

# Cost to Originate Study: How Digital Offerings Impact Loan Production Costs



# **Table of Contents**

Introduction	4
Summary Findings	5
Detailed Findings	6
Conclusion and Learnings	17
Sources and Methodology	18

## **Overview**

The cost to originate a loan remains one of the key performance drivers for lenders. It often raises questions around ways to better control cost fluctuations and strategies lenders must consider to drive efficiencies and improve costs.

This study shows that the most effective companies—those exhibiting both lower costs and reduced cycle times—all use digital offerings at a high rate. The insights and strategies gathered in this study can help improve lender efficiencies, reduce costs, shorten production cycles, promote growth, increase customer satisfaction and improve pull-through rates.



### Introduction

The mortgage industry experienced an extraordinary year in 2020. Historically low rates drove lenders' origination volume to more than \$4 trillion in 2020. Even with the various challenges the industry and consumers experienced due to the COVID-19 pandemic, 2020 origination volume was the highest level the market had seen in the past 17 years. The ramp up in mortgage production drove record high lender profits across the majority of industry participants.

However, as mortgage volumes start to subside and shift more toward purchase market activity, lending institutions will be faced with intensified competition and compressed margins. A challenge that most mortgage lenders are now facing is how to remain cost effective no matter the macroeconomic environment. While lenders are looking for ways to establish leaner operating processes to mitigate this risk, increased automation has certainly been identified as a key component. Despite the advances in automated loan production processes, reducing increasing origination costs are a key focus for most lending institutions. Finding long-term solutions to reduce both time and production costs is imperative for lenders who want to survive and thrive amidst the current macro market-driven headwinds.

Freddie Mac's Cost to Originate Study: How Digital Offerings Impact Loan Production Costs provides insights into one of the industry's main efficiency measures – lenders' loan production costs – and the factors that help control and improve them. While loan origination costs vary depending on several factors such as the macroeconomic environment, level of technology adoption, loan characteristics, and staff experience, this study offers strategies to reduce them.

Finding long-term solutions to reduce both time and production costs is imperative for lenders who want to survive and thrive amidst the current macro market-driven headwinds.

# **Summary Findings**

Top Performers	The top cost-effective lenders originate loans nearly three times more efficiently than their bottom counterparts.
Technology Investments	Technology investments are paramount to staying competitive and efficient.
Benefits of High Digital Tool Utilization	Lenders who use partner's digital offerings at higher rates tend to:  Operate at costs that are \$2,200 less per loan  Have production cycles that are five days shorter  Achieve margins that are one percentage point higher
Freddie Mac Technology Offerings—Savings and Gains	An average lender can conservatively accumulate incremental revenue as high as \$3.2 million per year, while achieving greater customer satisfaction.



# **Detailed Findings**

#### **HISTORICAL TRENDS**

Since the financial crisis of 2008, the mortgage industry has evolved in many ways. Mortgage lenders have experienced increased competition with a significant growth in the number of active independent mortgage banks, some of which are the top-volume producing players. Rapid advancements in technology drove more financial technology (fintech) companies to become a part of the housing ecosystem, bringing with them specialized technology offerings around document gathering, pricing and closing. All these factors—including the heightened compliance requirements resulting from the Dodd-Frank rule in 2010—impacted lenders' loan production margins. According to the Mortgage Bankers Association (MBA) quarterly performance reports data, between Q1 of 2009 and Q1 of 2019, mortgage production costs increased nearly two and a half times, from ~\$3,700 to \$9,300.

