



FICO Mortgage Credit Risk Manager's Best Practices Handbook

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September 2009

Executive Summary

The mortgage credit and liquidity crisis has triggered a downward spiral of job losses, declining home prices, and rising mortgage delinquencies and foreclosures. The residential mortgage lending industry faces intense pressures. Mortgage servicers must better manage the rising tide of defaults and return financial institutions to profitability while responding quickly to increased internal, regulatory, and investor reporting requirements. These circumstances have moved management of mortgage credit risk from backstage to center stage. The risk management function cuts across the loan origination, collections, and portfolio risk management departments and is now a focus in mortgage servicers' strategic planning, financial management, and lending operations.

The imperative for strategic focus on credit risk management as well as information technology (IT) resource allocation to this function may seem obvious today. However, as recently as June 2007, mortgage lenders continued to originate subprime and other risky mortgages while investing little in new mortgage collections and infrastructure, technology, and training for mortgage portfolio management. Moreover, survey results presented in this Handbook reveal that although many mortgage servicers have increased mortgage collections and loss mitigation staffing, few servicers have invested sufficiently in data management, predictive analytics, scoring and reporting technology to identify the borrowers most at risk, implement appropriate treatments for different customer segments, and reduce mortgage re-defaults and foreclosures.

The content of this Handbook is based on a survey that FICO, a leader in decision management, analytics, and scoring, commissioned from TowerGroup, a leading research and advisory firm focusing on the strategic application of technology in financial services. FICO and TowerGroup constructed the questionnaire used to survey 25 mortgage credit risk managers across various disciplines (collections, credit policy, finance, loan production, and secondary marketing). These risk managers work for 21 different financial institutions that collectively accounted for 58% of first mortgage debt outstanding as of December 31, 2008. The survey included financial institutions,

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mortgage servicers, government-sponsored enterprises (GSEs), and private mortgage insurance companies. The survey results were analyzed by TowerGroup and are presented in this Handbook. The Handbook assesses the state of mortgage credit risk management in September 2009 and identifies the credit risk management best practices among leading institutions that mortgage credit risk managers should evaluate for adoption.

Mortgage Credit Risk Management Best Practices Summary

Exhibit 1 summarizes standard and best practices and strategies for mortgage credit risk management strategy, systems, analytics, and data management. These best practices are derived from TowerGroup analysis of 25 mortgage credit risk managers. The survey results represent a broad spectrum of different sized mortgage servicers, mortgage guarantors, and government-sponsored enterprises. Of the survey participants, 32% work for top 10 servicers with mortgage servicing portfolios exceeding \$100 billion (USD); 36% work for servicers with mortgage servicing assets of \$5–\$100 billion, and 32% work for servicers with servicing portfolios under \$5 billion.

Exhibit 1



Standard Practices and Best Practices in Mortgage Credit Risk Management

Category	Standard Practices	Best Practices
Issues facing mortgage credit risk evaluation	Increasing executive management focus Increasing collections staff significantly Higher loan-qualification FICO score cutoffs	Expanding external IT spending on analytic and reporting tools Specific FICO score cutoffs by product and customer
Early identification of borrowers at risk	Monitor defaults by delinquency age, loan product, and geography Apply new underwriting guidelines to all borrowers regardless of credit rating	Stratify defaults by credit score to evaluate customer risk profiles and score migration Adjust credit policy by customer segment
Optimizing portfolio NPV while reducing re-defaults	Same outreach strategy for all customers Judgment-based analytics using spreadsheets	Precision outreach strategy (custom treatments) Actionable analytics using analytically derived models
Tracking and analytic reports	Static, predefined reports generated and distributed by the lender (<i>push</i>) Standard reports generally well developed (e.g., loan delinquency status by various product and geographic categories; loan delinquency cure/reinstatement rates and roll rates).	Dynamic, custom reports defined and generated by users on the fly (<i>pull</i>) Improved event tracking Adding re-default rates to the equation Tracking by type of loan collection program (e.g., new government and investor (FHA, GSE)
Integration of transactional data to improve predictability	Limited lender focus in this area Moderate technology spending levels	Strong lender focus High and rising IT spending to integrate data with analytics and enhance reporting
Validation of collections best practices	Automated collections process scripting Behavioral scoring applied to delinquencies	Portfolio analytics for early identification of borrowers at risk Online self-service collections, plus virtual agent

