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- **Problem Statement ID: 04**
- **Problem Statement Title:** AI Enhanced Automated Data Processing and Reporting Platform
- **PS Category**- Software/ Data Processing and Analysis
- **Team ID: 6815**
- **Team Name** (Registered on portal): Dragon Clan

Dragon Clan

IDEA & SOLUTIONS

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Proposed Solution:

Smart Survey is an **AI-powered, automated data processing and reporting platform** tailored for **official statistics**. It streamlines the end-to-end process — from ingesting raw survey data to producing professional, standardized reports — replacing slow, error-prone manual workflows with a fast, reliable, and intelligent system.

The platform enables:

1. Easy import of Raw file of CSV/Excel survey files.
2. Automatic schema mapping.
3. AI-assisted data cleaning, validation, and outlier detection.
4. Application of statistical weights for accurate estimations.
5. Instant PDF report generation.

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TECHNICAL APPROACH

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Data Ingestion & Mapping

- Raw CSV / Excel upload with Neat UI

AI-Assisted Data Cleaning

- Missing Value imputation Using ML algorithm (KNN, MICE)
- Outlier detection Via Isolation Forest & Z-Score analysis

Weighting & Estimation

- Integration of survey design Weights like Cluster, Random Sampling
- Compute Both Weighted and Unweighted statistics.

Automated Reporting

- Report Generation Engine (WeasyPrint for PDF Generation)
- Data Visualization using Chart.js for bar, pie, trend lines

Tech stack

- Backend: Python (Django) + Flask Server + Node.js
- Frontend: React.js + Bootstrap for Neat UI for Users.
- Database: MySQL
- Data Processing: Pandas, NumPy, Scikit-learn

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FEASIBILITY AND VIABILITY

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Technical Feasibility:	• All proposed technologies are stable, open-source, and proven in production systems.
Operational Viability:	• Modular design enables scaling and integration with existing statistical systems.
Market Viability:	• Addresses an ongoing bottleneck in **official statistics processing**.

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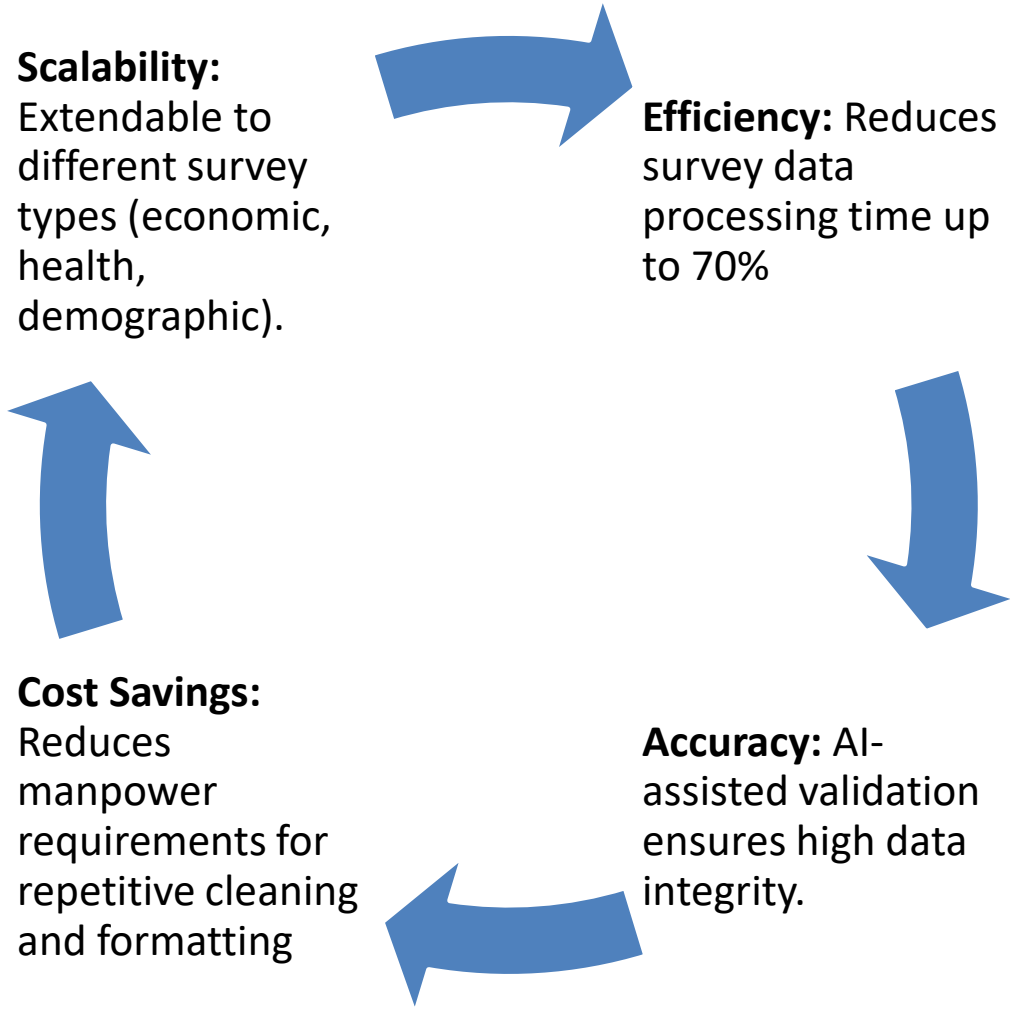
IMPACT AND BENEFITS



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RESEARCH AND REFERENCES

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2. MoSPI. *Manual on Survey Design and Operations*, Government of India, 2021.
3. Refer from the Online AI's: ChatGPT, DeepSeek, Perplexity.
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