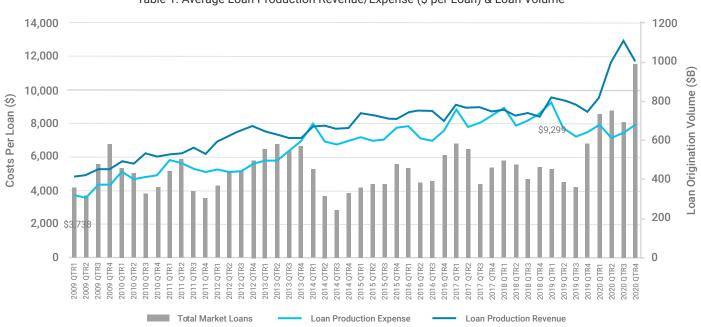


Table 1: Average Loan Production Revenue/Expense (\$ per Loan) & Loan Volume

Source: MBA and Freddie Mac

Although regulatory compliance has certainly played a major role in the above-mentioned ramp up, origination cost <sup>1</sup> increases have impacted process productivity levels in other ways, including:

- Excess capacity occurring during periods of low loan production volume.
- Inefficient loan manufacturing processes.
- Higher technology spends.

Many lending institutions faced real challenges over the past decade due to the growth in production costs, with some even reporting negative incomes. In the first quarter of 2019, the average cost to originate a mortgage had reached record high levels of \$9,300 per loan (see Table 1). The peak was then followed by a decline in production costs per loan, dropping to levels not seen since 2016.

How Are Small Banks Faring under Dodd-Frank? | Mercatus Center



#### **TODAY'S HIGH MARGINS VS. YESTERDAY'S LOW**

Recent historically-low interest rates have helped lenders capture greater returns and reduce costs. Our analysis of the retail-only lenders' financial statements shows that the cost to originate a loan in Q4 2020 averaged approximately \$8,600,² which is more than \$1,200 less expensive when compared with Q1 2019. Furthermore, as seen in Table 2, Q4 2020 net margin of 31% was one of the highest the industry has seen in more than a decade. The reach profit margins seen recently are driven by wider primary-secondary spread lenders are able to capture (in part to manage capacity issues) and benefit from them.

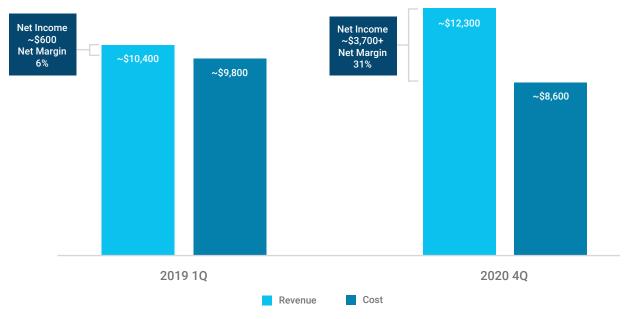


Table 2: Q4 2020 vs. Q1 2019 Average Lenders Financials on Per Loan Basis (100% retail productions)

Source: MBFRF data(N=231)

Note: The chart captures financial information for 100% retail lenders, which is why the expense/cost results noted in table 1 (where the costs are not restricted to lenders that tie to a specific channel) will not tie to the results in table 2.

<sup>&</sup>lt;sup>2</sup> Freddie Mac research data used in this study, leveraged the same source of financial data MBA uses to produce the Quarterly Mortgage Bankers Performance Reports; Any differences across the two sources can be attributed to a small variation in data samples.



The benefits of the low interest rate environment are not only seen in terms of revenue; lender costs have also improved.

During the times of increased mortgage volume activity, per loan production costs tend to go down for several reasons, including that:

- The production of refinance mortgages (that is more dominant than purchase mortgages during the low interest rate environment) tends to be less costly than purchase mortgage production as the process requires less steps and complexity.
- Lenders can achieve significant economies of scale and gains in operating efficiencies.

Despite the various COVID-19 pandemic-related production process challenges, the average production costs in Q4 2020 have not significantly fluctuated from 2019 lows (pre-pandemic levels). Another factor cited by industry participants that helped lenders reduce costs is efficiencies achieved

by process automation driven by technological investments.

Based on our lender sample set, the fintech lenders who accelerate the mortgage lending process using technology from loan application to approval and closing, showcased 13% lower production cost per loan than non-fintech independent mortgage banks (~\$7,900 vs \$9,100 as of Q4 2020).

# Two Reasons Loan Production Costs Decrease During Increased Mortgage Volume Activity



Refinance mortgages are often less costly to produce than purchase mortgages.