Source: FICO/TowerGroup Mortgage Credit Risk Management 2009 Survey

In general, best practices differ from standard practices in the following ways:

- Greater IT investment
- Integration of data management and analytics, including more frequent use of credit risk scoring and evaluation
- Segmentation of customers for early identification and prioritization of borrowers at risk
- Targeted outbound communications
- Optimization of individual delinquent borrower loan workout programs
- Improved reporting and decision making

These best practices are examined in more detail in the following sections of this Handbook.

I. Issues Facing Mortgage Credit Risk Evaluation

Numerous external market and internal management issues are changing the way credit risk managers manage credit risk and make recommendations for credit policy, operations, and technology changes. The findings of Section I of the FICO/TowerGroup Mortgage Credit Risk Management 2009 Survey delineate how leading mortgage servicers are responding to the new challenges.

Market Issues

The global ramifications of the US subprime mortgage crisis have led to unprecedented government intervention in loan servicing and new regulation, especially in mortgage loan origination. These actions are attempts both to "fix" problems that led to the huge jump in delinquent borrowers and to prevent future delinquencies. Examples include myriad new loan modification and refinance programs and new regulatory requirements such as the Real Estate Settlement Procedures Act (RESPA), the Truth in Lending Act (TILA), and the Home Mortgage Disclosure Act (HMDA).

Exacerbating these circumstances is the continuing recession of the US economy, with unemployment at 9.7% in August 2009 and national home prices down 24% from their peak in the second quarter of 2007 and still trending down. These external market issues have put huge pressure on mortgage servicers and changed the underlying data requirements, analytics, and servicing staffing mix. They have also changed the relationships between risk, default, and profitability. For example, the impact of rapid drops in home prices on loan-to-value (LTV) ratios has changed the calculus for loss mitigation alternatives and the likelihood of borrowers repaying. The migration of credit scores from high to low complicates efforts to refinance or modify mortgages by making it more difficult or expensive for prospective borrowers to qualify for a loan.

Financial Services Institutional Issues

Financial services institutions (FSIs) today are faced with having to respond to external pressures to originate new mortgages and participate in new programs of loan modification and refinance while needing to improve risk management, raise capital, and control operational expenses to restore their financial health.

Lenders have generally responded appropriately with more conservative loan underwriting practices, including full loan documentation and verification, more quality control, and better policy enforcement. However, these changes are too often applied to all loan applicants. This "one-size-fits-all" approach to customer segmentation will cause loss of customers, especially high-quality ones, who will look elsewhere for a lower interest rate or less onerous guidelines or both.

Servicers' Best Practices

Exhibit 2 highlights best practice actions that survey respondents have taken to better manage mortgage credit risk.

Exhibit 2



Steps That Financial Institutions Are Taking to Better Manage Mortgage Credit Risk



Source: FICO/TowerGroup Mortgage Credit Risk Management 2009 Survey
 Note: Respondents selected all answers that applied to their respective institutions.

Most important, executive managers increased their focus on credit risk management and restructured management of distressed (delinquent, foreclosed, and owned) property assets. Almost as important, most institutions have begun to increase technology spending on analytic and reporting tools. However, only 24% have significantly increased their IT spending budgets. Interestingly, 45% of respondents classed among the top 25 servicers have made significant IT budget increases, but only

7% of other servicers have done so. As noted in Section IV (below), IT spending has increased only slightly at many firms, but plans for future IT spending increases are positive.

The survey results show two broad categories of response:

- **Allocation of human resources:** adding staff, increased executive management focus, organizational restructuring
- **Allocation of resources for technology:** increased internal or external IT spending on analytical and reporting tools

The first response to the credit crisis has been to realign management and staffing in a crisis management mode and then to execute relatively low-cost, short-term changes in process and technology. The best practice for the future will be to increase external IT spending on larger IT projects with longer-term benefits.

