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The Job Classification Enhancement Project of the State of Montana: Efforts to implement an a priori job evaluation methodology.

Mel McCoy

The University of Montana

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The Job Classification Enhancement Project
of the State of Montana:
Efforts to Implement an A Priori Job Evaluation Methodology

by
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B.A., Eastern Washington University, 1967
Presented in Partial Fulfillment of the Requirements for
the Degree of
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Chairman, Board of Examiners
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Chapter One

Introduction

Modern Job Evaluation

Most texts, reports, and journal articles by nationally recognized authorities in personnel administration acknowledge job evaluation as the foundation of modern personnel management. The essential tasks of job evaluation are the creation of job descriptions for the positions in an organization and the determination of the relative worth of those positions (not the worth of the people in those positions). In meeting these essential tasks, job evaluation has also come to be the source for a variety of basic data for personnel administration.

The job description produced by job evaluation provides qualifications for hiring, measures for job performance evaluation, guides for job training, and definition of basic personnel management terms and concepts. The hierarchy of position classes and pay schedules, which is an important product of job evaluation, is a source of essential information for personnel budgeting and organizational structuring (Suskin, x).

Job evaluation has been called a product of the "Scientific Management" movement of the late eighteen hundreds (Henderson, 209). Job evaluation's "scientific"
description of positions within an organization was adopted by the civil service reform movements of that era as a counter to the spoils system which was still widely used, and as a means of controlling inefficiency and inequity in public employee compensation (Schafritz, et al, 119).

The basic steps followed in job evaluation constitute a job evaluation system's methodology. The basic steps have not changed over time. These steps are:

(1) creation of a detailed job description, (2) evaluation of the job as to its worth to the organization, and (3) use of the results of the job-worth ranking in step two to determine a proper wage rate for each job. It is the process used to accomplish step two which most differentiates the methodologies of job evaluation (Treiman, 1-2).

Qualitative and Quantitative Methodologies

The basic methodologies of job evaluation were developed during the late eighteen and early nineteen hundreds. Most of these early methods relied heavily on the qualitative judgment of the job evaluation expert. One well known example of these "qualitative" methods is the Position Classification method, especially as developed by Ismar Baruch (former Director of the U.S. Civil Service) in the early 1940s (Henderson, 216).
Henderson summarizes this type of job evaluation methodology:

Position classification is the term applied to the method of job evaluation used widely by a variety of public agencies and jurisdictions. As developed by Baruch, position classification includes the identification and description of a number of universal compensable factors, the writing of detailed specifications for a class of positions (class standards), the writing of a detailed position description, and the allocation of a position to a class. This method requires the use of in-depth job analysis. The job analysis provides a listing of the responsibilities, duties (and possibly tasks), and qualifications required in job performance. . . . The most important document developed in the position classification plan is a classification standard, which contains a broad description of required knowledge, major responsibilities and duties, and basic qualifications of jobs included in a class. The standard also includes a description of the compensable factors in terms applicable to the
work performed by the jobs in the class and describes the level or levels of difficulty and limits of these factors (Henderson, 216-217).

The qualitative methods of job evaluation, represented by the Baruch method, were based on the expert's subjective (qualitative) judgment as to the best fit of narrative descriptions of a particular job's compensable factors to the narrative descriptions of a class standard's compensable factors. These qualitative methodologies were adopted to a large extent by the public sector, and increasingly by the private sector, especially during World War II (Treiman, 1).

Since World War II, the private sector has seen considerable change in the "science" of job evaluation. There has been a steadily growing preference to use "quantitative" methodologies for the analysis and ranking of positions. This preference for quantitative methodologies has been slower to enter the public sector, but the pressure for such a change is building steadily. The qualitative methodologies have fallen from favor primarily because of the inability of those employees or managers of an organization, who are not experts in job evaluation, to gain a clear understanding of the decision process involved when the expert decides on a position.
Although often accused of being only pseudo-scientific, numerically quantified methodologies have opened the job analysis and classification process to greater participation by members of the organization other than the job classification "expert". Quantified methodologies provide numerical reasoning as justification for position rankings rather than poorly documented, subjective judgments of personnel professionals. The "paper-trail" of the decision process is much clearer and more easily understood by employees and managers, and therefore more easily explained and defended.

Job analysis and classification decisions have become increasingly liable to legal challenge. A courtroom defense based on poorly documented, qualitative decisions, is very difficult. Thus, a numerically quantified job analysis and classification methodology offers a better option for meeting the challenges of employee acceptance and legal defensibility.

One of the more important events leading to the move towards quantified job evaluation methodologies in the public sector was the Oliver Report of the U.S. Civil Service Commission's Job Evaluation and Pay Review Task Force. The report recommended use of the Factor
Ranking/Benchmark Method. This method was adopted by the U.S. Civil Service Commission in 1975 (Schafritz, 133). The method is one of the two most popular quantitative methods in use in the public sector.

The Factor Evaluation/Benchmark Methodology

Identified as The Factor Evaluation System (FES), the Federal methodology of job evaluation combines elements of whole job ranking, point rating, and factor comparison methods of job evaluation. Factors that are appropriate to the category of positions to be covered (not universal across the entire organization) are chosen, and a representative or benchmark position is described in detail using these factors. The factors used to describe the benchmark position are assigned points according to their degree of importance. New positions or positions to be evaluated are described using the factors of the benchmark position they most closely resemble, and are assigned the benchmark position's total evaluation points to determine ranking. If no benchmark position can be found which contains factor descriptions which closely match those of the position being analyzed, factor descriptions contained in other benchmark position descriptions which do match are found, and the degree points assigned to those individual factors are assigned to the position being analyzed. The
total points accumulated to the new or reviewed position determines its ranking. (McEwen, Position Classification, 26-27)

The Hay Methodology

Another quantified system of job evaluation which has wide acceptance and application is the Hay Guide Chart Method. Developed by Edward N. Hay and Dale Purves in the 1940s, this system uses three universal factors to evaluate the relative worth of positions: know-how, problem solving, and accountability. Each of these three universal factors is more precisely defined and these sub-factor definitions are listed on a guide chart with points assigned to each sub-factor definition. The Hay system was used as the job evaluation method for the State of Idaho (Henderson, 227).

Both of these methods have received criticism, but both have served as the basis for modernization of state job evaluation and classification systems. They have accomplished, at a state-wide level, the objectives of modern job evaluation and classification systems, which are:

1. To establish an orderly, rational, systematic structure of jobs based on their worth to the business [organization]. (worth normally relates to the importance of the job
or its contribution to the overall attainment of the goals and objectives of the business).

2. To justify an existing pay structure or to develop one that provides for internal equity.

3. To assist in setting pay rates that are comparable with similar jobs in other businesses or organizations.

4. To provide a rational basis for negotiating pay rates when bargaining collectively with a recognized union.

5. To identify a ladder of progression or direction for future movement to all employees interested in improving their compensation opportunities.