Lenders can scale and gain efficiencies.





#### **TOP PERFORMERS**

The average market cost to originate a mortgage for retail-only lenders in Q4 2020 was slightly higher than \$8,500 per loan. However, the top 25% of the most cost-effective lenders managed to achieve per loan costs that were nearly \$4,000 or ~45% less costly, on average. The top performers were also nearly three times more cost-effective than the bottom 25% of lenders in the same category. This underscores that the lower costs and efficiencies achieved by the top performers were in part a product of effective strategies and a greater adoption of digitization.

It is important to note that capacity constraints (or overhead costs) can differ among lenders of different sizes.<sup>4</sup> To help institutions determine their position among the leaders and laggards when it comes to effectiveness of loan production costs, the study further breaks out lenders into large, medium and small lender categories based on their loan production levels.<sup>5</sup>





To present an accurate picture of industry norms and help lending institutions accurately assess their own performance, this study benchmarks lenders using quartile statistical technique. The data is broken out into four quartiles. The first quartile represents an average cycle time achieved by the top 25% performers across lender sample distribution, whereas the fourth quartile represents the average cycle time achieved by the bottom 25% of performers.

<sup>&</sup>lt;sup>5</sup> Large Lenders defined as lenders with total quarterly loan volume greater than \$700M; Medium-size Lenders defined as lenders with total quarterly loan volume between \$350M to \$700M; Small-size Lenders defined as lenders with total quarterly loan volume of less than \$350M;



<sup>&</sup>lt;sup>4</sup> As we recognize that the institution type can be a factor in cost structure of a lending institution, our lender sample size consists mainly of Independent Mortgages banks (90%).

#### → Large Lenders

The top 25% of the most cost-effective large-sized lenders produced loans at a cost of \$6,400, or 2.1 times less expensive than the bottom 25% of companies. Top performers within this category tend to have higher per loan costs when compared with the top performers of medium and small-sized lenders. This is somewhat expected as larger lenders have higher overhead and personnel costs.

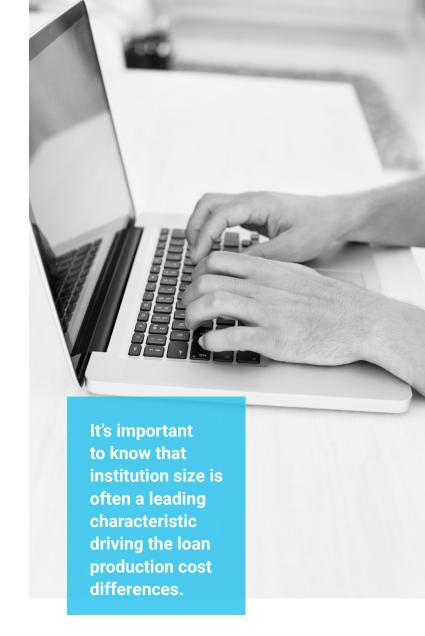
#### → Medium Lenders

The top performers among medium-sized lenders are even more efficient than their large-size counterparts.

#### → Small Lenders

The top 25% of the most cost-effective small-sized lenders produced loans at a cost that is \$9,400 or 3.4 times less expensive than the bottom 25% companies. Small-sized top performers tend to produce loans at lower costs (\$4,000) than medium- and large-sized lender categories, \$5,400 or \$5,900 respectively. There are many factors that may contribute to the lower costs, including lower overhead, marketing and personnel costs.

It's important to know that institution size is often a leading characteristic driving the loan production cost differences. However, factors such as institution type, a mix of refinance versus purchase loans, and different loan types can also impact the loan production cost differences.



Many lending institutions across the industry understand that the trends of lower origination costs will likely be shifting. Freddie Mac's research suggests that there are ways to maintain higher efficiency in the long run.

A better understanding of the components that drive optimal performance of an organization's bottom line is critical. This can help lenders to easily isolate and quickly address any issues or gaps that are driving performance challenges or bottlenecks. One of these categories worth focusing on is technology costs.



