

The Ideal System for Continuous Tracking in Market Research

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Data processing and analysis by cross tabulation and charting for continuous tracking is not like ordinary ad hoc research. An ad hoc job is homomorphic - the data is collected, cleaned, processed and the results reported with no change to the structure of the job. Continuous tracking jobs, however, are heteromorphic in at least three major respects:

- 1) as more data is collected, the number of coded categories increases
- 2) periodically, since the point of tracking is the expectation of change, variables are retired, inserted, renewed or replaced, and
- 3) the processing chain which supplies the standard reports, and the reports themselves, requires regular maintenance in response to 1) and 2)

The following tables cite the major issues arising from these three respects, and the basic functionality an ideal system would require to deal with each.

Processing

Issues	Functionality
Data arrives in waves	<ul style="list-style-type: none"> • Process incrementally, partial updates • Recognise out-of-field periods • Auto-update reports for new data
For national/global jobs, different data formats and variable structures from different regional field suppliers	<ul style="list-style-type: none"> • Wide range of imports • Import different formats to the same job • Aliasing of variable names for consistency
Questionnaires often change as markets evolve	<ul style="list-style-type: none"> • Seamlessly accommodate: <ul style="list-style-type: none"> ▪ adding/removing/reordering codes ▪ adding/removing/reordering variables ▪ relabelling codes/variables ▪ recalculating derived variables ▪ auto-ordering by dependencies ▪ self-maintaining constructions ▪ auditing of new codes, variables • Use master lists wherever possible to control individual instances
Ultimate job size (number of cases, variables, codes, reports) and degree of computational complexity are inherently unpredictable	<ul style="list-style-type: none"> • System architecture must be infinitely scalable (within machine and OS capabilities)
Errors in data collection and processing are inevitable over time	<ul style="list-style-type: none"> • Update weekly to catch errors immediately • Allow instant access to the entire data chain so that errors can be quickly diagnosed • Roll back, reimport, reprocess • Therefore all data processing and constructing of derived variables must be handled internally

Analysis

Issues	Functionality
Data is collected over time	<ul style="list-style-type: none"> • Be fully calendar-aware • Allow showing/hiding of out-of-field periods • Different smoothing algorithms to cover irregular or seasonal gaps • Allow analysis by any period cycle - week, bi-weekly, month, quarter, year, 5 month cycles, irregular, etc
External data (eg weather, financials) and events (eg geo-political, competitor promotions) often drive the survey data	<ul style="list-style-type: none"> • Allow integrated and transparent access to both survey and external data • Handle external data differently (e.g. flag to exclude from smoothing commands) • Show external data on reports during survey out-of-field • Insert normative reference constants to any table or chart • Call out system with general document management for access to multi-media, presentations, background information, etc
Relationships within the data can be subtle and complex	<ul style="list-style-type: none"> • Basic time series and statistics functionality • Be fully interactive throughout and in all respects • Retain instant access to all back data for historical analysis
Custom methodologies often require elaborate processing	<ul style="list-style-type: none"> • Allow any mix of Boolean, arithmetical or matrix operations across interrelated variables and reports, with seamless reprocessing for different filter or weighting conditions
Cater to different skill sets	<ul style="list-style-type: none"> • Scalable GUI to limit visibility of complex functions

Reporting

Issues	Functionality
Complex cross tabulations	<ul style="list-style-type: none"> • Any arrangement of codes, statistics and expressions on top/side from any number of variables • Independently filter, weight, percentage, base, scale, smooth, or otherwise manipulate any row or column or plotted series
Complex charts	Additionally, <ul style="list-style-type: none"> • Wide variety of chart types • On-screen interactive editing, zoom, etc • Smooth, shift, suppress, scale at will • Complete cosmetic control • Dynamic text for titles, filter, weight, roll etc
Very large numbers of standard reports	<ul style="list-style-type: none"> • Automate using batch-processing facilities

Reporting requirements change as markets evolve	<ul style="list-style-type: none"> • Auto-link tables and charts to the underlying structure of the job • Reprocess entire decks for different population segments or weighting schemas
Presentation	<ul style="list-style-type: none"> • Native slideshow mode • Full screen • Allow <i>in situ</i> editing, manipulation, analysis

Delivery

Issues	Functionality
Active clients want independent access to updated data	<ul style="list-style-type: none"> • Provide tabulation and charting facilities for clients, either desktop or on-line access • Data exports to common formats
Passive clients want tables and charts in MS Office formats	<ul style="list-style-type: none"> • Export as live tables or charts or as static graphics to MS Office applications