6. To comply with equal pay legislation and regulations determining pay differences according to job content.

7. To develop a base for a merit or pay-for-performance program (Henderson, 210).

While these two methods offer a ready-made answer to modernization or introduction of job evaluation in the public sector, and both have been used for state government systems, the State of Montana chose to modernize its qualitative job evaluation and
classification system with a hybrid quantitative method, developed by and unique to Montana. The Job Classification Enhancement Project was created for that purpose.

The purpose of this paper is to describe the circumstances leading to the decision to change the State of Montana's job evaluation and classification methodology, and the technique chosen to develop the new method. A primary goal of this paper is to promote understanding of the choices and problems encountered in developing and implementing a state-of-the-art public sector job analysis and classification system.
Chapter Two

Montana's Present Classification System

Prior to 1975, the State of Montana had no statewide personnel system. Each state agency operated its own personnel system, including individual pay plans and job classifications. As a result, there was no internal consistency in pay rates offered for similar positions in different agencies. In addition, the Governor's Office and the State Legislature was unable to deal effectively and consistently with fundamental personnel functions such as collective bargaining, equal employment opportunity, and budgeting for personnel services. In 1973, this statewide problem was addressed by passage of the Classification and Pay Act. (McEwen, Position Classification 3)

The Classification and Pay Act directed the Department of Administration to develop and maintain a job classification system for the state and to propose a pay plan based on the results of this classification system. As described by McEwen, the Classification and Pay Act (2-18-202, MCA) provided the following guidelines for classifying state positions:

Guidelines for Classification. (1) In providing for the Classification plan, the department shall group all positions in the State service into defined classes based on
similarity of duties performed, responsibilities assumed, and complexity of work so that:

(a) similar qualifications of education, experience, knowledge skill and ability can be required of applicants for each position in the class;

(b) the same title can be used to identify each position in the class;

(c) similar pay may be provided, under the same conditions, with equity to each position within the class. (McEwen, Position Classification, 3-4)

The Department of Administration adopted a quantitative job evaluation method, called the Classification Grading Schedule, to determine the relative ranking of the state's positions. The Classification Grading Schedule used eight factors for job analysis: education, experience, physical demands, working conditions, supervision received, supervision exercised, authority exercised, and responsibility. Each factor was divided into sub-factors or degree levels and each degree level was assigned a point value. Each position or class of positions was evaluated and given the points corresponding to the degree of each factor it
possessed. These point assignments were then totalled and the total converted to a grade or skill level. (McEwen, Position Classification, 5)

One of the primary objectives of developing the classification system was to establish internal equity among all state positions. Internal equity means that all jobs in classes with factors rated similarly should be paid at the same rate. Using the same evaluative factors for all jobs within an organization is an important requirement for internal equity, and the use of eight universal factors by the classification grading schedule was calculated to serve this purpose.

Problems arose, however, when the internal equity promised by use of the classification grading schedule method began to be eroded by legitimate attention to the demands of collective bargaining and pay equity with the open job market (external equity). Job skills in high demand often required pay above that which would have resulted from strict adherence to the state's new pay plan and job rankings. Also, all aspects of job analysis and classification were open to collective bargaining. Negotiations with bargaining units resulted in adjustments of ranking for several major occupational categories (e.g. Highway Patrol Officers).

Additional problems with the classification grading
schedule method included misunderstanding of factor definitions leading to grade inflation, and a lack of written documentation on how to apply properly the method. Part of the problem stemmed from classification analysts insufficiently trained in applying the factor definitions and degree differentiations. This lack of expertise and accuracy often made defense of classification decisions difficult.

In 1976 the classification grading schedule was discarded as the job evaluation method for most of the State of Montana's classified positions. The system was considered not sophisticated enough for modification (Brown, Phone Interview). A modified quantitative method was implemented for 800 labor, trade, and craft positions in that same year. Created through collective bargaining, this "Blue Collar" plan was one of several separate classification plans resulting from negotiations with bargaining units.

The classification grading schedule was replaced in 1977 with the Factor Comparison Method, which is in current use for 12,500 state positions. McEwen describes the Factor Comparison Method:

This method was developed by rewriting the 8 factors of the classification grading schedule into 5 broad and general factors. The major
distinction between the two methods is that the factor comparison method does not use quantitative point values. The five factors -- which are nature of work, supervision exercised, supervision received, public contact, and scope and effect of actions and decisions -- serve as a basis for comparing jobs to each other. Positions or classes are compared to each other and a series of qualitative judgments are made on the relative strengths and weaknesses of a position or class in each of the five factors. The cumulative judgments are expressed in a grade or skill level. This method is relied upon to make classification decisions for new positions and for existing positions with altered duties and responsibilities. It is also used to defend decisions in the appeals process, even though many of these decisions were based on the classification grading schedule. (McEwen, Position Classification, 8)

The Factor Comparison Method was patterned after the Hay Method and Federal Factor Evaluation System, but with the point assignment technique missing. A separate version of the Factor Comparison Method was created in
1979 and 1980 by changing the factors to nature of work, accountability, nature of impact, size of impact, and supervision. Designed to cover upper managerial levels, this modification is called the Executive-Manager Evaluation System (EMES), which is currently used to evaluate positions in state grades between 15 and 22.

During the development of this modification, the advantages of a quantified methodology were recognized and incorporated. The EMES Method uses the point assignment technique to produce more quantifiable results. The acceptance and use of the assignment of point values to the degree definitions of the EMES system's factors has encouraged the Personnel Division to create similar modifications for state employed attorneys (Lawyer Evaluation System) and clerical positions in the University System.

Problems and Solutions

In the early 1980s the Personnel Division experienced increased pressures to change the existing classification system. These pressures resulted in recommendations from a Governor-appointed study commission for modifications to the State's personnel system and new comparable worth legislation.

Study Commission Recommendations
In October of 1981, Governor Ted Schwinden issued Executive Order No. 25-81, creating the Personnel and Labor Relations Study Commission (PLRC). The Commission was charged to prepare a final report by December 1, 1982, making "... recommendations to the Governor and Legislature on methods for improving the personnel and labor relations programs in Montana" (PLRSC, Appendix A,1). The Commission was to address five issues, two of which directly involved job classification:

a. Whether current state employee compensation and classification practices ensure inter-agency quality and serve to attract and retain qualified and competent employees needed by state government. . . .

e. Whether the state's grievance procedures, including the role of the Board of Personnel Appeals in resolving classification disputes, meet the needs of state employees and managers. (Final Report, Appendix A,1)

The Final Report of the Commission listed a more detailed account of the issues surrounding position classification. The Report pointed out that a survey of state managers had revealed continued dissatisfaction with the current classification system. A common dissatisfaction pointed to by the survey was a general
perception that the qualitative, nonquantified job evaluation used by the General Schedule (the Factor Evaluation Method) was too subjective. The Report explained that:

In "qualitative" job evaluation methods like Montana's, jobs are compared to each other and a series of judgments are made as to the relative strengths and weaknesses of the jobs on each factor—the relative degrees of complexity of work, the relative degrees of supervision exercised. The end result is a single judgment concerning the appropriate skill level or grade.

