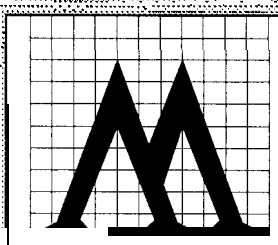

Metrica, Inc.

WHITE PAPER

Rationale for Establishing an

Externally Augmented Advisory & Action Team

for Transitioning

Manpower, Personnel, and Training (MPT)
Historical Data Bases & Unique Technologies

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March 2, 1998

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White Paper

Rationale for Establishing an

Externally Augmented Advisory & Action Team

for Transitioning

Manpower, Personnel, and Training (MPT) Historical Data Bases & Unique Technologies

Synopsis: ***As the irreplaceable historical Air Force data files, the current Master Files, and computer software resources are transitioned to new agencies/organizations, an external contractor with both computer and manpower, personnel, and training (MPT) expertise could help ensure preservation, transfer, and successful utilization at the new location. With contract vehicles currently in place, this external assistance can be obtained from contractors familiar with both the hardware/software issues -and- the MPT methodology. This ideal workforce, from a stable external vantage point, can ensure an orderly transition of software and data bases to whatever home the Air Force might find for its future MPT capability.***

Table of Contents

Final Recommendations

SUMMARY OF THE PROBLEM

Many of the data sets targeted by this White Paper represent Air Force investments of over $1 million to establish in then current dollars. Today, they are irreplaceable at any cost. While Laboratory personnel are making great strides in "copying" key files, the Air Force really needs to be concerned about WHERE by WHOM these files will be needed and actually used in the future and how the data will be tracked and accessed. If the time is not yet right to make those determinations, then, at least, the Air Force needs to secure these materials for the foreseeable future. It is essential that the Air Force guarantee that when the MPT mission is reactivated or crisis management assistance is requested by the Air Staff or AFPC, that the pieces can be located and unique qualities of the Air Force HR laboratories be restored. It is not a question of "IF" the MPT mission is restored, but "WHEN" because the MPT mission is a necessity for any agency as dynamic and technically advanced as the United States Air Force.

RECOMMENDED AIR FORCE ACTIONS

This White Paper recommends that the Air Force establish an MPT Transition Team composed of civil service, military, and contractor personnel to ensure continuity of Air Force MPT objectives through the next twelve months. The newly formed MPT Transition Team would be headed by a senior scientist within the Laboratory with a long historical perspective. The Team Chief would be empowered to direct team members to document transition objectives, locate multiple qualified recipients for all MPT data and technologies, and execute all approved resource copy operations. These qualified recipients may include other Air Force or Interservice programs; personnel research laboratories or similar non-profit organizations; universities; libraries; or commercial firms with Cooperative Research & Development Agreements (CRDA) with a vested interest in the preservation of the methodologies created by the Air Force human resource laboratories.

Rationale for Recommendations

BACKGROUND

The Source of Historical MPT Data and Technology

As the most dynamic service, the Air Force has always been the leader in developing and exploiting technology (computers) and human resource (HR) methodologies. The computer-HR focus grew from the late 1950's through a number of organizational identities such as:

- **the Wright Air Development Center (WADC),**
- **the 6570th Personnel Laboratory (PersLab),**
- **the Personnel Research Laboratory (PRL),**
- **the Air Force Human Resources Laboratory (AFHRL),**
- **the Armstrong Laboratory, Human Resources Directorate (AL/HRD), and finally,**
- **the Air Force Research Laboratory, the Human Effectiveness Directorate.**

A long history of ground-breaking technologies and technical reports were generated under those identities. As the Air Force Research Laboratory downsizes the Human Effectiveness Directorate, it is important to note that, over the years, predecessors of the Directorate amassed a vast MPT data base and developed unique human resource (HR) methodologies as well as computer software for both HR and advanced statistical analysis.

