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| **Category** | **Use Case** | **Description** | **Tools / Technologies** | **Business Benefit** |
| Origination | Digital Application Intake | Online mortgage application form | Web portal, mobile app | Fast, paperless onboarding |
| Pre-Qualification & Pre-Approval | Instant eligibility checks based on credit and income | Rules engine, credit bureau APIs | Higher lead conversion |
| Document Upload & OCR | Scan, extract, and verify identity/income docs | OCR, e-KYC, document verification APIs | Reduces manual effort |
| Credit Score Pull | Fetch credit score from bureaus | Experian, TransUnion, Equifax APIs | Risk-based pricing |
| Product Recommendation | Suggest best-fit mortgage products | ML recommendation engine | Personalized offers |
| Application Tracking | Monitor borrower progress | CRM, LOS dashboards | Improves engagement |
| E-signature Integration | Electronically sign loan documents | DocuSign, Aadhaar eSign | Enables remote loan closure |
| Sanction Letter Generation | Create approval document with terms | Template engine, PDF gen tools | Formal communication of approval |
| Underwriting | Credit Risk Scoring | Assess applicant risk based on credit score and profile | Scorecards, ML classifiers | Informed decision making |
| Income & Employment Verification | Validate income via documents or third-party data | Plaid, The Work Number, income APIs | Prevents fraud |
| DTI, LTV, FOIR Calculations | Key ratios used in loan decisioning | Rules engine, financial calculator | Core underwriting metric |
| Automated Underwriting (AUS) | Auto-decision based on risk thresholds | Rule engine, ML model | Fast, scalable underwriting |
| Conditional Approval Workflow | Request missing documents or clarifications | LOS task management | Keeps borrower in pipeline |
| Manual Exception Handling | Override rules for special cases | LOS dashboard | Flexibility in underwriting |
| Property  Property Valuation | Automated Valuation Model (AVM) | Auto-estimate property value | Zillow API, CoreLogic AVM | Speed and scalability |
| Manual Appraisal | In-person property assessment | Appraisal management systems | Regulatory necessity |
| Title Search & Verification | Check for legal ownership and liens | Title agency APIs | Prevents future disputes |
| Risk-based Location Pricing | Adjust pricing for flood zones, etc. | GIS, FEMA risk zones | Accurate pricing |
| Servicing | EMI Collection & Posting | Monthly payment management | Core banking, payment gateway | Reliable revenue collection |
| Escrow Management | Handle taxes and insurance payments | Escrow calculator, tax APIs | Legal compliance |
| Delinquency Monitoring | Detect missed or late payments | Alert engine, delinquency model | Early risk detection |
| Customer Self-Service | Portal to access balance, statements, payoff info | Customer portal, chatbot | Improves borrower experience |
| Loan Modification / Forbearance | Adjust payment plans for distressed borrowers | Workflow engine, eligibility rules | Minimize defaults |
| Payoff Processing | Calculate settlement and close loans | Servicing system | Faster closure |
| Foreclosure Handling | Manage legal and financial foreclosure process | Foreclosure case management | Asset recovery |
| Risk Management | Default Prediction Model | Predict borrower defaults | Random Forest, XGBoost | Pre-emptive engagement |
| Prepayment Modeling | Forecast early repayments | Behavioral ML models | Revenue planning |
| Portfolio Stress Testing | Simulate economic shocks (e.g., rate hikes) | Scenario simulators | Risk preparedness |
| Fraud Detection | Identify anomalies in data and documents | Anomaly detection, doc verification | Reduces fraud losses |
| Risk-Based Pricing | Tailor interest rates by risk score | Pricing engine, ML model | Better yield |
| Refinance | Refi Eligibility Check | Check if borrower qualifies for refinancing | Rules engine, credit refresh | Improve retention |
| Rate Comparison Tool | Show better rate alternatives | Rate engine, third-party API | Transparency and upsell |
| Credit Re-Evaluation | Updated credit score, income, etc. | Credit pull, re-underwriting | Accurate pricing |
| Cash-Out Refinance | Borrower pulls equity from the home | LOS and disbursement workflow | Unlock value for borrower |
| Automated Refi Triggers | Suggest refinancing when market rates improve | Real-time rate monitor | Customer delight |
| Compliance | HMDA / CRA Reporting | Regulatory reports based on loan activity | HMDA engine, compliance module | Legal compliance |
| AML / KYC Monitoring | Validate identity and source of funds | AML tools, ID checks | Fraud prevention |
| Audit Trails & Action Logs | Maintain history of all user/system actions | Logging system, immutable storage | Defensibility in audits |
| Fair Lending / Bias Detection | Ensure no discrimination based on gender, race, etc. | Explainable AI, fairness audit | Regulatory protection |
| Document Retention & eVaults | Secure storage of critical documents | Doc management system, eVault | Long-term archival |