There is no record of the series of judgments which establish the final grade as in "quantitative" systems. Consequently, the process appears subjective, lacks confidence and is more difficult to review than quantitative methodologies. (PLRSC, 20)

The Report listed several other complaints often voiced by users. First, many of the class specifications are not clearly understood, making review of classification decisions and training in classification decision making difficult. Second, there are too many
classes, making the system unnecessarily complex. Third, managers have not been informed about the system’s purposes and techniques. Fourth, many employees feel the system does not provide internal equity, especially concerning sexual bias affecting the concept of equal pay. Fifth, there was a feeling that the classification process does not provide for sufficient inclusion of the job knowledge of incumbents and supervisors. The Report Findings generally held that the present classification system was as sophisticated, compared to other state classification systems, as its short life span would allow. The findings did, however, point out a definite need for improvements in methodology.

The second classification issue was whether the state’s grievance procedures involving classification disputes (heard by the Classification Bureau, the Personnel Division, and the Board of Personnel Appeals) could adequately serve the needs of the employees and managers. The minutes of the Commission’s meetings showed this area of concern was an important aspect of the critique of the present classification system. At the time of the creation of the Class Specifications (the primary standards of evaluation used in the Factor Comparison Method), the pressure of time limits required the writing of 1500 class specifications by 6 staff
members in the space of 8 weeks. Appeals of classification decisions began immediately after implementation of the new system, and defense of classification decisions before the Board of Personnel Appeals using the hurriedly constructed class specifications was very difficult.

After several meetings during which reports concerning classification issues were presented, including a summary of testimony received during an evening public hearing, the Commission began a review of the present system based on advice from a consultation team of three classification and compensation experts. The consultation team also presented feasibility studies of the application of the Hay and Federal Factor Evaluation System methodologies to the Montana classification system.

Solutions to the problems with the present classification system were narrowed to three options: complete replacement of the present system with another method, keeping the present method and continuing planned improvements, or modifying the present methodology with techniques borrowed from other methodologies (McEwen, Position Classification 19). These three options had advantages and disadvantages.

The first option, to replace the current system with
a pre-existing, quantitative methodology (the Hay and Federal Factor Evaluation System methodologies were the two most thoroughly considered), would offer the advantages of quantified methodologies and experts available for consultation. This option, however, could have a high acquisition cost if purchased from a professional consultant and would negate any level of acceptance by managers and employees already attained by the current system. It would also probably result in a significant realignment of position rankings, which would result in disruption of pay grade relationships and possibly higher payroll costs.

The second option, to maintain the current system and pursue efforts to improve it, would preserve the work done to date to improve the Factor Evaluation Method. The current system is also flexible in its application to the changing needs and wide variety of positions found in a state-wide personnel system (quantitative methodologies have often been accused of being too inflexible). The present system has also gained considerable acceptance through several years of challenges through the classification appeals process and through negotiated modifications. Maintaining the current system would certainly be the least expensive and least disruptive option. However, this option would not gain the
perceived clarity of method (a simple addition of assigned points) and the resulting increased defensibility offered by quantified methodologies. This option would also not answer the concerns of a large number of managers and employees who feel the present system needs major modification.

The third option, the one chosen by the Study Commission, was to make major modifications to the existing system by incorporating into the Factor Evaluation Method techniques and theories of quantitative systems such as Hay and the Federal Factor Evaluation System. This option offered the advantages of a quantitative methodology while preserving the best features of the current qualitative system. Existing staff could be used for this option, albeit with considerable cost in staff time. It would be difficult, however, to call on the advice of professional consultants since there would be no "experts" on such a unique methodology. Also, an in-house developed methodology would not be able to claim the legitimacy of a tested and proven successful outside system.

The specifics of the recommendation included the advice that the enhancement measures be phased in over a period of two and one-half years, and that the enhancement build on the best features of the current
system while incorporating the best features of quantification techniques found in the Hay and Federal Factor Evaluation systems. Specific recommendations also included: separate but coordinated point factoring systems for major occupation groups to meet better the needs of each group, the use of classification advisory committees for each occupational group, delegation of position classification authority to agencies demonstrating the capacity to exercise the authority, and implementation of these enhancement measures using existing staff (PLRSC 21).

The 1983 Comparable Worth Act

Shortly after publication of the Final Report of the Governor's Personnel and Labor Relations Study Commission (PLRC), containing the Commission's recommendations for modifying the State's job evaluation methodology, the Montana State Legislature passed 2-18-208, M.C.A., requiring that a standard of comparable worth be established for the State's personnel system. Specifically, the Act's requirements were that: "The Department of Administration shall, in its continuous efforts to enhance the current classification plan and pay schedules, work toward the goal of establishing a standard of equal pay for comparable worth." Suggestions
in the Act for reaching this goal included eliminating any sex based bias inherent in the state system's job evaluation factors and applying those factors across occupational groups when those groups are dominated by males or females. (2-18-208, M.C.A.)

This new comparable worth standard caused basic changes in the goals to be met in improving the State's job evaluation system. First, it established the need for a fundamentally new methodology for the State as opposed to continued improvement of the existing method. Removing sex biases, for example, would probably result in major changes to the existing factors and factor weights causing fundamental changes to the system.

Second, a new system could not be built around the concept of separate or adjusted plans for major occupational groups as recommended by the Study Commission (McEwen, interview). Prior to the comparable worth movement, conventional job classification wisdom suggested that there should be separate classification and pay plans for each major occupational category because of the dissimilarity in levels of importance of various compensable factors between typical public sector positions (Suskin, 132). Comparable worth standard advocates were, however, being very specific about the fact that a single evaluation plan should be used with a
single set of compensation factors applied universally across all occupational categories in an organization. The National Academy of Science study of the comparable worth issue pointed out that: "When multiple plans are used, it is difficult to compare jobs across sectors of the firm. . . . The inability to compare jobs across sectors makes an assessment of the possibility of wage discrimination very difficult." (Steinberg, 104)

Third, meeting the comparable worth standard appeared to call for an *a priori* approach to development of the new system. There are two approaches to establishing compensable factors for job worth analysis: *a priori* and policy capturing. When using the *a priori* technique of establishing job worth values, nothing about the position ranking results is assumed. Compensable factors are chosen as to their universal legitimacy and the positions are then evaluated by those universal factors. In contrast, when using a policy capturing approach, compensable factors are chosen based on the current position ranking in an organization. The technique "selects factors and weights them so as to replicate the firm's existing pay structure" (Gold 42). The policy capturing technique of determining job worth values was not favored by comparable worth advocates because they felt it
perpetuated the bias of existing systems.