The Historical MPT Data Base(s)

In order to make recommendations on pending personnel issues, the Laboratory collected and archived important MPT data from sources throughout the Air Force. While "current" issues always received the primary focus, it was recognized that keen foresight is really built upon prudent hindsight. "Those who refuse to learn from history are destined to repeat it."

As of December 1994, the Summary of Data Bases included 32 active Master File systems and 13 discontinued series. The active Master Files included the following: [Retrieval IDs shown in Brackets]

1. SOURCE: Headquarters Air Force Military Personnel Center (AFMPC)
- **Active SSAN Locators (Microfiche) [0556]**
- **Alpha Locators (Microfiche) [0556]**
- **Air Force Officer Qualification Test (AFOQT) [0641]**
- **Airman Reenlistment and Loss (ARL) [0965]**
- **Civilian Extract [0599]**
- **Identity Changes [0578]**
- **PACE PROMIS Job [0841]**
- **PACE PROMIS Personnel (Opportunity) [0842]**
- **Separated Officer File (SOF) [0766]**
- **Training Management System (TMS - Replaces the Pipeline Management System) [0800]**
- **Uniform Airman Record (UAR) [0906]**
- **UAR Air National Guard [0909]**
- **UAR Extract [0910]**
- **UAR Reserve [0908]**
- **Uniform Officer Record (UOR) [0706]**
- **UOR Air National Guard [0709]**
- **UOR Extract [0710]**
- **UOR Reserve [0708]**
- **Weighted Airman Promotion System (WAPS) [0847]**

2. SOURCE: Headquarters Air, Education and Training Command (AETC)
- **Flying Training Summary [0665]**
- **Flying Training Time Related Instruction Management System (TRIMS) [0668]**
- **Navigator Training Detailed [0666]**
- **Officer Training School (OTS) Master [0645]**
- **OTS Student Record of Training [0643]**
- **Processing and Classification of Enlistees (PACE) [0845]**

3. SOURCE: Headquarters Air Force Reserve Officer Training Corps (AFROTC)
- **ROTC Cadet Personnel System (CPS) [0615]**

4. SOURCE: Defence Manpower Data Center (DMDC)
- **Military Entrance Processing Stations (MEPS) [0843]**

5. SOURCE: Headquarters United States Air Force Recruiting Service (USAFRS)
- **OTS/Health Professional Applicants [0646]**

6. SOURCE: AL Manpower and Personnel Research Division (AL/HRMX) Developed Files
- **Airman Gain/Loss (AGL) Data Base [0940]**
- **File Item Data Overview (FIDO) [0986]**
- **J Shop Identity [0563]**

In addition to these "Master Files", the Air Force Occupational Measurement Squadron at Randolph AFB performed an AFSC-specific occupational survey on most AFSs about once every four to five years.

With few exceptions, the data files identified above were provided by other Air Force agencies. Tapes arrived coded on media and formats internally consistent with their need to track "current" information. When those agencies required code changes, their Master File was updated and yesterday's code were no longer relevant or needed. The same was true for individual data elements -- adding or eliminating data field was a one-shot operation. Because the Laboratory's files represent an historical integration across time, a greater value was placed on "audit" to detect format or content changes which were not formally documented by the sender.

In this role as the Air Force archive of MPT data, the Laboratory developed the most comprehensive tools to handle LARGE, historical files. These programs performed the following functions:

1. **convert files from incompatible computer systems**
2. **index files, audit data fields, update layouts**
3. **store & retrieve from physical media,**
4. **recall & recode data across time, and**
5. **statistically analyze VERY LARGE Files.**

Items 1 to 4 above relate to the preparation and utilization of Master Files and is fairly generic across the spectrum of data files. Items 4 and 5, however represent specialized processing to achieve specific analysis goals that may include 1. Establishing Officer Grade Requirements; 2. Validating the Weighted Airman Promotion System (WAPS); or 3. Evaluating Civilian Performance Appraisal Merit Pay System.