Other survey responses reveal that more recently originated loans are showing better performance (fewer delinquencies and lower foreclosure rates) than loans originated prior to 2008. Best practices driving these improved credit risk management results include stronger income verification efforts (76%), a shift away from higher-risk loan products (80%), higher loan score cutoffs to qualify for a mortgage (76%), and stricter loan documentation requirements (64%). However, lenders still need to customize these underwriting restrictions for lower-risk customers, for whom guidelines do not need to be so limiting.

Participation in the Making Home Affordable Program

Three-quarters of servicers surveyed are participating in Making Home Affordable (MHA). The US federal program is voluntary, although external pressures make it essentially mandatory for large mortgage servicers. Alternatively, internal firm loan modification and refinance programs can be a flexible way for servicers to reduce the incidence of defaults and manage credit risk without the additional infrastructure they would need in order to manage and comply with MHA. Among survey respondents, over three-quarters of servicers participating in MHA have analyzed the potential impact on portfolio valuation based on the government program guidelines and have automated the distribution of program application and qualification packets. However, many firms have not fully automated the program's processing requirements once loan application packets are received. For example, over two-thirds of servicers who responded have made only manual process and system changes to comply with the program. An emerging best practice under development at the leading institutions is to automate the MHA program application, approval, and tracking process to increase program participation and success.

Interestingly, 23% of mortgage servicers surveyed are not participating in MHA despite the financial incentives provided by the US government. Reasons survey respondents

cited for nonparticipation include insufficient compensation relative to the additional overhead expense required, in-house loan modification programs more effective than government programs, and reporting requirements too complex. The majority of these respondents are smaller servicers, with mortgage servicing portfolios under \$5 billion. All but one of the top 25 ranked servicers are participating in MHA.

Outlook

Previous models, assumptions, metrics, and technology all need updating. Lenders and servicers will need to implement better analytics, data, and reporting to support their internal needs and to convince investors to return to mortgage-backed securities investment. Another reason that lenders and servicers will need to make these changes is to support the demands of rating agencies, mortgage insurers, guarantors, and regulators for better information at the loan level and portfolio level.

Management restructuring, collections staff increases, and current pressures to reduce costs have prevented increasing IT spending budgets. In this environment, outsourced IT and business process outsourcing (BPO) can be more cost effective and deliver solutions to market more quickly than in-house systems development. To be successful, outsourcing any aspect of mortgage default management requires effective data management, integrated systems, well-defined business rules, and vendor performance management controls.

II. Early Identification of Borrowers at Risk

Early identification of borrowers at risk has become a best practice to manage the higher default levels driven by rising unemployment, declining home prices, and the large number of adjustable-rate mortgages (ARMs) resetting at much higher monthly payment levels. Early identification of borrowers at risk enables servicers to adequately staff collections departments, determine the most cost-effective type of customer outreach, and initiate repayment plans before a borrower's financial situations worsens to the point at which foreclosure is unavoidable.

Servicers' Best Practices

Building on early identification of borrowers at risk, the survey revealed that portfolio segmentation by delinquency status, credit score, and loan product type is a critical best practice for credit risk management. Portfolio segmentation accomplishes many things. Foremost, it identifies which borrowers are most at risk and which are not. Servicers can then form segmentation strategies for borrower contact and collections that optimize operational cost expenditures and minimize losses. For example, the borrowers most at risk need earlier and/or more intervention than borrowers less at risk, who can be managed less expensively through automated or less frequent contacts.

Over half of servicers surveyed use periodic FICO score updates and internal scoring models to identify changes in borrowers' credit risk status. Top 25 servicers have the scale and financial resources to do this work more cost effectively than smaller

servicers, and 82% of them use more frequent scoring to prioritize customers at risk of default. Some servicers are more sophisticated in their strategies than others. For example, 36% prioritize and target customers having loan products that are about to reset, whereas 24% focus only on customers who have already missed a payment. Fifty percent of servicers perform general outreach to encourage all customers to contact them to restructure their mortgage loans. This one-size-fits-all approach to outbound campaigning may be easier to implement, but it results in wasted resources and insufficient staffing to manage unpredictable inbound contact volumes. These three disparate approaches to customer segmentation can yield widely different collections results.