Fourth, to enhance the legitimacy of the a priori approach (selection of factors prior to evaluating the positions), those factors would be selected through a process involving the creation of an advisory committee. As the Project Director pointed out: "If the classification enhancement project is to enjoy the acceptability desired, it is necessary to promote adequate input and participation by groups with identifiable distinct interests such as labor, management and women, particularly on the value laden decisions -- selection of compensable factors and weights" (Brown, 6/17/85 Memo 11). This type of inclusion of interest group concerns was considered important to comparable worth advocates in order to ensure a strong voice for those concerns.
Chapter Three

The Classification Enhancement Project

Taking its cues from both the Study Commission’s recommendations and the standard set by the new comparable worth legislation, the staff of the Personnel Division developed a plan for modifying the state’s job evaluation and classification system. The plan was called the "Montana Job Classification Enhancement Project". Existing staff members of the Classification Bureau were designated the Project’s development team. The project team was comprised of Joyce Brown, Director, and Eric Trimble, Classification Analyst, and later, the Job Classification Advisory Commission and job ranking panelists.

Although meeting the standard of comparable worth was the major controlling objective in determining the type and form of job evaluation methodology the Personnel Division thought should be developed by the Project, there were also other important technical and administrative goals to be realized. Technically the Project was to create a modification of the existing evaluation methodology and system which would have clearly defined job evaluation criteria and procedures to improve reliability of analyst decisions as well as employee understanding and acceptance of those decisions. Administratively, the modified method should
provide easier, and therefore quicker, responses to requests for position classification or reclassification, which should also mean less system maintenance problems and quicker processing of appeals. (Brown, Briefing Paper 1)

The Proposed Enhanced Methodology

Based on five months of researching the quantitative methodologies available as models, the Project staff chose the Factor Evaluation Benchmark Method developed by the Oliver Commission as the model to be used. Its perceived advantages were that it was developed by public sector personnel specialists for public sector personnel systems, it had been or was being successfully implemented in the U.S. Civil Service and several state personnel systems, and it was flexible enough in basic design to be modified for Montana's use.

In particular the Project staff proposed an adaptation of the version of the Factor Ranking Benchmark Method used by the U.S. Civil Service, the Federal Factor Evaluation System (FES). The FES uses point values assigned to the degree level descriptions of five or more universal, compensable factors. These factors, their degree levels and the points assigned are contained in an evaluation Guide Chart. A position is evaluated by matching the position's factor degree level descriptions
degree level descriptions on the Guide chart. The sum of
the Guide chart's point values for the matched factor
degree levels determines the position's classification
ranking. The assignment of points to the individual
factors and their degree levels depends on the weights
assigned to each of the factors and their degree levels.
Weighting allows the recognition of one factor's
importance over another's, and makes a significant
difference in job ranking results.

The FES, as a widely accepted model of a
state-of-the-art, quantified methodology, offered
excellent potential for enhancing Montana's
classification system. It featured carefully defined
factors and factor degree levels, point based ranking,
benchmark positions for consistency, and systematic
application procedures which are more easily followed and
understood by non-experts. In a June, 1983 memo to the
Personnel Division Administrator, Dennis Taylor, Brown
described the basic construction and methodology of the
proposed modification to the evaluation system as modeled
on the FES system:

1. A single methodology (one set of
classification criteria) for all state jobs.
Working toward a standard of equal pay, not only for equal jobs, but jobs of comparable value as required by . . . [2-18-208, M.C.A.] requires a classification system capable of determining the relative value of dissimilar jobs. . . .

2. A quantitative factor evaluation or factor ranking benchmark evaluation methodology or variation thereof.

This methodology generally involves: (a) deciding what aspects of state jobs should determine their level of compensation (deciding on universal compensable job factors and what weight each should carry in determining level of compensation); (b) determining how many levels of each factor can be distinguished in the entire range of state jobs and establishing an appropriate rating scale to measure the level of each factor and weight it appropriately; (c) developing a conversion table which indicates the overall skill level (grade) of jobs with any given total rating; (d) rating each factor of a set of benchmark
jobs which represent common, typical jobs found throughout the state system to provide guidance on the appropriate use of the rating scales; (e) for each state job, collecting information on each factor; and (f) rating each factor of each job using the rating scale and benchmarks and determining the overall skill level using the conversion table.

This methodology is generally regarded as the best for achieving the goals of objectivity, reliability, understandability, acceptability and defensibility. . . . (Brown, Memo 5-6)

Developing the Enhanced Methodology

With the proposed methodology modification modeled closely on the FES, the Project staff chose to follow the basic pattern of the developmental procedure used by the Federal government in creating and implementing the FES system. Montana’s adaptation of this developmental procedure comprised eight basic steps.

The first step in developing the enhanced methodology was the selection of a tentative set of compensable factors. The Project team, with assistance from the Personnel Division and State agency managers and department directors, reviewed a survey of job worth
factors collected from a variety of quantitative systems. Through several meetings, the Project team reached consensus on job worth factors which they considered typical of those found in popular systems. (Brown, Phone Interview)

An important consideration in their choice was to choose those factors which would involve the least amount of overlap between factors. More specific technical requirements to be met by the factors chosen were: (1) that the factors and weights not unnecessarily deviate from those presently in use in order to avoid unnecessary disruption, cost and delay; (2) that the factors be limited to a workable number; (3) that they operate relatively independently of each other; (4) that they be clearly definable and measurable; and (5) that they operate to distinguish between jobs (Brown, Memo to Taylor - 6/17/83, 6). Montana's factors would also be designed to eliminate gender and other biases in the evaluation process, be specific enough to describe clear differences in job worth, and yet be universal enough to be applied across the spectrum of state positions. The following are the factors chosen and their subfactors:

I. Complexity (mental effort)

II. Physical Effort

III. Knowledges and Skills
a. Occupational (technical) Knowledge
b. Supervisory/Managerial Knowledge

IV. Human Relations Skills
   a. Nature of Personal Contacts
   b. Frequency of Personal Contacts

V. Work Impact Responsibility
   a. Nature of Responsibility for Impact
   b. Nature of Impact
   c. Consequences of Error
      (including consequences to property
       and co-worker safety)

VI. Working Condition Hardships
   a. Physical hardships
   b. Work Schedule Hardships

VII. Working Condition Hazards
    a. Severity of Possible Injury
    b. Probability of Injury
       (Brown, Personal Interview)

The Project staff noted that the major difference
among quantitative methodologies lie not in the choice of
compensable factors (which were nearly uniform across
different systems) but rather in factor and subfactor
definition terminology and the weights given to
individual factors. Choices made in these variations,
they noted, were far more value laden than the actual
The second step of the procedure was the choice of benchmark jobs from the state's personnel system. The purpose of choosing benchmark positions was "to provide descriptions of jobs which can be whole-job ranked and ranked by factors to assist in the development of a series of factor degree level definitions which describe discrete levels of each factor, from lowest to the highest level" (Brown and Trimble, Procedural Steps 5). The criteria for selecting the jobs were: that they represent the potentially lowest through the highest degree levels of each of the compensable factors; that they represent the principal types (class series) and class levels of jobs in the state's personnel system; that they include the common jobs in all occupational series and would, therefore, be occupied by a significant number of employees; and, finally, that they be accurately defined jobs. The Project staff chose 140 benchmark jobs as being a representative sample across class series and levels.