A later section ("UNIQUE MPT SOFTWARE") addresses specifics of these programs in a little more detail.

What about DMDC Master Files?

The Defense Manpower Data Center (DMDC) does maintains files for large scale analysis. A primary focus of DMDC has been in conducting very large scale (national) surveys and providing demographic results. Other DMDC files cover the comprehensive DoD requirements for running recruiting and retention studies. Few DMDC files provide the detailed kind of historical data routinely used in major Air Force MPT analyses. The exhaustive roster of DMDC Historical Files for 1998 includes:

- **Discharge Review Program**
- **End of Active Service and Post-Service Information**
- **Operation Mongoose - Retired Pay Manager (RPM)**
- **Permanent Change of Station (PCS) File**
- **Project One Hundred Thousand**
- **Recruitment Advertising**
- **Skill Qualification Test (SQT)**
- **Social Security Number to Service Number Conversion File**
- **Training Data Output Data File**
- **Transition Program File**
- **United States Armed Forces Institute (USAFI) Education and Testing Files**
- **Veterans Administration Education and Training Benefits File**

DMDC admits their own limited number of interservice historical files are "seldom used" and problems may be expected in actually trying to track that data, i.e., "We may not have accessed this information for awhile so a little extra time for research and revisiting the information may be required should you have questions." (DMDC Profile 1998

What about the MPT analytic tools for in-depth treatments? DMDC would be an ideal recipient for both the data and technology developed by the Laboratory. Because DMDC is designed to be a data warehouse, there is no implication that the Laboratory should discontinue its current mission just because it sends DMC "copies" of data or software. This copy process could be viewed both as a service to DMDC and as a back-up (in readily useable form) for use by the Air Force. In fact, DMDC's interest in this particular effort should be formally recognized as an official advisory agency (along with the other service laboratories) in email contact with all Transition Team members.

MPTAND THE OPERATIONAL FORCE

The military is unlike any other major employer in the world. While other organizations hire at all levels, the military (except for some officer professions) "grow their own," always starting at the bottom and ensuring career paths (or opportunities) through retirement. For this reason, managing the military personnel system has always required extraordinary diligence.

Air Force Foresight and Hindsight

The Air Force, for example, has long recognized the need for: keener foresight and farther hindsight on policy impacts; better management practices for selection, placement and promotion; and a coordinated schedule of finely tuned training systems spanning over 150 job families. Because of the potentially severe, long-term implications of bad policy impacts, the Air Force foresight had to be anchored in 20-20 hindsight derived from solid, quantified historical measures. The master file data system and analytical tools developed by the Manpower, Personnel, and Training (MPT) units of the human resources laboratories of the United States Air Force are second to none.

Current Downsizing in the Operational Community

With the current downsizing causing disruptions in a finely tuned personnel system, MPT problems will arise in the operational units -- not in the research labs. MPT technologies and methodologies must remain available (if not immediately operational) to identify and resolve emerging problems BEFORE combat operations uncover the shortfalls causing loss of life and aircraft.

MPT Important, But Not Immune to Downsizing

Because the Air Force is undergoing downsizing, new and significant stresses are being placed on its Manpower, Personnel, and Training (MPT) systems that underlie operational readiness. One might expect this state of affairs to lead to a mandate for a greater emphasis on MPT science to guide this streamlining process and assist the Air Force to become an even more effective force in the millennium that lies ahead. The military MPT community, however, is not immune to the downsizing mandates and their psychological impacts.

The MPT Insurance Policy

The problem with MPT is that it is like an insurance policy -- if you wait for the accident to occur to purchase the policy, it's too late to cover the damages suffered to date. In addition, like the "limited coverage" period at the beginning of a policy, solving the MPT problem only starts the correction process. Because of the way in which personnel flow through the personnel pipeline -- the MPT fix may be in place a year before "qualified airmen" start arriving at the airfields.

