Mortgage Lender Sentiment Survey Questionnaire
Quarterly Tracking Study – Q3 2023

/* DISPLAY */ Welcome to the *Mortgage Lender Sentiment Survey®,* a survey conducted by Fannie Mae among senior mortgage executives like you to gather your views and experience with the mortgage market.

We have shortened the survey to 5 minutes, with this survey and each subsequent survey focusing on one key topic to best highlight the specific opportunities and challenges facing the mortgage industry. Your participation is critical to ensure that the survey data provide a credible peer-driven view of mortgage industry trends.

The information you provide in this survey will be kept confidential. Fannie Mae personnel will not have access to the names or identities behind the individual response data. In addition, survey responses will be collected and analyzed by a third-party research vendor that will produce aggregated results to ensure objectivity and anonymity.

Thank you for taking part in this survey, your participation is greatly appreciated.

NHS Tracking

/* DISPLAY */ This first series of questions asks about the overall economy and mortgage lending industry nationwide. We're specifically interested in your opinion as a senior mortgage executive.

/* Q1 */ In general, do you, as a senior mortgage executive, think the U.S. economy overall is on the right track or the wrong track?

1) Right track
2) Wrong track
3) Don't know

/* Q1A */ Do you think it is very difficult, somewhat difficult, somewhat easy, or very easy for consumers to get a home mortgage today?

1) Very difficult
2) Somewhat difficult
3) Somewhat easy
4) Very easy
5) Don't know

/* Q2 */ Nationally, during the next 12 months, do you, as a senior mortgage executive, think home prices in general will go up, go down, or stay the same as where they are now?

1) Go up
2) Go down
3) Stay the same
4) Don't know

/* **Q4a** */ **## IF Q2=C1 ##** By about what percent do you, as a senior mortgage executive, think home prices nationally will go up on average over the next 12 months? /* **OPEN END NUMERIC (0 TO 100)** */

/* **Q5a** */ **## IF Q2=C2 ##** By about what percent do you, as a senior mortgage executive, think home prices nationally will go down on average over the next 12 months? /* **OPEN END NUMERIC (0 TO 100)** */

Rotating Questions – Artificial Intelligence

/* **DISPLAY** */ Artificial Intelligence (AI) performs tasks that mimic human intelligence, such as visual perception, speech recognition, language translation, and reasoning and decision-making (e.g., chatbots and virtual assistants). AI with machine learning (ML) capabilities also have the ability to process large amounts of data (structured and unstructured) from various sources, use statistical and computer models, recognize patterns in the data, identify opportunities or risks, and provide insights.

Major areas of AI/ML application to the mortgage industry may include automating and streamlining manual processes, detecting fraud and anomalies, assessing and managing risk, predicting loss/default, enhancing cybersecurity, analyzing customer behavior, improving communication; and personalization.

/* **QR501** */ How familiar are you with AI (Artificial Intelligence) or ML (Machine Learning) applications as specifically applied to enhancing your business processes for mortgage production and/or servicing? /* **RANDOMLY REVERSE CHOICES** */

1) Very familiar
2) Somewhat familiar
3) Not very familiar
4) Not familiar at all
5) Don't know/Not sure /* **DO NOT ROTATE** */

/* **QR502** */ Which of the following statements best describes your firm's usage of AI or ML solutions for your mortgage production and/or servicing? /* **RANDOMLY REVERSE CHOICES** */

1) We have not yet looked into AI/ML solutions for our mortgage business.
2) We have started investigating AI/ML solutions, but have not yet used any, for our mortgage business.
3) We have started deploying AI/ML solutions, but on a limited or trial basis, for our mortgage business.
4) We have deployed AI solutions and incorporated some of the tools into our current mortgage process.