#### ARE TECHNOLOGY COSTS A BENEFIT OR A LIABILITY?

A significant number of institutions in the past decade chose to increase their technology spend, which in part, drove up overall loan production costs. For many of these lenders, the investment is strategic in order to remain competitive. Although some industry lending institutions question whether the money spent on technology justifies the returns, our research and the results of lenders that have invested in technology reflect otherwise.

Our Mortgage Cycle Time Benchmark Study revealed that smart technology investment is the most direct path to cycle time improvement, which in turn leads to higher customer satisfaction, less cumbersome and automated processes, and most importantly, cost reductions. Additionally, Forbes "Turning Crisis Into Opportunity" study revealed that digitization of the mortgage process, which is naturally achieved by technology investments, provides a myriad of benefits. Some of the most valuable and visible are lower origination costs, stronger compliance, reduced risk, improved decisionmaking, and improved customer experience. Furthermore, the operational challenges lenders are experiencing during the pandemic are pressuring institutions to push even harder to adopt digital solutions.

We anticipate these changes will have a permanent effect in the way consumers and lenders operate in the market. The fast pace of technological adoption that the industry is observing now will accelerate the transition to incorporating digital tools in every possible stage of the loan application process, which in turn should lead to cost reduction. We forecast that the increased technology spend across the industry will continue to focus on transactional ease, processing speed and reduced costs for every party involved in a mortgage origination transaction. We conclude that continued. enhanced digitization is vital to achieve these results.

It is important to note that to leverage the benefits of digital technology investments, implementation, strategy and spend must be effective.

Our <u>prior study</u> revealed that while the majority of mortgage lenders are increasingly implementing loan process automation capabilities, the top performers set themselves apart by adopting flexible technology that is scalable and structured to incorporate external as well as internal digital platforms and tools. By leveraging the right mixture of tools and technologies, lending institutions can scale to manage demand shifts, reduce time to close, improve customer service and reduce costs.

While coming up with the appropriate technology/digital cost investment strategy, it is important to consider partnerships that can offer tangible benefits by leveraging their digital and automated solutions.

Smart technology investment is the most direct path to cycle time improvement.



### HIGH USAGE OF FREDDIE MAC TECHNOLOGY TOOLS AND OFFERINGS DRIVES LOWER COSTS AND HIGHER MARGINS

A way for companies to achieve sizable cost to originate savings is to integrate partners' digital and automated tools into their operations.

Freddie Mac Loan Product
Advisor® (LPASM) delivers several
automated solutions that provide
the above benefits, including
automated collateral evaluation
(ACE) appraisal waivers —
allowing lenders to originate
certain loans without an
appraisal — and asset and income
modeler (AIM) — providing a way
for lenders to leverage thirdparty verified data to automate
their assessment of a borrower's
capacity to repay a loan.

To better understand how digital offerings can benefit lenders, we compared the performance of retail-only lenders that delivered

Source: MBFRF, Freddie Mac LPA data

loans to Freddie Mac in Q4 2020 and used Freddie Mac solutions at different levels (higher take rate versus lower take rate)<sup>6</sup>. Our analysis show that the set of lenders who leveraged Freddie Mac technology offerings at a higher rate have shorter cycle times, lower costs, and better margins than the lenders who used Freddie Mac technology offerings at a lower rate.

#### Consider that:

- During the Q4 2020 period, average origination cost per loan for the set of lenders with higher take rate was ~22% or \$2,200 less costly than for the lenders with lower take rate.
- Lenders with higher take rate also tend to show higher margins (34% vs 33%).
- Freddie Mac-approved lenders with a higher take

rate have on average five-day shorter loan production cycle times, an improvement of 8%.

## Benefits of Automating Historically Manual Processes

- A hassle-free, faster and lower-cost experience for borrowers.
- Increased operational efficiency.
- Reduced cost to originate.
- Greater secondary-market purchase eligibility.
- Up-front quality control.
- A reduction in loan data errors.
- Documentation/processing relief.
- Reduction in loan repurchases.
- · Accelerated cycle times.