MANIFESTATIONS OF ERODING LABORATORY SERVICES

The Silent Oracle: The Origin of this white paper

In fact, work on this White Paper began four months ago (November 1997) because of the anticipated switch-over from the Unisys mainframe to the RISC-based Oracle system to support on-going projects. The civilian in charge of the project failed to identify or invite primary users of the Laboratory's Master Files (i.e., the contractors supporting the Lab's 5-year MPT contract) to two pivotal meetings. At the end of each presentation, the master architect was asked how to accomplish specific functions to support operational programs currently using Laboratory data. Promises were made to "get back to them." In both cases, no follow-up was forthcoming.

Eventually, these primary customers were told (in January 1998) that the master architect had taken a private sector job in Dallas and that his two support military personnel had been reassigned. Since the announcements in the past few weeks, the projecting civilian retention for any individual over the next few months has become problematical at best. This White Paper was initiated to offer services to the Lab to cover this "temporary" shortfall of technically qualified individuals.

"Saving Files" is not Enough if Indices & Access is restricted

The long-scheduled transition from the Unisys to the RISC machine began a background activity to convert or delete a vast library of MPT and related data tapes. A systematic effort has been going on to save critical historical data. The recent announcements about Reductions In Force have heighten the pitch of this "save or salvage" decision making process. As of the present time, it is thought that most of the historical tapes used by AFRL/HED over the years have already been salvaged. As contractor access to the Unisys system ends 1 April, 1998, availability of those tapes beyond that date are a moot point. Some number of files have been transferred to CD-ROM, some have been incorporated into an Oracle Data Base, and some have been simply destroyed.

Although the data has survived in some cases -- *its utility has not.* Those files copied to CD-ROM cannot be referenced and used in the same manner as their original tape counterparts. Those files incorporated into the Oracle Data Base have changed both retrieval identity and internal format. The AFRL/HED-unique AFSC History Files was changed, on transfer to be Year 2000 compliant). These changes require changes to operational software and the contracts which produced that software have been closed for over a year.

The Historical AFSC Information Locator System (HAILS) was developed as a byproduct of the Benchmarked Occupational Learning Difficulty (BOLD) and Job Structuring Technology (JST) projects. Since 1995, HAILS has been used to deliver user-friendly computer-based access to AFRL/HED data files (AFSC History File) previously delivered as a one inch thick hardcopy report. The Occupational Measurement Squadron (OMSq) routinely delivers this AFRL/HED-unique report to other Air Force organizations including:

- **AFPOA/DPD at Bolling AFB,**
- **USAFRSKVI (Recruiting Service),**
- **AFRS/RSOPB (AF Job Bank)**

***Most Sections of OMSq**

- **as well as Technical Schools and Career Field Managers.**

As Metrica created HAILS as a byproduct of two contracts, its release label indicates unlimited rights for government use. Even though those contracts are closed-out, when notified by OMSq, Metrica has processed the AFSC History File and created HAILS disks for OMSq distribution. The HAILS disk labels have cited the Armstrong Laboratory or AFRL/HED as the data source. OMSq has been informed that HAILS disks can no longer be produced due to changed file formats and restricted access to the new RISC machine on which the Oracle data base resides. It is unclear what OMSq will tell their Air Force customers when the next distribution occurs in July 1998.

THE VALUE OF MPT DATA: CURRENT -AND- HISTORICAL

There is no question about the value of up-to-date MPT data such as the occupational information collected by the Occupational Measurement Squadron (OMSq) at Randolph AFB. The software they use is called the Comprehensive Occupational Data Analysis Programs (CODAP) system. CODAP was developed by AFHRL from the late 1950s to the late 1990s. This program is not currently at risk, but consider the lessons learned (below) from its Canadian counterpart program.

