such as the Mortgage Bankers Association of America's electronic mortgage task force and MISMO/XML standards could substantially reduce both

time and employment. On an industry-wide basis the effects could be profound, as suggested by the experience of IT-leaders in this industry.

For example, in a 2003 report to investors, ABN AMRO described a 2001-2002 overhaul of its Dutch consumer business dubbed “No Detours” with two simultaneous objectives: improved customer service and increased operational efficiency. The project involved implementing a multi-channel strategy, closing branches and migrating customer support to the Internet, so that by the end of 2002, 42% of small business customer payments, 35% of consumer payments, and 50% of stock transactions were handled via the Internet. To capture the resulting operating inefficiencies, the Bank implemented a voluntary departure scheme. In a January 25, 2002 interview reported in efinanceinsider.com, the VP of Customer Acquisition and Retention for ABN AMRO’s Mortgage Group claimed that transactions originated on post-acquisition Mortgage.com “close 30% faster than offline deals, with about 25% less ‘human’ interaction. This reduces costs by up to 25% or more.”

Similarly, Countrywide claims to be “the” IT leader in the home mortgage industry and reports that its migration of much customer support to the Internet and telephone support center led to dramatic reductions in labor requirements. And Wells Fargo’s integrated IT infrastructure enables the company to introduce new products across all channels in under three months.

5. Conclusions

This admittedly preliminary look at the e-commerce business models of companies in different segments of the home mortgage industry suggests that IT has started to have profound effects in this time-challenged and paper-intensive industry. New business models are starting to succeed, traditional lenders and new entrants with strong IT capabilities are growing rapidly. Use of IT enables operational efficiencies with the potential to result in large-scale reductions in aggregate industry employment. Our future investigations will explore these developments in more depth.