Technology Tool Offerings Take Rate				
	High	Low	Variance	
Origination Cost Per Loan	~\$7,600	~\$9,800	~\$2,200 less	
Net Margin	34%	33%	1% point more	
Mortgage Cycle Time	~48 days	~53 days	5 days shorter	

Lenders with high usage of digital offerings (higher take rate) defined as those that leverage Freddie Mac technology offerings (i.e. AIM, ACE, etc) for at least 85% of all the volume sold to Freddie Mac in a given time period. Lenders with low usage of digital offerings (lower take rate) defined as those that leverage Freddie Mac technology offerings (i.e. AIM, ACE, etc) on less than 65% of all the volume sold to Freddie Mac in a given time period. The take rate ranges were based on tool usage statistical distribution across Freddie Mac lender base.



#### SAVINGS AND GAINS LEVERAGING TECHNOLOGY

We have so far focused on the total cost per loan impact across the market and lender categories. Each phase of the loan origination process, from prequalification to loan delivery, contains tangible time components that influence total costs. To help identify specific savings opportunities and cost line items that can be controlled by lenders through the loan origination process, this study further examines specific cost and revenue line-item savings and gains that partner technology offerings can produce. We also further evaluate the impact each offering has on lenders' financials.

#### **Personnel Cost Savings**

Fulfillment is one of the key operational functions where Freddie Mac's automated offerings can make a difference by streamlining and simplifying the process and reducing the loan documentation burden. This would in turn reduce the tasks and activities performed by operators (for example, processors and/or underwriters) and reduce personnel expenses.

According to Freddie Mac's analysis of lenders' mortgage industry compensation and loan operations data, we have estimated that every hour eliminated performing specific processing and underwriting tasks for a given loan results in cost savings of \$132 per loan.



Note: Fully loaded paid hourly cost total comp + benefits + space / tech / corp. overhead allocation) / 75% assumed utilization rate (productivity per paid hour) x actual time eliminated performing specific processing or UW tasks (generally 1-2 hours)

We estimate that between processor and underwriter, the time they will spend to get the customer's W2 or other financial statements, and the time that the underwriter will use to underwrite them, will be between one and two hours. To help further understand and compare potential cost benefits with higher accuracy, this



study breaks out the productivity savings by Freddie Mac's technology offerings. By leveraging technology offerings, an average lender can save as much as  $\sim$ \$300 per loan just on personnel expenses (see Table 5).

Table 5: Break out of Personnel and	Cycle Time Cost per	Loan Savings by Te	chnology Offering
Table 5. break out of 1 ersonner and	Cycle Tille Gost per	Loan Savings by Te	chinology offering

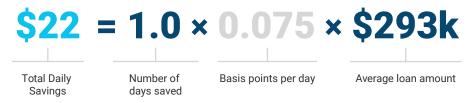
	Personnel Benefit		Cost of Funds Benefit		
	Processing Time/ Underwriting Time (Hrs)	Productivity Save (\$)	Cycle Time Saved (Days)	Time In Process Saved (\$)	Total Savings (\$)
ACE	1.0	\$132	14	\$299	\$431
AIM	1.0	\$132	8	\$167	\$299
ACE + AIM	2.0	\$265	18	\$388	\$653
CRWR	1.0	\$112	5	\$112	\$223
CRWR + AIM	2.0	\$244	10	\$224	\$468

Source: Freddie Mac LPA data

Note: Automated Collateral Evaluation (ACE) provides sellers with the option to waive the appraisal requirements for certain Loan Product Advisor® mortgages. Loan Product Advisor asset and income modeler (AIM) is a solution for automating the manual processes of assessing borrower assets and income; Collateral rep and warranty relief (CRWR) may be offered with Loan Product Advisor's automated collateral evaluation capability which provides the option to waive the appraisal requirement on certain loans.