/* **QR503** */ **## IF QR502=3-4 (USES AI/ML) ##** You mentioned that your firm has started using AI/ML tools for your mortgage production and/or servicing. In the space provided below, can you share with us some specific functions as examples for which your firms uses AI/ML technology for mortgage lending and/or servicing? (Optional) /* **OPEN END 1 BOXES 0 REQ** */

/* **QR504** */ **## IF QR502=3-4 (USES AI/ML) ##** Which of the following best describes your firm's primary objective in exploring AI/ML tools for your mortgage production and/or servicing? Please choose one. /* **RANDOM ROTATE CHOICES** */

1) Reduce human error

2) Enhance consumer/borrower experience
3) Better control risks
4) Improve operational efficiency
5) Other, please specify **/* SPECIFY */ /* DO NOT ROTATE */**

/* METRIC A */ ## IF QR502=1-2 (DOES NOT USE AI/ML) ## Earlier you mentioned that your firm has not used AI/ML applications. Listed below are some possible challenges companies might face in implementing AI/ML applications. Please select up to two of the biggest challenges for your firm and rank them in order of importance.

/* RANDOM ROTATE CHOICES */

1) Costs too high
2) Lack of proven record of success (concerns over AI/ML accuracy)
3) Concerns with data quality or availability
4) Complexity of integrating AI/ML applications with our existing infrastructure
5) Concerns with data security (data breach) and privacy
6) Challenges of getting consumer consent to use their data
7) No ideas about what to do with AI/ML or where to start
8) Concerns with the potential for AI/ML to come up with biased or discriminatory results
9) Lack of overall technology strategy at my firm
10) Lack of necessary staff skills
11) Other, please specify **/* SPECIFY */ /* DO NOT ROTATE */**

/* GRID */ ## ALLOW RESPONDENTS THAT ARE SHOWN GR506 TO ADVANCE WITHOUT ANSWERING QR506, AND DO NOT ALLOW THE SAME AC FOR METRIC A IN BOTH QR505 AND QR506 ##
/* QR505 */ Biggest Challenge **## IF QR502=1-2 (DOES NOT USE AI/ML) ##**
/* QR506 */ Second Biggest Challenge **## IF QR502=1-2 (DOES NOT USE AI/ML) ##**
/* END GRID */

/* QR508 */ ## IF QR502=1-2 AND QR506 IS ANSWERED ## Could you share some details about how or why "**## INSERT FROM QR505 ##**" and "**## INSERT FROM QR506 ##**" are big challenges for your firm? (Optional) **/* OPEN END 1 BOXES 0 REQ */**
IF QR502=1-2 AND QR506 IS NOT ANSWERED ## Could you share some details about how or why "**## INSERT FROM QR505 ##**" is a big challenge for your firm? (Optional) **/* OPEN END 1 BOXES 0 REQ */**

/* QR507 */ What do you think the status of your firm's adoption of AI/ML applications for your mortgage production and/or servicing will be in two years? **/* RANDOMLY REVERSE CHOICES */**

1) Not consider usage
2) Wait and see
3) Investigate usage
4) Use on a trial basis
5) Roll out more broadly

/* QR509 */ In general, in your view, what is the biggest risk in using AI/ML applications for your mortgage production and/or servicing? Please choose one answer. **/* RANDOMLY REVERSE CHOICES */**

1) Cybersecurity

2) Misinformation
3) Bias and discrimination (either through design or through unintended new forms of bias)
4) Privacy and security concerns related to use of consumer sensitive information
5) Job displacement
6) Lack of transparency and accountability
7) Other, please specify **/* SPECIFY */ /* DO NOT ROTATE */**
8) No big risk **/* DO NOT ROTATE */**

/* METRIC A */ In this section, you will see some AI application ideas that your firm might leverage in the future to improve (e.g., streamline) its mortgage business processes. Some ideas do not exist yet or may require industry-wide adoption.

Among the ideas listed below, in your view, which would be the two most appealing ideas for your mortgage business? Please select up to two and rank them in order of appeal.