Institutions that adopt best practices for the early identification of borrowers at risk also adopt best practices at a higher rate in other areas. For example, two-thirds of institutions surveyed engage in more frequent FICO Score refreshes. With respect to the survey results in Exhibit 2, these same institutions have increased focus from executive management (73%), are expanding their internal IT spend on analytic and reporting tools (80%), and are restructuring their organizations to increase focus on distressed assets (80%).

Exhibit 3 shows how leading servicers have increased their IT and staffing investment across a range of areas to support early identification of borrowers at risk. These areas include new portfolio risk management and loan collections staff, portfolio risk technology and analytics, and collections technology and analytics.

To date, servicers have focused more on adding staff for loan collections and portfolio risk management than on substantially increasing technology spending. Just under half of servicers surveyed have moderately increased technology spending; only 15% of servicers have significantly increased spending for technology spending.

As servicers gain control over operational resource issues, their next need is to increase resources in predictive analytics, a critical area that is lagging. Most servicers appear to be doing so. Half of servicers surveyed are currently implementing a solution, and another 20% are evaluating a solution with the intent to implement during the next 6–12 months. Only 20% of servicers are not currently looking to implement new solutions, and all of these are smaller servicers ranked lower than the top 25.

Exhibit 3



Investment to Identify At-Risk Borrowers in a More Timely Way (Q3 2008 – Q3 2009)

(Percentage of Responses)

Over the last 12 months, in order to identify at-risk borrowers in a more timely way, how much has your institution increased its investment in [the four categories indicated]?



Source: FICO/TowerGroup Mortgage Credit Risk Management 2009 Survey

Outlook

The early identification of borrowers at risk will remain an essential best practice for long-term credit risk management even after the current credit crisis is over. Being able to apply the right strategy to each customer segment reduces staffing imbalances and drives other desired outcomes. Servicers should first develop a targeted customer outreach strategy for delinquent customers in a similar fashion to the targeting that is done in prospecting or cross-sell campaigns. Servicers should use analytics to build strategies and segment customers, implement the strategies using business rules management systems (BRMS), deploy the strategies, evaluate and measure performance, and fine tune strategies.

For example, lenders and servicers will need to reassess existing credit scoring usage and models in their credit policy, operations, and loan decisioning. Yesterday's models will generate yesterday's results. Borrowers' behavior and credit results are migrating faster than lenders are updating credit tools, even though new solutions are available. Appropriate credit tools will determine whether a lender underperforms or outperforms the competition.

The financial services industry is still in a period of diminished resources. IT spending is flat overall but rising in collections and credit risk management. A number of innovative firms are investing significantly in those areas because as always, doing so offers large arbitrage opportunities. Investing in those areas of IT is also essential to protect the

capital and the viability of the financial institution, and it will position firms for future growth and market share gains when the markets get healthy again.

III. Optimizing Portfolio NPV While Reducing Re-Defaults

Optimizing portfolio net present value (NPV) involves evaluating alternative strategies with conflicting business objectives. In the case of mortgage credit risk management, two basic alternatives are available: Establish a repayment plan for delinquent loans to bring the borrower current or proceed with foreclosure. The first option is potentially the more profitable only if the borrower reinstates the mortgage. However, it is less profitable than foreclosure if the borrower cannot catch up on delinquent payments and the servicer has to foreclose anyway at a later date. NPV analysis discounts the revenue and expense cash flows and assigns a probability to each alternative event occurring. The alternative with the higher NPV is the better choice.

Servicers' Best Practices

Exhibit 4 presents results of four survey questions regarding portfolio optimization.