#### Cycle Time /Cost of Funds Savings

Effective use of technology solutions can also help lenders process loans faster, which also can improve operating costs. Based on our Q4 2020 assessment of Freddie Mac's technology offerings (such as AIM, ACE appraisal waivers, and CRWR), mortgages with digital/technology offerings can produce up to 18 days of savings in closing cycle time. As our prior studies show, faster mortgage cycle time helps lending institutions reduce carrying funds cost and hedging costs. Our analysis of Freddie Mac loan delivery data revealed that a day reduction in mortgage production can save a company using digital offerings 0.075 basis points. In other words, for every day saved a lender can reduce its costs by \$22 per loan (see exhibit below). It's important to note that the carrying costs will only continue to grow when home prices keep appreciating and loan balances become larger.



While the above formula view is based on the daily savings across Freddie Mac's technology offerings, the cycle time savings can vary between five and 18 days. As seen in Table 5, the cycle time savings could result in cost savings between  $\sim$ \$100 and  $\sim$ \$400 per loan. Note that the time savings can vary depending on the economic cycle.

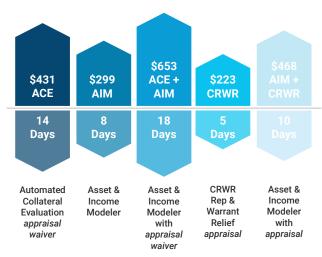
The cycle time estimates are based on an average cycle time saves observed between the periods of Jan 2020 and Aug 2021; Our research found that high volume seen in 2020 caused significant cycle time delays and diluted the impact Freddie Mac tools can produce.



#### **OVERALL COST SAVINGS**

Based on Freddie Mac's latest estimates, a lender can save between ~\$200 and ~\$700 per loan in personnel and costs of funds-related expenses by leveraging partners' technology offerings, while the cycle time production-related savings can vary from five to 18 days.

Table 6: Total Cost per Loan and Cycle Time Savings by Technology Offering



Source: Freddie Mac LPA data

#### **Gains**

So far, our exploration has been focused on mortgage cycle time savings leading to cost reduction. However, reduction in cycle time can also lead to improvements in pull-through rates and more efficient resource allocation, which subsequently will result in incremental revenue and higher customer satisfaction.

#### Pull-Through Rate and Revenue Gains

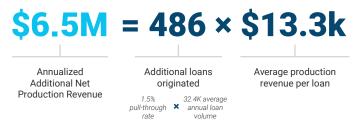
As noted previously, effective use of technology offerings can help process loans faster. For every day saved in cycle time, there is an additional loan volume capacity that could be captured (which can be translated into incremental pull-through rate).

According to Freddie Mac's calculations of mortgage lenders' operations data, for every calendar week (seven days) there are 1.5% of applications that complete the origination cycle through to close. This savings amounts to additional loans annually for every week saved in closing time. And with higher loan counts comes higher revenue. These incremental gains will depend on days saved, the size of an institution and the macroeconomic environment.

For instance, for a large institution with sizable capacity, the estimated count of additional loans that could be captured annually for every week saved in closing time would amount to 486 loans, which translates to approximately \$6.5 million in incremental revenue. The gains that medium and small-sized lending institutions can capture are relatively smaller, but still considerable (\$1.4 million and \$0.5 million for medium and small lenders, respectively).



#### Large Size Lenders



#### **Medium Size Lenders**



#### **Small Size Lenders**



The revenue benefits may vary depending on market conditions, the level of economies of scale an institution can achieve, company strategy, and capacity constraints.

While the examples to the left show the cumulative revenue impact based on seven days worth of savings across lender sizes, the day saves can fluctuate between five and 18 days.

The table below illustrates an average annualized incremental gain that lenders of different sizes are able to capture both cumulatively and by technology offering.

#### **Customer Satisfaction**

As consumer expectations have increased across the board, lenders leveraging digital capabilities are in a better position to compete for business and experience higher customer satisfaction. Having a seamless process and shorter cycle time drives higher customer satisfaction, and that satisfaction can translate into additional referrals and higher loyalty. Although we are evaluating the impact of higher satisfaction-driven referrals on the mortgage pull-through rate, higher customer satisfaction has been proven to produce additional/incremental revenue across industries. Our research in this space is ongoing, but anecdotal evidence suggests that such an impact exists.