The Canadian DoD Example

About twenty years ago in the Canadian Department of Defence, the Occupational Analysis (OA) Program for tracking current job requirements was abolished. The rationale was "everything seemed on track" in a steady, peace-time environment. Within four years, enough problems were being experienced in the field, that the OA program was reinstituted. Unfortunately, the key senior personnel had left the service and the technically knowledgeable enlisted personnel had been reassigned and the software lost. Luckily, the United States Air Force OA program was going strong at Randolph and Brooks AFBs and was able to bootstrap the Canadian program back into operation.

Restarting "Research" versus "Operational" Programs

While the OMSq operations at Randolph AFB are not presently at risk, the historical data bases and MPT technology which spawned the CODAP system are at risk The lesson from the Canadian experience is that when an MPT unit shuts down, they don't just close the doors -- they scatter the resources. Even when an organization simply relocates (as the Navy OA program did from Washington DC to Memphis TN) -- the loss of key and knowledgeable personnel can exact a high price in terms of lowered productivity or lost capability.

If your goal is to take snapshots of the present and project forward, you can, with time and resources, reestablish the organization, set up a new computer facility, obtain the critical/unique occupational analysis software, recruit new personnel researchers, train new occupational analyst & inventory developers, and start surveying again.

If your mission uses HISTORICAL DATA for perspective, as does the Laboratory, scattering resources to the wind is more than devastating -- it is potentially fatal. Historical trend analysis requires longitudinal data files spanning many years. Sometimes, however, simple time-span is not enough. Currently, the Laboratory can access data spanning from the late 1950's (Post-Korea) through the Cold War, through the Vietnam buildup, deployment, and engagement, through the post-Vietnam "peace" and the Strategic Defense Initiative (SDI),

through the collapse of the Soviet Union and evolving Air Force role in humanitarian and peacekeeping missions. If new historical files were started today, it would he (hopefully) more than a half century before the foregoing spectrum of world environments would he repeated.

Historical Data Example: Officer Grade Requirements Project

For example, the Officer Grades Requirements (OGR) project helps to defend the Officer grade structure of the Air Force to Congress every two years. The OGR project relies on policy board data collected in 1964 -- considered to be the most "stable policy" as it preceded the Vietnam war build-up.

Historical Data Examples: Benchmarked Task Learning Difficulty

In another example, an attempt was made to support rational AFSC-merger decisions in the 1991-1994 time frame. Benchmarked Task Learning Difficulty values were used to assess learning load differences between proposed merging AFSs. Those benchmarked values had been collected in the 1976 to 1981 timeframe. Software developed in 1984 to link task statements to training outlines (Semantic Assisted Analysis techniques [SAAT]) helped to identify "corresponding tasks" over the fifteen year gap.

A more recent project (Benchmarked Occupational Learning Difficulties [BOLD]) was designed to validate/update those benchmark values. When BOLD was lost in a budget cut, other projects expecting those updates had to rely on the "best guess" match into those same 1976-1981 data sets. These projects included the Manpower, Personnel and Training Decision Support System (MPT-DSS), the Cross-AFSC Skill Transferability Model, and the Job Structuring Technology (JST) system.

UNIQUE MPT SOFTWARE

In addition to amassing impressive data files, the Air Force human resources laboratories, over the years, have developed tools and methods designed to support massive, cross-time analyses. Historical master files aren't standard products, they are created by diligence and attention to detail. The Air Force laboratories built their master data files by historically retrofitting and integrating "current snapshots" received from operational sources.

Overview of the MPT Analysis Process

With the MPT Tool kit elaborated below, enlisted programmers could, on their own, take requests for complex, multi-year analyses, and perform all the necessary processing. In a recent study spanning 1981 to 1995, for example, some Air Force Specialty Codes (AFSCs) underwent as many as six conversions (some major, some simple recodes). While a human tracking the turbulence is dismayed by the instability of coding and work assignment, the computer is entirely lost without explicit direction for each transition for each AFSC in the project. A typical project would include processing steps such as: **Names of some of the specialized programs are shown in the descriptions below as capitalized words in [brackets].**