The third step of the procedure was for the Project staff and Personnel Division staff to write detailed job descriptions for each of the 140 benchmark jobs. The job descriptions consisted of descriptions of the major,
regular and recurring goals and worker activities of the job, including specific description of these elements for each of the tentative set of seven compensable factors. Initially, the information was obtained from existing Position Descriptions covering the particular jobs, but this was followed by sending job description questionnaires to incumbent employees and their supervisors. Their information was then incorporated into the final Benchmark Job Descriptions.

As the benchmark jobs were being selected and described, the Project staff and the Personnel Division created the Job Classification Advisory Council and its associated Rating Panels. The Advisory Council was composed of 14 members, chosen by the Personnel Division (with nominations from state agencies, unions and interest groups) to represent state employees, managers and the private sector. The four Rating Panels consisted of these 14 Advisory Council members plus an additional 30 individuals chosen from agency nominees to represent "a cross section of various occupational groups, labor, management, women's groups and a gender balance" (Brown, Briefing Paper 3).

The fourth step of the procedure was the whole job ranking and factor ranking of the 140 benchmark positions by the Rating Panels. The 11 members of each Panel
received two sets of 17 jobs, plus a set of 4 controlling jobs (the same set of 4 controlling jobs was given to every Panel). Then Panel members individually ranked their 38 assigned jobs (see appendix 1). They first ranked the jobs by comparing the jobs wholly, one against the other. They then ranked the jobs against each other based on each of the seven factors. These rankings were reviewed and in some cases adjusted by the Project staff and the 14 members of the Advisory Council (meeting separately from the Panels) to correct obvious technical errors. The final result of this ranking was a total of 8 rank orders of the 140 benchmark jobs, one as a whole job comparison, and one ranking each for the seven compensable factors. The whole job ranking would provide a criterion ranking (reference for statistical analysis) which could be used to validate the enhanced method's guide chart.

Statistical analysis was employed to indicate the weights to be assigned each factor. Weights were assigned according to subjective judgments of how much of the whole ranking was explained by each of the factor rankings. The proposed weightings were presented to the Job Classification Advisory Council (JCAC) for review, and the final weightings were determined with the advice of those 14 advisors. These final weightings were:
The fifth step was the development of a preliminary Degree Level Guide chart. Each Guide chart contains descriptions of the degree levels of the compensable factors with point values assigned to each degree level definition. Jobs are ranked by matching the degree of each compensable factor found in the job to a guide chart degree level definition.

The guide chart's degree level definitions consist of narrative descriptions of the relevant characteristics a position would have to have to be assigned that particular degree level of any factor. To illustrate, under the general factor "Working Condition Hazards" is the subfactor of the "Severity of Injury" possible on the job. This subfactor has two degree levels, "Injuries of Minor Severity" and "Injuries of Major Severity". The degree level definitions of the these two degree levels are:
Minor Severity: Injuries would be of a minor nature such as burns, cuts, sprains, scratches, bruises, or similar injuries that would require no more than good first aid treatment.

Major Severity: "Injuries could be serious and incapacitating to include the possibility of death. Injuries could include broken bones, bullet wounds, extensive head injuries, severe burns, suffocation, or a combination of a number of internal or external injuries." (New Methodology Draft Factor Descriptions, Factor 7, 1)

These levels of each factor or subfactor were determined by analyzing the rankings of benchmark jobs on that factor in order to discover job groupings which would represent discreet levels of each factor. The Project staff, in consultation with the JCAC, evaluated each tentative factor degree level according to the following criteria: each factor degree level's definition should match to jobs which the non-expert observer would intuitively recognize as having the same levels of that factor; each degree level's definition should be able to be as unique as possible from the level definitions above and below; and, finally, the degree levels for each
factor should represent logical and fairly equalized progressions from lowest to highest level of the factor.

Once the degree level definitions were written for all seven factors and their subfactors, point values were assigned to each degree level. A procedure (see appendix 2) for assigning points was used which distinguished each level's relative worth to other degree levels of the factor. The range of points in each guidechart reflected the weight given the factor.

These tentative Guide Chart Factor Degree Level Definitions were then tested by applying them to actual benchmark jobs. Several adjustments of the factor weightings had to be made before this factor ranking to whole job ranking agreement could be achieved. These adjustments were critical because the developmental technique was based entirely on the whole job ranking as the controlling element for assignment of points to degree levels.

As a sixth and final step in the development of the enhanced methodology, another 135 to 140 state jobs were chosen as a test set. These jobs were selected to be a sample across class series and to fall within the same class series of at least one or more of the original benchmark jobs. Because they would be the ones applying, or at least explaining, the application and results of
the enhanced methodology, ten personnel officers from various state agencies were chosen to apply the enhanced method to this test set of jobs. The results of this test application were summarized for presentation to employees and managers of the state through informational meetings and one public meeting. It was at this, the final step of the developmental procedure, that completion of the Position Classification Enhancement Project met serious opposition.
Chapter Four

Criticism, Response and Redirection

One of the characteristics of an a priori approach to developing a methodology for job evaluation is that it chooses compensable factors which the organization finds legitimate without regard to whether or not the resultant job/position evaluation rankings will maintain existing job worth relationships. It is this feature of the a priori approach which caused it to be preferred by comparable worth advocates as a remedy for systematic undervaluation of female or minority dominated jobs. It is this same feature, however, that prompted quick opposition to the test results of Montana's enhanced method, and brought the Enhancement Project under criticism.

Criticism

Nearly eighty comments on the enhanced system were received as a result of the formal review and public comment phase of the project. Included in this number, were "open letters" and other published criticisms from such organizations as the Montana Public Employees Association (MPEA) and the Staff Senate of the University of Montana. The majority of comments concerned the results of the test factoring and ranking of the sample benchmark jobs.

The original intention was that the enhanced method
would be designed to avoid unnecessary changes in the State of Montana's existing job worth relationships. But the use of a completely new set of job worth factors made impossible the avoidance of significant realignment of the rank order of some of the tested benchmark jobs (McEwen, Interview). Preliminary indications of the test ranking results were that sixty percent or more of all state jobs would move up or down one or more job grades when the enhanced method was implemented (Classification Enhancement Options 4).

Realizing that the enhanced system could mean upgrading and downgrading of jobs, job incumbents naturally feared that their jobs would not be sufficiently upgraded to improve or at least maintain their current relative ranking, or that they may be downgraded. This concern over the test ranking results, and the perceived implications for changes in pay grades, was the impetus for comments and criticisms regarding the procedure of, and even the need for, development of an enhanced methodology.

