PROJECT NAME: Implementation of Error Metric Tracking by NIINat the ICP

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OBJECTIVE: The purpose of this study is to gain an analytical appreciation for the number of actively managed items at the ICP with at least one business rule error. We will use a tracking system methodology designed by NAVESINK Consulting Group and modify it for our needs.

SCOPE: All actively managed NIINs in the Master Data File

TEAM MEMBERS: From the Information Systems Department: a Computer Programmer, a Business Systems Analyst and a Metrics Analyst

BACKGROUND: The database integrity at the ICP is extremely important. We are continually implementing programs to correct errors in our data universe. The ultimate goal is to have all NIINs/items in the MDF with zero errors. We will track our progress towards this goal monthly.

DATA SOURCE: Monthly output of MDF Diagnostic errors
All MDF NIINs

METRICS/GRAPHS/CHARTS: Monthly column charts will be created to gain an appreciation for the number of new erred NIINs that are added to our universe of MDF items.
Example: Month One column will have two sections:
Number of NIINs with at least one error and
Number of NIINs with zero errors

Month two's columns will have five sections:

1. NIINs with zero errors managed last month, still managed in month two and still correct.
2. Erred NIINs from last month, corrected or deleted
3. Number of NIINs from last month correct but now incorrect
4. Number of new, correct NIINs in system
5. Number of new, erred NIINs

This will be done for every two-month consecutive pair.

Also, line graphs will be created. They will have various metrics. They are:
Embedded Base – total actively managed NIINs in given month
Embedded Bad Fraction – number of actively managed NIINs in given month with at least one error
New Base – number of new NIINs managed that month with at least one error plus the number of new NIINs that month with zero errors plus NIINs managed last month correctly but now in error (that component is necessary so we have new bad fraction metric)

New Bad Fraction – (number of new NIINs managed that month with at least one error plus NIINs managed last month correctly but now in error) divided by (number of new NIINs managed that month with at least one error plus the number of new NIINs that month with zero errors plus NIINs managed last month correctly but now in error)

GRAPHS:

1. Managing Data Quality for Embedded Base

Add chart sample similar to Figure 4 (target refers to fraction)

2. Control Chart for Managing Quality of New Data

Control limits for fraction with data errors generated from data itself and the specification limits for fraction decided by management.

Add chart sample similar to Figure 5 and add specification limit

3. Pareto Analysis
Every month, the total number of errors that exist in the MDF will be counted and grouped by type. The top five error types will be graphed and management will decide what action will be taken.

EVALUATION: Metrics, graphs, and charts will be monitored over a year to evaluate if the ICP is making satisfactory progress toward efforts in correcting items with errors in the MDF. At various points during this process, data will be examined and intermediate action may be taken for correction purposes.

TIMELINE OF PROJECT:
Month 1 – Preparation
Months 2-13 – Metric tracking
Months 14-15 – Analysis, evaluation, and recommendations

BENEFIT: As database integrity increases so does fleet readiness.