- **track all AFSC changes during study timeframe. [HAILS],**
- **identify Master Files or occupational data files [using GDIT or HAILS],**
- **import an auxiliary data file from external systems [ODDBALL]**
- **standardize volatile codes within variables [FIDO],**
- **create a single project file [MERMAT],**
- **reformat data for export [PCOB, REFORMAT, ODDBALL]**
- **feed data into a reporting, modeling or analysis systems such as**
    - **[RPT] - provide a multi-level listing report [RPT]**
    - **[CTAB] - provide cross-tabulation reports [CTAB],**
    - **[TIDES] - Training Decision Support System**
    - **[JST] - Job Structuring Technology**
    - **[XWalk] - the Civilian-Military Occupational Crosswalk Program**
    - **[HIER-GRP] - Hierarchical Clustering of Regression Equations**
    - **[VARSEL] - Variable Selection in the Absence of External Criteria**
    - **[MAX-FACTOR] - Factor Analysis for Large Scale Analysis**
    - **[TRICOR] - Manage Regression analysis on up to 400 predictors**

This is the capability currently threatened with extinction if prudent measures aren't taken to secure these Air Force resources.

Much of the MPT Tool Kits power was in the standardization and codification of data into its Master File System. The following describes a little about the processes involved in accepting "current" snapshots from external agencies and forging them into an Air Force asset.

Most Air Force agencies focus on "current data" and "current coding schemes. The Air Force human resource laboratories, however, receives those snapshots and performs an historical integration process which attempts to capitalize on stable input formats and codes, but is sensitive enough to detect, document, and codify any changes.

Many unique MPT software programs were developed to use what the programs call "standard layouts" to define field ID, description, size, storage format, and coding scheme (FIDO code). While those systems are now embedded in data bases and known as "data dictionaries," recall that these Air Force HR laboratory systems date back into the mid-1960s and represented a methodology well ahead of its time.

Master File Historical Integration is accomplished thusly:

1) the Laboratory personnel receive an external file submission (historically on tape),
2) that file is copied and translated to be compatible with the Laboratory's tape drives,
3) the previous layout (data dictionary) is located or provided information is transcribed into standard layout format which includes documented codes for each field,
4) audit distributions are produced with code meanings displayed,
5) audit distributions with code values are inspected for "reasonability",
6) discrepancies are documented and required changes made in the file, the file layout or variable coding standards.
7) the new file's name is added to the GDIT Master index for public use.

Descriptions of the individual programs used in this process follows:

GDIT - Generalized Data Index Table Retrieval System

GDIT is the user-friendly front-end to track available master files. Four digit numbers identify "Master File Families" that have their own introduction and brief history about the files. Following the summary is a detail line for each tape submitted, information about its time-frame and specification of the "standard layout" to be used with this file.

LAYOUT - Defining Location & Size of Data Elements

The LAYOUT family of programs helps to create, update, and display data dictionaries for all data files (Master Files as well as external or project files). Each data file has its own layout (or a reference to a "family" prototype). The layout file itself contains a header line, notes as desired by the layout creator and one detail line for each data element within a target data file. Each detail line for the data field has a variable ID, a description, variable type/format, variable length, cross-reference to the coding scheme (FIDO), and other support information (like "source file") as desired.

FIDO - File Item Data Overview

The FIDO column of the layout identifies the coding scheme used in that data field. The FIDO system includes an indexed master file of all coding schemes on record, chronologically tagged along with software to manage that system.

MANDIG - Manage Distribution

MANDIG is the workhorse program which creates "frequency files" that contain the code value and number of occurrences for each data element in the layout. This file is used by many programs to create "user friendly" reports.

FFPRTF - Print Frequency Distributions with FIDO Codes

The program to display frequency distributions along with their value labels is called FFPRTF. This product is the investigative backbone for historically integrating new submissions of Master Files.