Exhibit 4



Optimizing Portfolio Net Present Value While Reducing Re-Defaults

(Percentage of Responses)

What kind of portfolio decisioning analytics do you use when deciding to pursue loan workouts or loss mitigation?

Type of Portfolio Decisioning Analytics	
Automated using both internally built and external vendor systems	54%
Employ manual calculations or spreadsheet-based tools	46%

What key inputs does your institution use for portfolio NPV optimization?

Inputs for Portfolio NPV Optimization	
Continuously updated loan guidelines	50%
Loan product mix guidelines	33%
Loan modification volumes	29%
Quantity of loans entering foreclosure	21%
Real estate market value trends	71%
Property valuation methods and tools	67%
Bankwide accounting rules	58%

Are your portfolio decisioning analytics to maximize NPV quantitative or judgment based?

Quantitative or Judgment-Based Analytics?	
Built using quantitative, analytically derived mathematical models	58%
Judgment-based (leveraging internal expertise and business practice)	42%

Which of the following practices does your organization use to lower re-default rates?

Practices to Lower Re-default Rates	
Extend the loan term	70%
Lower the interest rate	52%
Extend loan term and lower the rate	61%
Extend loan term, lower rate, and forbear principal	48%
Capitalize arrearages	39%
Re-underwrite the borrower	52%
Don't fully re-underwrite the borrower	17%

Source: FICO/TowerGroup Mortgage Credit Risk Management 2009 Survey

The upper left quadrant of the exhibit shows that 46% of servicers employ less automated manual calculations and spreadsheet-based tools. Just as critical as a tool's technical sophistication is its analytical sophistication. Spreadsheet-based tools are necessary but not sufficient to optimize portfolio NPV because they are primarily dependent on judgment-based analytics. In contrast, analytically derived mathematical

models can validate or invalidate judgment-based models and increase the predictability of results. These models are more prevalent as primary calculation tools among the top 25 servicers than among smaller servicers.

The lower left quadrant of Exhibit 4 reveals the key inputs servicers use for portfolio optimization. Over two-thirds of servicers regularly monitor real estate market value trends and update individual property values. Despite the fact that declining property values are a critical factor contributing directly to default and influencing whether a delinquent borrower ultimately repays or re-defaults, almost one-third of servicers don't track real estate trends or update property values. It is ironic that many servicers still don't track real estate trends when maximizing portfolio value, even though false assumptions about current and future property collateral values were a major contributor to the current crisis. The return to borrower credit-based loan underwriting at the core of loan underwriting, with collateral assessment as a backstop in the event of default, is a welcome development. More use of both criteria is necessary to optimize portfolio NPV.

Ideally, servicers would use these inputs to pursue loan modification strategies (shown in lower right quadrant of the exhibit) to lower rates of re-default. However, these are not necessarily best practices. Servicers were initially reluctant to lower interest rates and forbear loan principal, hoping to help bring delinquent borrowers current simply by extending the loan term. This approach hasn't worked. The resulting payment decreases were too small, and many borrowers re-defaulted. Had more lenders and servicers been tracking real estate market trends and updating property valuations and credit scores, they would have lowered interest rates and forborne principal to bring more borrowers current and increase portfolio NPV.

Outlook

Periodically, servicers need to purchase, store, and integrate transaction-level credit, collateral, and loan information to optimize portfolio NPV. Credit information may include traditional credit reports and scores supplemented by credit capacity scores, fraud, and/or bankruptcy scores. This strategy requires database management systems, business rules management systems, and supporting portfolio risk management analytics. Combining loan-level inputs and external market inputs affecting portfolio analysis is a best practice to maximize portfolio NPV.

IV. Integration of Transactional Data to Improve Predictability

The collection and storage of transactional data from loan origination, servicing, and collections processes is done by means of an underlying technology that supports and enables critical credit risk management functions: credit policy review and development, segmented customer approaches, portfolio optimization, risk management, and reporting. Increasingly, leading servicers are integrating this data with predictive analytics to accomplish these functions.

