COGENT
QC SYSTEMS

Statistical Sampling Methodology

Cogent QC Systems started with a statistical sampling methodology, and then evolved into the full-scale quality control solutions that we offer today. The four kinds of samples discussed below are the basis for Cogent QC Systems' statistically sophisticated sampling and reporting. They allow our users to establish data sets that result in (1) statistically valid quality trends and comparisons, and (2) maximum risk management value.

Statistical Sample

The Statistical Sample is a random sample designed to estimate Overall Loan Quality. The Statistical Sample is drawn on a random basis from the entire loan population for a given time period and review type. In the ProductionQC System, a Statistical Sample may be drawn from pre-funding, post-funding and denied/withdrawn loan populations. In the ServicingQC System, a separate Statistical Sample may be selected in each time period for each function or department to be reviewed.

When asked to draw a Statistical Sample, the System computes suggested Statistical Sample size based on achieving 2% statistical precision (at a one-sided 95% Confidence Level) on an annual basis. This computation is based on: (1) the number of loans available for sampling in the population being audited; and (2) the most recent average defect rate, calculated from the audit results of three prior sampling periods. By taking these variables into account, the System is able to determine how many loans must be sampled to guarantee the desired precision and confidence in the Overall Loan Quality trend reports.

Stratified Sample

The Stratified Sample is a discretionary random sample designed to estimate Stratified Loan Quality, by different sources, regions, investors, loan products, or any other single characteristic by which the QC department wishes to stratify. Loans from one stratum may have higher defect rates than loans from other strata, so you would need to sample a higher percentage of loans from that stratum to achieve the same statistical precision as the others. For example, if loans originated from the wholesale channel contain more defects than those from other channels, the System will suggest a higher percentage sample for wholesale, basing the calculation on the average defect rate from three prior periods of reviews of wholesale loans only.

The Stratified Sample enables the generation of statistical trend reports and comparative quality reports by the designated origination or servicing strata, such as the Stratified Loan Quality report, or the Comparative Loan Quality report, showing the precision and confidence levels for each period evaluated.

Targeted Sample

Targeted Samples comprise the most flexible sample group you can generate, since the user defines the exact population from which the sample will be selected. Defining the population involves constructing a Query, essentially a set of rules you want the system to use in defining your population. Queries can range from quite simple to very complicated, but users have almost unlimited flexibility in defining the populations. These same Queries may be used for both sampling and reporting purposes.

Typical Targeted Samples may be new and untested brokers, branches, loan agents, loan products, etc. - or sources known to have had quality problems in the past. Or they may be loans with combinations of risk characteristics, such as high LTV, low credit score, high ratio, delinquency history, etc. Advanced users are fans of targeted samples as they allow QC departments to allocate the samples to populations of loans that have the highest value for risk mitigation.

Manual Sample

Manual Samples are individual loans that are specifically selected for review. With this sampling option, the user directly selects the loans that he or she wants to sample, by loan number, borrower name, or other criteria. These may be loans that have been flagged in pre-screens, such as for compliance or fraud, or loans that have been referred for specific reviews, such as appraisal or credit.