REFORMAT or PCOB to alter File Format or content

Problems encountered by the above audit may result in GDIT annotations or file corrections using REFORMAT or PCOB. Note that PCOB is a COBOL Program Generator. This means that people with little or no COBOL experience can quickly be taught to generate operational COBOL programs. With the YEAR 2000 issue showing up more often, perhaps the Air Force should release this type technology into the public domain. The complication about competing with commercial firms offering similar products should be investigated. As the Laboratory pioneered this technology, it would not be surprising if all existing market products are traceable back to ex-Laboratory personnel.

MPT Software for Unique or Large-Scale Analysis

TRICOR

Perform and manage large scale correlation and regression analysis with up to 400 variables. Not only does this system run problems with more variables than any other system, it manages its output into a regression file that can be input to other packages like those below.

HIER-GRP

Perform a hierarchical clustering on regression equations. This has been used more commonly with captured rating policies to identify the number of distinct policy groups revealed by the data. This was used recently in the Laboratory to support an FAA study of pilots decision making behaviors.

VARSEL

Methodology to accept a correlation matrix as input and iteratively select a set of variables that accounts for the maximum variance in the absence of an external criterion.

MAX-FACTOR

Factor Analysis program for Larger Programs

Other Programs to be Evaluated

As the Air Force human resources laboratories were an active participant in the expansion of MPT science, it is hard, sometimes, to identify which software was developed solely by the Air Force versus which software came from outside sources and were enhanced or expanded to meet Air Force large-scale demands. One task of the MPT Transition Team would be to review the SOURCE code for the following programs to determine copyright status and processing size limitations. Here is a list of software to be reviewed:

AID-4 Automatic Interaction Detector
ANOVA-UNEQ Analysis of Variance for Unequal Cells
CANCOR Canonical Correlations
CROSS-CLAS Cross Classification
CURVE-FIT Fourier/Pearson Statistical Curve Fitting
EQUATE Equipercentile Test Equating
HITAB$ Hit Tables for Dichotomous Criteria
IAP Item Analysis for Achievement Type Tests
IAPG Item Analysis for Questionnaire Data
LOGIST Logistic Item Analysis
MANHNZ Mantel-Haenszel Statistics
MULTI-DISCR Multiple Discriminant Analysis
MULTI-PROB Multivariate Probability
RANGEX Correct Correlations for Range Curtailment

Note that these functions may have been incorporated into standard statistical packages such as SPSS, SAS, BMDP or others. If the programs above handle large sample sizes required by AFHRL MPT analysis, but the standard statistical packages can't meet Air Force size requirements, then these programs must be maintained as an MPT resource.

SWIFTACTION IS REQUIRED TO PROTECT THE MPT INVESTMENT

The Air Force has a substantial investment in Manpower, Personnel, and Training (MPT) technology. The purpose of this White Paper is to suggest that a more formal and stable transition team be established to advise on strategies ensuring the preservation of the MPT capability within the Air Force, if possible or outside the Air Force, if necessary. If multiple efforts are underway to disperse pieces of this technology, then this action team should be charged with tracking and documenting where all the pieces have gone. A secondary focus is on swift action, implementing any actions as directed to support and effect this transition using military, civil service, interservice advisors, and private sector personnel as specified by the Laboratory's MPT Transition Team Leader. Outside and private sector advisors and technicians may be able to offer a more stable, if not more objective, professional insight to ensure that the irreplaceable resources are either kept operational or transitioned. A goal is to move as much data and technology to other sites, intact -- not dispersed or salvaged.

Everything suggested in this White Paper is feasible and action in the short term is possible. Several "in place" contracts" permit almost immediate initiation of this MPT Transition Team Approach. To ensure proper focus within the available timeframe, it is important that a single, unified outside source be used and that it have both senior personnel psychologists AND computer systems analysts -- both groups familiar with Laboratory data systems and software processes. This is important to permit balanced, pragmatic recommendations under the current time pressure.