/* RANDOM ROTATE CHOICES */

1) **AI-based Virtual Assistant:** Enable AI systems to interact directly with consumers and business partners like humans via text or voice to assist with various tasks (e.g., answering questions, guiding users through processes, or executing commands)
2) **AI-based Compliance Review:** Have AI systems monitor compliance on an ongoing basis and automate the review of documents to identify potential compliance risks
3) **AI-based Mortgage Loan Offerings:** Have AI systems examine all available information or data (financial, rent payment history, and non-financial) to offer custom loan structures that meet consumer needs (e.g., loan amount, length of loan, or down payment %)
4) **AI-based Property Valuation:** Have AI systems examine all available information or data (e.g., crime rates, psychographics of residents in the neighborhood, or insurance records) to assess property value
5) **AI-based Borrower Default Risk Assessment:** Have AI systems examine all available information or data (financial and non-financial such as social media activities) to predict the probability of borrower defaulting on the loan to allow lenders to take proactive steps
6) **AI-based Borrower Prepay (move/refinance) Assessment:** Have AI systems examine all available information or data (financial and non-financial such as social media activities) to predict the probability of borrower refinancing or retiring the loan (due to move or home sale)
7) **AI-based Anomaly Detection Automation**: Enable AI systems to process data from various sources to identify fraud or detect defects early in the underwriting process

/* GRID */ ## ALLOW RESPONDENTS TO ADVANCE WITHOUT ANSWERING QR511, AND DO NOT ALLOW THE SAME AC FOR METRIC A IN BOTH QR510 AND QR511 ##
/* QR510 */ Most appealing
/* QR511 */ Second most appealing
/* END GRID */

/* METRIC A */ Now, among the ideas you did not select as the top ideas, which one is the LEAST appealing?
/* RANDOM ROTATE CHOICES */ ## ROTATE IN THE SAME ORDER AS GR510 ##

1) **## IF Q510!=1 AND Q511!=1 ## AI-based Virtual Assistant:** Enable AI systems to interact directly with consumers and business partners like humans via text or voice to assist with various tasks (e.g., answering questions, guiding users through processes, or executing commands)

2) **## IF Q510!=2 AND Q511!=2 ## AI-based Compliance Review:** Have AI systems monitor compliance on an ongoing basis and automate the review of documents to identify potential compliance risks

3) **## IF Q510!=3 AND Q511!=3 ## AI-based Mortgage Loan Offerings:** Have AI systems examine all available information or data (financial, rent payment history, and non-financial) to offer custom loan structures that meet consumer needs (e.g., loan amount, length of loan, or down payment %)

4) **## IF Q510!=4 AND Q511!=4 ## AI/ML-based Property Valuation:** Have AI systems examine all available information or data (e.g., crime rates, psychographics of residents in the neighborhood, or insurance records) to assess property value

5) **## IF Q510!=5 AND Q511!=5 ## AI/ML-based Borrower Default Risk Assessment:** Have AI systems examine all available information or data (financial and non-financial such as social media activities) to predict the probability of borrower defaulting on the loan to allow lenders to take proactive steps

6) **## IF Q510!=6 AND Q511!=6 ## AI/ML-based Borrower Prepay (move/refinance) Assessment:** Have AI systems examine all available information or data (financial and non-financial such as social media activities) to predict the probability of borrower refinancing or retiring the loan (due to move or home sale)

7) **## IF Q510!=7 AND Q511!=7 ## AI/ML-based Anomaly Detection Automation**: Enable AI systems to process data from various sources to identify fraud or detect defects early in the underwriting process

/* GRID */
/* QR512 */ Least appealing
/* END GRID */

/* QR513 */ What AI applications would you recommend the GSEs to develop to help the mortgage industry? Please share your thoughts. (Optional) **/* OPEN END 1 BOXES 0 REQ */**

/* Q43 */ This is the last question. Are there other topics that you think would be interesting or useful to be included in the future survey among senior mortgage executives like yourself? (Optional) **/* OPEN END 1 BOXES 0 REQ */**

/* DISPLAY */ This now completes the survey. We really appreciate you taking the time to contribute to this important industry research.

You can find the previous studies on the Mortgage Lender Sentiment Survey® page on FannieMae.com.

Please note that responses to the survey questions will be aggregated and analyzed solely to identify important topics, trends, and issues surrounding the mortgage industry. To ensure the confidentiality of the survey, Fannie Mae personnel will not have access to the names or identities behind the individual response data.

At this point, you may close your browser window or **click below** to enter your email address if you would like to receive a copy of this special-topic survey report when it's released. To ensure that your survey responses remain anonymous, after clicking on the link you will be directed to a separate website to enter your email address.