Table 7: Average Annualized Revenue Gains by Technology Offering

		Additional Net Production Revenue (\$)*			
	Days Saved	Large Size Lender	Medium Size Lender	Small Size Lender	Average
Cummulative Impact		\$10.2M	\$2.3M	\$.8M	\$3.2M
ACE	14	\$8.6M	\$1.9M	\$.7M	\$2.7M
AIM	8	\$11.4K	\$2.5K	\$.9M	\$3.5K
ACE + AIM	18	\$100.3K	\$22.4K	\$8K	\$31.1K
CRWR	5	\$1.4M	\$.3M	\$.1M	\$.4M
CRWR + AIM	10	\$12.9K	\$2.9K	\$1K	\$4K

Source: MBFRF, Freddie Mac LPA data

<sup>\*</sup>The revenue impact by offering can vary based on the loan count distribution across offerings

# Conclusion and Learnings

Historically low interest rates and continuous investment in technology in 2020 have helped lending institutions capture greater returns while achieving lower per loan costs.

We anticipate that rising mortgage rates, stronger competition and increasing purchase activity among a borrower base that is more tech savvy will drive market shifts. These include compressed margins, lower revenues, higher purchase activity and consumers' preference for a digital experience. As these factors can impact production costs, finding ways to manage efficiencies is critical. Although technology innovations can be expensive and difficult to track immediate returns, the benefits outweigh the potential challenges.

#### Based on our findings:

 Technology can reduce inefficiencies in the loan production process with benefits to both lenders and borrowers.

- when adopting and implementing a digital strategy, it is key to have a well-executed and well-integrated implementation plan that successfully engages customers as well as partners with technology solutions.
- Freddie Mac technology
   offerings can deliver
   substantial cost savings
   and revenue benefits for
   lenders of all sizes. As
   such, mortgage lending
   executives should carefully
   consider technology tools
   and offerings from industry
   partners when deriving their
   company's strategy.

As Freddie Mac monitors the progress of the market and digitization, best practices across the mortgage market ecosystem continue to emerge.

The combination of technology, partnerships and well-planned implementation strategies are vital for lenders to maximize their ability to lower costs and shorten cycle times.

### SOURCES AND METHODOLOGY

**WebMB (MBA source):** The underlying company data are derived from the Quarterly Mortgage Bankers Financial Reporting WebMB Form (MBFRF), through a joint agreement with MBA, Freddie Mac, Fannie Mae and Ginnie Mae. Independent mortgage companies are required to submit quarterly MBFRF data to the agencies and have the option of releasing their data to MBA for use in aggregate industry statistics.

**Mortgage Bankers Performance Reports:** The quarterly and annual performance reports provide current data on the revenues and expenses associated with the origination and servicing of one- to four-unit residential mortgage loans. Detailed information on production and servicing volume mixes by product type is also included.

**Freddie Mac LPA** is Freddie Mac's automated underwriting system. It gives users access to Freddie Mac's credit requirements, allowing users to easily identify the overall underwriting risk.

#### **Lender Calibration**

	Sample Size	
Total Lending Institutions		231
Institution Sizes	Large Institutions Lenders in MBFRF data whose total 2020 4Q loan volume is greater than 700M	66
	Medium Institutions Lenders in MBFRF data whose total 2020 4Q loan volume is between 350M and 700M	61
	Small Institutions Lenders in MBFRF data whose total 2020 4Q loan volume is less or equal than 350M	104



Prepared by the Single Family Market Research and Insights, Technology Solutions Yana Davidovich, Director of Market Research and Insights Ning Kang, Senior Data Scientist KT Thomas, Senior Director of Marketing Analytics, Market Research and Insights Sudamys Alfonso, Director of Lender Strategy & Integration

#### The authors would like to thank

Kevin Kauffman, Andrew Higginbotham, Cecilia Herrick Reynolds, Courtney Bedrin, Jodi Eberhardt, Kristy Vagts George, Robert Reynolds, Ashley Gillespie, Emmanuel Tsikoudakis and Carissa Hampton for their contribution to the study

#### To learn more:

Visit sf.freddiemac.com