The comments included complaints about: the inadequate provisions of time and information needed by employees for evaluation and criticism of the enhanced methodology; the degree of potential disruption to existing pay grades versus little evidence of comparable
worth problems in the State's system and little proof that these disruptions would cure comparable worth problems; and a myriad of concerns and criticisms about the choice, descriptive language, weighting, job relatedness, accuracy and general effectiveness of the job evaluation factors chosen for the enhanced method. Basically the criticisms suggested an acceptance and defense of current job worth values and relationships. Opponents of the Project and its enhanced methodology were unwilling to go through the trauma of significant change without clear evidence of need.

Response

In a joint memo of response to the comments and criticisms, the Personnel Division and the Job Classification Advisory Council admitted that both the time and information provided employees to solicit comments were inadequate (State Personnel Division, Response Memo 2). This was due, the Memo said, to an attempt to meet budgetary deadlines of the 1985 State Legislative Session. The Personnel Division agreed to delay the presentation of the Project to the Legislature until the 1987 Session. Their response said that this additional development time would be used for the provision of more information to employees as well as solicitation of more comments from state employees.
The response went on to defend the \textit{a priori} technique for choosing job worth factors and several other features and characteristics of the Project and its enhanced methodology. The memo cited several recent writings by comparable worth proponents as justification for the technique of subjectively choosing a set of job evaluation factors to reflect "universal" job worth values deemed equitable by a representative group of employees and advisers, the JCAC and the job grading panels (Treiman and Hartmann, as quoted in Response 8-9). The response pointed out that comparable worth problems could not really be discovered and addressed until a universal, bias-free evaluation of job worth could be made. An \textit{a priori} approach was necessary in order to avoid continuing sex based biases that may be undiscovered in the current classification and pay plan. Opponents argued, however, that disruption of current pay scale relationships without clear evidence of comparable worth problems would be putting the cart before the horse.

Several comments and complaints reflected concern over the factors chosen. Some examples of complaints were: the factors did not adequately measure mental stress; too much value placed on supervisory/managerial duties; not enough value was placed on creativity and
independence; there was a failure to consider the job market; and the enhanced method failed to reflect job worth values found in the collectively bargained pay plans. Regarding inclusion of mental stress, creativity and more emphasis on human relations in the chosen factors, the response noted the Personnel Division's recognition of the legitimacy of the concerns. The response pointed out, however, that these values were often measured as part of the chosen factors, but the response also stated that these concerns would be reconsidered and reevaluated during the extended development phase.

Responding to comments on the lack of inclusion of market values in the enhanced system, the Personnel Division reminded those commenting that the State of Montana had never tied internal pay to the external market. This feature of past State pay plans and the proposed new plan was, in fact, one of the major requirements for compliance with a comparable worth standard since comparable worth advocates believed existing market pay values systematically undervalued jobs held predominantly by females and minorities (Gold 54). The response also argued that both the current state plan and the enhanced system provide for pay exceptions for positions which command unusually high
salaries on the labor market.

The response also defended the universality of the enhanced method which if implemented would cover ninety percent of the State's classified positions. Applying one set of job evaluation factors over most, if not all, of the positions in an organization, and across occupational categories, is also important to meeting a comparable worth standard (Gold 51). The response pointed out that, while statutory restrictions prevented replacement of the collectively bargained pay plans, the enhanced method was designed to measure all jobs and could therefore be used to describe pay disparities between pay plans which could be addressed during collective bargaining.

Redirection

Sometime after the public comment and response phase of the Project, the Department of Administration decided to place the entire Position Classification Enhancement Project under reevaluation. It is not entirely clear why this decision was made. Joyce Brown, Project Director, suggests lack of support for the enhanced method plus costs of implementation as the impetus for the decision (Brown, Personal Interview). Other political or scheduling concerns that may have been a part of the decision cannot be determined from documents or
interviews.

In January, 1985, the request for funding for implementation was put on hold until the 1987 Legislative Session. During Spring and Summer of 1985 the project team began a reevaluation of the Project's over-all direction and method of development. The project team even considered whether development should continue at all (Brown, Personal Interview).

As part of that reevaluation, the Personnel Division summarized options for the future direction of the Job Classification Enhancement Project. The Department of Administration presented the summary to the Governor's Cabinet, and listed six possible options: continue the present development of the enhanced method, incorporating the additional time offered by the two year delay; modify the enhanced method's job worth values (evaluation factors) to minimize the potential disruption of existing pay grades as much as possible while still complying with 2-18-208 MCA's mandate for a comparable worth standard; completely redo the process of choosing and testing job worth factors to answer pay grade disruption, factor weighting and factor choice complaints; scrap the Classification Enhancement Project and continue to use the present qualitative system with modifications to eliminate sex biases; hire outside consultants to design
an entire quantitative method; or develop separate quantitative systems for the State's occupational categories.

As of this writing, the Personnel Division has begun to investigate the feasibility of the second option, modifying the enhanced method's evaluation factors to minimize changes in pay grade relationships (McEwen, Personal Interview). This option is clearly identified by the Personnel Division as a move from the a priori approach, to the policy capturing approach:

... [the original project development technique] can be used to duplicate an existing standard of value and reduce grade changes. This involves statistically deriving factor and sub-factor weights from the current job hierarchy rather than the hierarchy created by the 44 job rankers. This technique is called "policy capturing" because it captures and replicates pre-existing compensation policies in a new or improved method. (Summary of Options 5)

This option, if pursued as a new direction for development of the Project, would preserve most of the developmental work done to date and create minimal additional costs. This option would also, however, deny
the opportunity to reevaluate completely and improve the current job worth values. This option also runs the risk of not meeting the intent of the legislative call for elimination of sex biases in the existing classification and pay system.
Chapter Five
Analysis and Conclusions

The Montana State Job Classification Enhancement Project was an ambitious undertaking. Although, as of this writing, the Project is considered to be "on hold" pending the outcome of the feasibility study of the policy capturing option, it is probably accurate to say the original project has failed to the extent that the FES-based, a priori system will not be implemented. This Chapter will examine this failure, and what lessons other organizations contemplating a similar project might draw from Montana State's Enhancement Project.

Possible Causes of Failure

There are many facets to the development of a statewide job analysis and classification system. Some are more important than others in determining the potential for successful completion and implementation of a new system. It is somewhat arbitrary to separate the various aspects of a developmental project since they are all very much interdependent. To clarify my analysis, however, I will point to four problem areas of the Montana State Enhancement Project which may have contributed to the project's failure.
These four areas are consistency of purpose, choice of model, extent of potential change, and communication with those affected.

Consistency of Purpose

The lack of consistency in purpose of the Enhancement Project is the most important contributing factor to the Project's failure. The Project was originally a response to the recommendations of the Personnel and Labor Relations Study Commission (PLRC). It was the clear intention of the PLRC to recommend an option for improving the State's job analysis methodology and classification system which would involve modifying the present system but not replacing it.