Exhibit 5 (upper part) shows that most credit risk managers surveyed (96%) see the value of integrating cross-organizational data, but 50% don't have the time and resources necessary to make it happen (or haven't made it a priority). Exhibit 5 (lower) shows that only 25% are focusing on this initiative and have significantly increased IT investments to integrate data sources with predictive analytics.

The focus and spending for integration of transactional data with predictive analytics will increase during the next budget cycle. Among the survey respondents, 30% plan a significant increase in IT spending in this area and another 30% plan some spending increase. Two-thirds of servicers that are underinvesting report being resource constrained, a common lament in any business cycle.

Exhibit 5



Integration of Transactional Data With Predictive Analytics

Percentage of Responses

What amount of focus does your organization currently place on implementing integrative systems that pull together information from different business units?

IT Spending Change from Prior Budget Cycle	Current
Significant focus	25%
Reasonable focus	17%
Limited focus	50%
No focus — we haven't found the right solution	4%
No focus — we do not see value in this activity	4%

What level of investment is your organization making in integrating transactional data with predictive analytics?

IT Spending Change From Prior Budget Cycle	Current	Planned
Significant increase	25%	30%
Some increase	42%	48%
Limited increase	33%	22%

Source: FICO/TowerGroup Mortgage Credit Risk Management 2009 Survey

Servicers integrating data with analytics are analyzing a number of mission-critical activities. Of these, 83% are devising proactive credit risk management strategies; 56% can now measure results of prior credit policy decisions and have built a feedback loop from portfolio performance into subsequent decision making.

Outlook

The Mortgage Bankers Association reported that mortgage delinquencies rose to a seasonally adjusted rate of 9.24% of all loans outstanding as of the end of the second quarter of 2009, up 283 basis points from the same period one year ago. Similarly, the percentage of loans in the foreclosure process at the end of the second quarter jumped to 4.30%, an increase of 155 basis points. TowerGroup expects that mortgage

delinquencies and foreclosures will continue rising through 2009 and well into 2010. With these developments, servicers are now acknowledging that high default rates are not going to be a short-term phenomenon and that they need to match this forecast with greater long-term IT spending to integrate transactional data with predictive analytics.

V. Tracking and Analytic Reports

Standard collections reports are well developed. These reports track loan delinquency rates, foreclosure rates, and delinquency "roll" rates (a measure of number of months delinquent). Reports may also track these rates by product and geographic segments. However, some reporting is still based on minimum metric requirements that were appropriate for more stable environments than the current market. Servicers now need to enhance reporting to track collections program types, including new government and investor (GSE, FHA) loan modification, forbearance, and refinance programs. Program tracking also requires calculating and forecasting re-default rates.

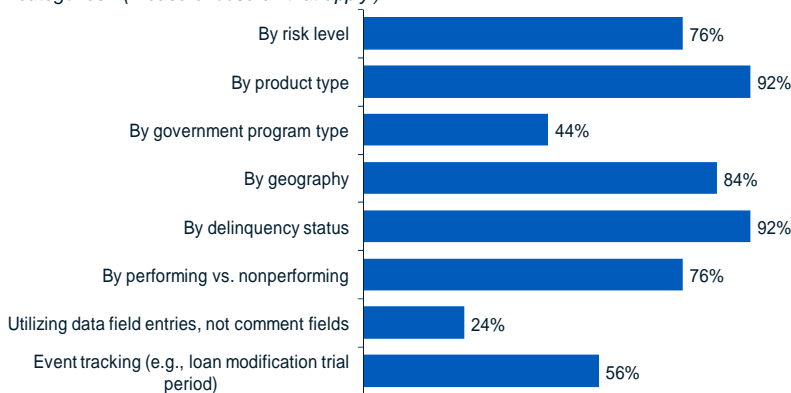
Exhibit 6



Types of Reports That Servicers Create to Assess Risk Across Borrower Categories

(Percentage of Responses)

What types of reports does your organization create to effectively assess risk across borrower categories? (Please choose all that apply.)



