QUICKLOAN MOBILE ETHICAL DATA REVIEW

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Company: QuickLoan Mobile (Ghana-based Fintech Startup)

Governance Review Card

SECTION	ISSUE/DEFINITION	IMPACT	RECOMMENDATION
1. **Data Quality Risk**	Customer data shows significant completeness and consistency problems. Records are often incomplete (missing required fields) or inconsistently formatted across the system. Incomplete data means essential information may be missing. Inconsistent formatting means the same	Poor data quality directly undermines the ML loan-scoring model's accuracy. When the model trains on incomplete or inconsistent data, it produces unreliable credit assessments. This leads to deserving customers getting wrongly rejected (lost business and	Implement data validation rules at the collection point (Step 1) to enforce completeness before data enters the pipeline. Include mandatory field checks and format standardization using regex patterns. Establish a data profiling and cleansing process in the Preprocessing Service (Step 5) that identifies and flags incomplete or inconsistently formatted records for manual review. Create a data quality dashboard tracking completeness percentage and format consistency scores, targeting 95% completeness for critical fields within 60 days.

	customer's information appears differently in various system parts	reputational damage) while risky borrowers get approved (increased default rates). Additionally, incomplete records make it impossible to properly notify customers about data processing, creating compliance violations.	
2. Legal & Compliance Risk	QuickLoan is collecting and processing sensitive personal data without obtaining explicit informed consent. Data collected includes PII such as contact lists, GPS location and device logs – exceeding what's necessary for loan decisions. This violates Ghana's Data	Creates severe legal and financial exposure. The Data Protection Commission (DPC) can impose substantial fines and order cessation of operations. Beyond financial penalties, the company faces reputational damage that could destroy	1. Implement granular consent management system at Step 2 (API Gateway) with clear explanations of data collection, purpose, usage and retention. Users must actively opt-in with separate consent checkboxes. 2. Apply data minimization: Revise Step 1 collection to gather only essential data for creditworthiness. 3. At Step 3: Implement data classification schema marking fields as Public/Internal/Confidential/Sensitive with appropriate encryption. 4. Establish data retention policy with clear periods (e.g., "personal data

	Protection Act (Act 843): • Principle 3 (Minimality): Collecting excessive data • Principle 4 (Consent): No evidence of consent • Principle 5 (Specific Purpose): Unclear purpose for contact lists and GPS • Principle 8 (Security): Storing PII without proper classification or protection. Current flow	customer trust. Ethically, collecting users' entire contact lists without consent violates privacy rights and potentially exposes contacts' information without their knowledge or consent.	retained 7 years after account closure, then deleted"). 5. Register with Ghana's Data Protection Commission as required.

	shows "no consent capture" between API Gateway and Raw Data DB.		
3. Bias and Fairness Risk	The ML model's auto-approval decisions risk perpetuating historical bias and selection bias against certain demographic groups. The model's decisions might be unfair to specific demographics, which is a critical algorithmic fairness concern.	Algorithmic bias in loan decisions has severe ethical and legal consequences. It violates Ghana's constitution's equality provisions and potentially the Data Protection Act's fair processing requirement (Principle 2). Discriminated groups face financial exclusion despite creditworthiness, perpetuating economic inequality. The	1. Pre-processing (Step 5): Analyze dataset for demographic representation gaps. Use reweighing to balance training data. 2. In-processing (Step 6): Incorporate fairness constraints during training using IBM AI Fairness 360. 3. Post-processing (Step 7): Implement threshold optimization. 4. Add transparency logging recording decisions and key features. 5. Human-in-the-loop: Route borderline cases to trained human reviewers.

		company faces potential regulatory action, lawsuits, and significant reputational damage in Ghana's financial community.	
Data Classification (Public / Internal / Confidential / Sensitive)	SENSITIVE		
Source of Bias	The bias likely originates from training data reflecting historical lending discrimination. If past loan approval data shows patterns where certain groups (based on geography, age, gender, economic background) were systematically denied loans due to human biases, the ML model learns and amplifies these discriminatory patterns. Feature selection bias may exist if the model uses proxy variables correlating with protected characteristics (e.g., GPS location creating geographic discrimination, contact list analysis disadvantaging rural users).		
4. Storytelling /Reporting Recommendation	See detailed breakdown in rows below		
Metric to Monitor (name and definition)	**Fairness Disparity Score (FDS)** **Definition:** Measures the difference in loan approval rates between the demographic group with the highest approval rate and the lowest, expressed as percentage points. **Formula:** FDS = (Highest Group Approval Rate% - Lowest Group Approval Rate%) **Example:** If Group A has 65% approval and Group B has 45%, FDS = 20 percentage points **Target:** FDS should not exceed 5 percentage points (industry fairness threshold).		

	Calculated weekly across gender, age groups, geographic regions, and income brackets.
Visualization Type (e.g., Line Chart, Grouped Bar Chart)	**Grouped Bar Chart with fairness threshold line** **Display elements:** ▫ X-axis: Demographic groups (e.g., Male, Female, Age 18-25, etc.) ▫ Y-axis: Loan approval rate (0-100%) ▫ Grouped bars: Each demographic as colored bar ▫ Red horizontal line: Fairness threshold marker ▫ Color coding: Green bars = within threshold; Red bars = problematic disparity *Updated weekly in executive dashboard and monthly governance reports*.
Why It Matters (One Sentence)	Monitoring the Fairness Disparity Score provides transparent, quantifiable evidence that QuickLoan treats all customers equitably regardless of demographics, demonstrating corporate social responsibility and compliance with Ghana's Data Protection Act while protecting against regulatory penalties, preventing reputational damage, and ensuring that automation advances fairness rather than encoding discrimination into algorithms.