The option of completely replacing the current system was presented to the PLRC and was rejected. The rejection was based on the potential disruption to the current position rankings and grade hierarchy. Both the current position classification rankings and the pay grade schedule enjoy considerable levels of acceptance, and the PLRC wanted that acceptance maintained as much as possible.

The original purpose of the Enhancement Project was to respond to this recommendation by modifying (enhancing) the existing job analysis methodology from a qualitative to a quantitative system, while maintaining the best features of the current system. It was this
original purpose or goal, a modification of the existing system, which was presented to the State Legislature: "The Classification Enhancement Project is a project initiated by the State Personnel Division of the Department of Administration to improve the State of Montana's method of classifying state jobs" (emphasis added) (Brown, Briefing Paper 1). The problem with this original purpose, however, was that it was not the actual goal pursued by the Project.

The passage of the State’s comparable worth standard, early in the start-up of the project, resulted in substantial changes to the goals the Project had been mandated to achieve. After passage of the new standard, the Project could no longer be just a technical modification of the existing system designed to incorporate quantified job evaluation techniques. The project would now have to provide a methodology which would eliminate sex based biases in the job evaluation factors used to rank state positions.

This new goal meant that the State’s existing job evaluation factors, from which the current classification rankings and grade schedule had been created, were at least suspect, depending on the extent of undervaluation of female dominated positions revealed during the development of the Project. At this point, then, the goal of the Project effectively shifted from
one of modifying the existing system, with its standards and rankings left as much intact as possible, to the goal of reevaluating the basic building blocks of the State's job evaluation system, the job evaluation factors, and producing an essentially new system devoid of sex bias. In fact, by 1985 the project team was defending the new methodology on this basis:

In short, the comparable worth literature indicates that the identification and correction of comparable worth problems requires the application of a job evaluation method that meets certain standards: ... The proposed method meets these criteria. It is a single method for all jobs, a point factoring method, and it was explicitly designed to be as free of past biases, or any biases as possible. Instead of building it to duplicate existing relationships it was built based on the judgement of a cross-section of employees and private sector representatives of what the relationships should be for the organization (Montana State Government) in the absence of sex biases. (Brown, Memo, Response to Comments 9)

To build the enhancement on a foundation of what job relationships should be, instead of the existing
relationships, meant the creation of an entirely new methodology, an option previously rejected by the PLRC.

A political error occurred, therefore, early in the Project's development. The Project was originally sold, and continued to be sold to those potentially affected (the Legislature, employee unions, interest groups of state employees and managers) as a modification of the existing system. Political support was being sought for that goal. Yet, the model chosen, the techniques used and the information presented to Job Classification Advisory Commission early in the Project's development, all clearly pointed to the Project's actual goal of creating a new system, free of sex based bias, and producing the potential for major changes in the job classification rankings and pay grade schedule. No political support existed for the creation of a radically new system. No attempt was made to restart the Project by first obtaining political support for a completely new job analysis and classification system.

The project team was pursuing one goal while the rank and file state employee was watching for the attainment of a different, far less threatening goal. This inconsistency of perceived purpose was the major contributor to the Project's failure. As the project team progressed in the development phase of the Project, the divergence of the Project's perceived and actual goals became more and more obvious. The first indication of this divergence could be
seen in the choice of model followed for the Project's development.

Choice of Model

The Project's newly defined goal of creating a new job analysis and classification system free of sex based bias effectively dictated most of the choices made in the early stages of the Project's development. As pointed out in Chapter Two, the project team identified early in the Project's development the characteristics of a job analysis methodology and the techniques for developing that methodology which comparable worth advocates felt were necessary to the elimination of sex based bias. The model chosen for the development of the new methodology, the development process used for the FES System, answered the demands of comparable worth advocates and the developmental goal of a state-of-the-art, quantified system. The FES developmental process model (as distinguished from the FES quantified methodology, which would result) was clearly an a priori approach to selecting and defining job evaluation factors. The developmental procedure made no attempt to capture into the new job standards any of the existing standards.

The Montana Comparable Worth Act also called for job evaluation factors which could be applied to some degree across occupational category boundaries. This was certainly a direct answer to the concerns of comparable worth
advocates, that separate evaluation systems for different occupational groups would tend to perpetuate undervaluation of female dominated positions. The goal of defining job evaluation factors which could be applied across the entire state personnel system would also be served by the FES developmental model. The objective of the FES developmental process was the definition of universally applicable job evaluation factors through the a priori approach. The universal applicability of the developmental model's job evaluation factors added to its potential for major disruption of the position relationships of the existing system.

As described in chapter Two, several unique classification systems have been created for certain state occupational categories through negotiation. The universal factors of the FES process threatened the continuation of these systems as separate from a new system. The project team explained this was by design:

The proposed method is designed to evaluate all jobs and can consequently be used to measure the extent of pay disparities between jobs in the general classification and pay plan and those of comparable worth in the separate collectively bargained blue collar, liquor store, and teachers plans. (Brown, Memo, Response to Comments 11)
Brown acknowledged that the separate plans could not be changed without legislative action, but she pointed out that the universal application of the new standards would highlight disparities for negotiation, with the implication that these disparities would eventually be eliminated through negotiation. This would effectively eliminate the uniqueness of the separate systems which had been won through collective bargaining.

Technically, the Enhancement Project developmental model followed closely the FES example. More modification of the FES model was needed; however, to match it to Montana's specific needs. The project team identified technical steps in the development procedure which they would do differently if they had to do it again.

First, more benchmark jobs (at least 160) would be selected for the initial ranking process. The FES developmental model was designed to cover primarily the "white collar" positions of the U.S. Civil Service, and its original criteria for benchmark selection would be expanded to create a more representative sample of state positions, top to bottom and across occupational groupings. Second, the JCAC/Rating Panel membership would be enlarged to spread the work and increase representation. Third, more time would be taken to gather job description information about the benchmark jobs, and to verify that information. (McEwen, Personal Interview)
These technical modifications to the developmental model would not have had any impact on the problems identified as contributing to the Project’s failure, with the possible exception of the potential classification and pay grade changes. Even here, these technical changes might have resulted in different rankings for some individual positions, but the extent of the potential disruption to classification and pay grade relationships would not have been significantly different.

The developmental model served the goals of the Project, as redefined by the State’s new comparable worth standard. It was a developmental model which was never designed to maintain as much of the existing system as possible. As such, it produced an entirely new, universally applicable, quantified job evaluation methodology, based on job evaluation factors which are probably freer of sex based bias than the State’s existing job evaluation factors. Because of this, if implemented it would make major alterations in existing classification and pay grade relationships.

Extent of Potential Change

Probably no one, including the members of the project team, anticipated the extent of the potential changes to the existing system of classification and pay grade relationships, represented by the implementation of the enhanced methodology. In fact, the estimate based on the
results of the test application of the new methodology was that sixty percent of the present classifications and pay grade assignments would change. The extent of this change, and the degree of potential political and budgetary costs it would mean, caught those involved in the project by surprise.