Source: FICO/TowerGroup Mortgage Credit Risk Management 2009 Survey

Exhibit 6 shows the types of reports that servicers currently use to assess credit risk. Seventy-six percent or more of servicers have all standard reports. They also need "risk-layering reports," more finely stratified reports that can drill down to two, three, or more of the reporting categories. This is critical for pinpointing the riskiest loans, such as high-LTV subprime ARM mortgages in Orange County, California.

Servicers are still developing reporting for government loan modification and refinance programs. Most have creating ad hoc, manual reporting to quickly meet the requirements of regulators and mortgage investors. Forty-four percent recognized the urgency of this high-profile government program reporting and have already automated it.

Event tracking is a critical operational component of loan modification, forbearance, and loss-mitigation reporting. Activities include identification of at-risk borrowers, client outreach contacts, client inquiries, analysis of eligibility for a forbearance program, forbearance program application, promises to make payment, and program completion. Event tracking enables servicers to determine how well programs are performing, make faster program changes, improve reporting, and respond better to senior management and external regulators. Fifty-six percent of servicers have automated event tracking.

Another innovative analytic and reporting trend is to mine free text "memo fields" (not just machine-readable data fields) for important event and borrower behavioral information. A best practice is to analyze this unstructured data, detect patterns, and make better decisions. For example, servicers can track events such as delinquent borrowers' promises to pay, which enables modelers to correlate borrowers' comments and situations with their likelihood to repay or default. Twenty-four percent of firms surveyed use these techniques.

Outlook

Firms have not been focusing on new reporting to assess risk at loan origination more profitably, perhaps because credit risk is being managed very conservatively through newly restricted or tightened loan underwriting guidelines. Nor have most firms yet enhanced portfolio risk management reporting to facilitate loan or servicing asset buy/sell/hold decisions, perhaps because asset trading is so low. But firms need to improve portfolio risk management for a wide variety of strategic and operational activities, including loss forecasting and loss reserving, credit policy change, loan underwriting, financial risk management, stress testing, regulatory and rating agency reporting, and loan pricing. Doing so will help firms outperform the market.

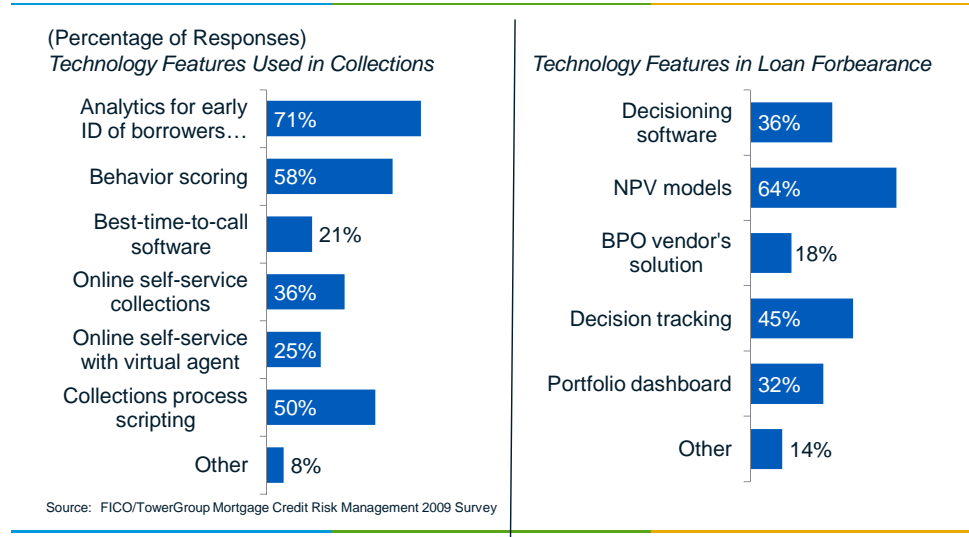
VI. Validation of Collections Best Practices

Validation of collections best practices refers to comparing the rates of adoption of collections management systems and processes that servicers currently use. These include all types of systems, including operational systems to process individual delinquent mortgages and make decisions on forbearance and loss mitigation alternatives, business process outsourcing (BPO) solutions, and portfolio analysis and reporting. Exhibit 7 reveals technology adoption rates of (at left) traditional loan collections practices and (at right) newer functionality used in mortgage loan modifications since the beginning of 2008.