It was certainly this predicted extent of disruption to the existing classification and pay grade relationships which was the immediate cause for the declaration of the present hold on further implementation of the enhanced methodology. There was no anticipation by the rank-and-file state employee of the magnitude of the changes possible under the new methodology. The individual protests against this change were focused through representative unions and employee associations, and this political opposition combined with the potential monetary costs of implementation stopped the planned implementation of the enhanced methodology.

Applying the policy capturing approach to job evaluation factor selection may eliminate the disruption of the existing pay grades and position classifications enough to allow a new methodology to be fully implemented. Whether or not this approach could be made an acceptable compromise between the concerns of comparable worth advocates that existing biases not be included in job evaluation methodologies, and the tendency of policy capturing to
formalize existing biases, is problematical. Whether such a compromise methodology would meet the mandated standards of Montana's comparable worth legislation is also open to question.

In analyzing the current Project's failure, it is important to note that the political question of whether or not to accept full scale changes for the attainment of comparable worth goals has not yet been answered. At this point, however, the extent of the potential change has been recognized and the question is under consideration. The new goal of the Project has been revealed and can now be debated.

Communication

By its own admission, the Personnel Division and the project team failed to give the rank-and-file state employee, as well as managers and supervisors, sufficient time or information to judge the development process of the Project and the new methodology which resulted. It is now obvious that the goal of the Project, a completely new, bias free state job evaluation system, was not communicated to those who would be affected.

Until the Spring of 1985, when the test application results were known to all, the Project was still being described as a modification of the existing system. The goal, both implied and stated, was to maintain the best features of the existing system, modifying it only to the
extent needed to quantify the job analysis and evaluation process. Meeting the new comparable worth standard was always described as an add-on goal which could be attained with little additional effort during the modification to a quantified system.

There was no mandate from the Legislature, the Administration, or the state employees for a new job evaluation and classification system, and it is most probable that the project team and the Personnel Division were hoping that the "modification scenario" could, in fact, be followed in the Project. The true nature of the Project's goal was, therefore, not communicated, and the need for political support of the Project's goal was ignored. The results of the test application were presented to the rank-and-file state employees as the results of enhancement of the existing methodology. Yet once the potential for change indicated by those results was also communicated to those concerned and affected, the Project's potential political impact was known.

The failure of the Project team to communicate the true nature of the Project to anyone outside the team members or the Personnel Division seems to be more a case of wishful thinking (the enhanced methodology's test results would not indicate a disruption of the existing methodology's system of an extent that could not be made politically acceptable) than a design to obscure the facts.
Conclusions

For other public organizations contemplating creation or modernization of their job evaluation system, the State of Montana’s Classification Enhancement Project offers an example of what to do and what not to do. Starting with the Project’s title, the Project failed to recognize its purpose. The Project was not enhancing an existing system, it was replacing it. A state-of-the-art quantified methodology, incorporating accepted techniques for eliminating sex based biases was developed.

Support for the changes such a new system brings is critical, however, when such potentially disruptive characteristics as an a priori derived set of job evaluation factors, and the universal application of those standards over a wide range of positions, are included in that new system. The question of whether such characteristics can be implemented is at least as much a political one as it is a technical one.

The Enhancement Project followed a popular model in its technical development. The need for further modification of the FES model for application to unique local needs should be carefully considered by anyone choosing it. Many computer programs, factor definitions and other such technical resources are available to anyone choosing the FES model. It would be important, however, to take care to make the modifications to these resources necessary to
serve the goals of the local modernization project, and to account for the individual characteristics of the position descriptions and occupational categories the new system will be applied to. With a few exceptions, The Montana Enhancement Project made these modifications correctly.

To a considerable extent, therefore, the Montana Enhancement Project's technical application of the FES model to modernization of a statewide system can, in turn, be used as a model of such application. It was not in the technical application of the FES model that the Montana Project failed. It was in the political requirements of such a major modernization project that the Montana Project failed to make the right decisions.

It is important to answer the political questions in any major job evaluation modernization project first, not second, as has occurred during the development of Montana's Enhancement Project. The universal application of an a priori derived set of job evaluation factors through a quantified job analysis system may eliminate sex based bias in an organization's job classification and compensation system, but the political turmoil such radical changes bring must be anticipated and dealt with. There is no more sensitive and important aspect of public personnel administration than the proper management of the social and financial awards associated with each public position. These are directly derived from the description,
classification and determination of compensation for each of those positions. Political support for any major change to these awards is the most critical factor controlling the success or failure of such a change. Without such support; from the community that will pay for it, from the representational body that will approve it, from the managers and administrators who will administer it, and from the employees whose jobs will be changed by it, any attempt at such a major change is destined to fail, as it did in Montana.
Appendix 1

Technique of Whole Job and Factor Ranking

The same statistical process was used by the Panels for ranking the 140 benchmark jobs as whole jobs, and for each of the seven compensable factor rankings:

... The ranking method used for this project is the "balanced incomplete block design." In this method, each panel member independently ranks each job relative to every other job in groups (or "blocks") of five. A computer program developed by the federal government will be used to quickly provide the statistical results of the ranking process. Determining Intraranker Consistency: The balanced incomplete block design necessitates measuring the consistency with which each panel member ranked each job relative to the others. This is done by computing the number of times a panel member ranked Job A as greater than Job B, Job B greater than Job C, and Job C greater than Job A. The sum of such circular rankings, for the Total Circular Triads (TCT) are then compared with the value that would be expected had the panel member simply ranked the jobs at random, and the difference tested for statistical significance. For all rankers, the TCT's should be significantly
different from what would be expected had the rankings been done at random. Determining Interranker Agreement: Agreement between rankers is measured by computing Kendall's coefficient of agreement. The value of this coefficient ranges from 0 to 1. The value achieved for the whole job ranking in this process will be determined, and the probability that it was achieved by chance calculated. Integrating the Rank Order Decisions of the Panel Members: The individual panel members' rankings are integrated into a combined whole job ranking by calculating the number of times each job was ranked higher than each other job by each ranker, and summing this number over all rankers for each job. This is equivalent to calculating the total number of "votes for" each job, where one "vote for" reflects the ranking of a job over another job by one panel member. The overall rank of any job is thus determined by the number of "votes" the job receives, with the job receiving the highest number of "votes" ranking first, etc. (Brown and Trimble, Procedural Steps 7-8)
Assigning points to degree levels followed the following procedure:

The lowest degree level for each factor assigned points should be equal to 100 times the percentage value of the factor itself. The highest point value for each factor is determined by multiplying the lowest point value for the factor by the maximum number of degree levels used for any of the factors. Intermediate degree level point values are determined by dividing the difference between the highest value and the lowest value for the factor by the number of degree levels for the factor minus one ($n-1$). The resulting quotient is then added to the points for the lowest degree level to determine the point values for the remaining intermediate degree levels. All point values can then be rounded to the nearest number divisible by a constant for convenience. (Brown and Trimble, Procedural Steps 10)
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