Exhibit 7



Validation of Loan Collections Best Practices



Consistent with mortgage credit risk management best practices discussed in Section II, Early Identification of Borrowers at Risk, over two-thirds of credit risk managers are using portfolio analytics for early identification of borrowers at risk. The majority of these managers work for institutions among the top 25 servicers. However, far fewer are able or willing to act on this information. For example, only 36% are currently able to prioritize and target those customers with loan products that are about to reset. Further, 23% report that their institutions focus only on customers who are delinquent already. This means the remaining servicers are aware of the size of their portfolio problems but are unable to initiate (or not interested in initiating) a customized plan to do something about it.

Many firms surveyed are well prepared when commencing interaction with delinquent borrowers. They use behavioral scoring and automated scripting to determine borrowers' behavior, estimate risk, and manage loan-forbearance programs. However, a minority of firms surveyed are using more innovative technology and analytics to implement best practices.

For example, 38% have implemented online collections self-service, which enables borrowers to research their collections options, interact with the collections department, and monitor their payments. These systems can shrink staffing requirements for the collections call center. Some leading servicers augment online self-service with an integrated virtual agent (online e-mail chat or live call-back feature) that further encourages otherwise reluctant borrowers to contact the servicer to discuss alternative

payment options. Other leading servicers use best-time-to-call software to increase borrower contact rates, promises to pay, and forbearance program participation.

Servicers have long used technology to manage loan forbearance programs, but they are increasingly adapting and adding technology for loan modification programs (loan modification having occurred very infrequently before 2008). Two-thirds are using NPV software to automate required borrower eligibility guidelines for government loan-modification programs. Only 36% are using decisioning technology to compare alternative loan forbearance programs and decide on the optimal program option. Most servicers still do this task manually, which may be acceptable if experienced collectors are making the decision. Otherwise, additional manual analysis by a separate employee is necessary to make program option decisions.

Among newer areas of technology investment, 18% of firms are using BPO vendor solutions to manage the rising volumes of delinquent mortgages. Many experienced mortgage BPO vendors have targeted this market opportunity in 2009.

Portfolio business intelligence reporting applications ("dashboards") have been available for years but have been little used in credit risk management until recently. This function leverages the integration of data and analytics to present reporting and analysis in a more visual and flexible way. Dashboards represent a major advance over static paper reports or PDF formatted electronic data reports, which lack visualization and search capabilities to find specific items of interest. Now that management has realigned with more focus on credit risk management, demand for portfolio dashboards has increased dramatically and is likely to rise significantly from the current 35% adoption rate.

Outlook

Standard technologies for managing loan collections are necessary but not sufficient for managing the current long-term wave of new mortgage defaults. Leading servicers are now applying technologies that are well established in other areas of financial services. These include decisioning software, portfolio dashboards, online self-service collections, and best-time-to-call software. The cost/benefit and return on investment (ROI) analyses used to decide on new system implementation have swayed in favor of purchasing these technologies. An increasing number of firms will also use mortgage BPO vendor solutions as a faster and better alternative to hiring additional staff and developing new IT systems.

Conclusion

The mortgage credit risk management function now has a permanent seat at the executive management table and will have a bigger say in the future when lenders make volume and revenue decisions during boom markets. The findings in this FICO Mortgage Credit Risk Manager's Best Practices Handbook demonstrate that credit risk

assessment needs revamping across the consumer credit life cycle, which touches people, processes, and technology. Revamping should start with re-evaluating traditional assumptions about credit risk, credit product features, and default, employee training, and new analytic tools and technology.

This Handbook will help credit risk managers differentiate between standard and best practice policies and technology. It empowers credit risk managers by providing them information with which to clarify internal lender discussions about the types of technologies and levels of IT spending necessary to manage existing credit risk challenges and establish a more profitable future.



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