

Data Management Analysis System (DMAS)

May 24, 2012



Project Summary

As The Department of Jobs and Family Services, Office of Workforce Development continue to manage large volumes of performance data the risk of inaccurate data could produce flawed reporting. The introduction of reports duties for the Wagner Peyser and Veterans programs has stretched it capacity. Additionally, the department has experienced a change in staffing levels which has further impacted its ability to produce timely and accurate reports. As part of an effective solution, it is recommended that a data management analysis tool be used to coordinate the raw data from the Veterans and Wagner Peyser Workforce programs which would provide management the resources to accurately present progress toward performance outcomes.

Project Goal

To provide a comprehensive recommendation that will identify a data management/ analysis system. The recommendation will identify a functional tool to be used by management to extract data for timely reports.

The recommendation will cover areas such as:

- Identify and assess software options
- Risk Analysis
- Quality Processes
- Human Resources
- Cost Management

Project Outcome

The project has provided a recommendation of a data management/analysis system to provide an integrative capacity for data manipulation. This recommendation should guide the Office in acquiring an appropriate system which includes but is not limited to the following:

- Capacity to incorporate current and past data types
- Flexibility to allow user defined statistical manipulation
- Stability to allow multi-user coordination of reports

Project Benefits

There are many benefits to establishing an effective Data Management and Analysis System for use within ODJFS. This system will allow the virtually constant inclusion of data that is being generated throughout the year to be incorporated into previous data. Unique queries will provide insight into Jobs and Family Services program initiatives, and will provide the State with the ability to monitor the success of, the changes to, and the implementation of these programs. Currently there is no ability for the Office to manipulate current data with past data or incorporate unique statistical power to possibly dissect the forces that are affecting Program success or failure. System use will provide the Office with traceable data to ensure Projects are aligned with the established agency goals and strategies.

Project Team

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DATA MANAGEMENT & ANALYSIS SYSTEM

OhioDAS
Human Resources Division

Office of
Learning and Professional
Development
Service · Support · Solutions

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1 PROJECT CHARTER

1.1 PROJECT TITLE AND DESCRIPTION

Data Management and Analysis System: To recommend a data management analysis tool that utilizes raw data from the Veterans and Wagner-Peyser Workforce programs which would provide management the resources to accurately present progress toward performance outcomes

1.2 PROJECT MANAGER ASSIGNED AND LEVEL OF AUTHORITY

Project Sponsor: Michelle Horn, Acting Deputy Director. Office of Workforce Development
Project Manager: Paul Bounds

1.3 ACCEPTANCE CRITERIA

- Easily accessible, by different users
- Is flexible and has the ability to manage data

1.4 BUSINESS CASE

The Agency has experienced a staff change and reduction, which has affected its ability to effectively produce timely reports. The sharing of staff and resources has limited the department from devoting time to sorting and reviewing data. States are required to track the program's performance measures and provide federal reports timely and accurately. The monthly reports for the Veterans and Wagner-Peyser Workforce programs are intensive and need to be incorporated into a manageable automated searchable system to efficiently report on performance outcomes.

1.5 PROJECT COST ANALYSIS

Hourly wage per employee until process is complete (One FTE @ 38.00 per hr, 30 hrs per week).

1.6 PRODUCT DESCRIPTION/DELIVERABLES

- A functional tool to be used by the management to extract data for timely reports
- Identify and assess software options that could be used to create functional reporting, provide and share timely and accurate federal and state required reports.

1.7 RISKS AND/OR ASSUMPTIONS

Risk: Are there available resources (programmers/IT personnel) to implement the project?

Risk: Skill level of staff and management to create and run reports once the reporting tool is available

Assumption: Data required to produce Veterans and Wagner-Peyser Workforce reports is available in SCOTI, which is a state internal application system used by workforce professionals to enter and track WIA program data.

Assumption: There might be available reporting tools in the agency to be used for reporting, like Cognos.

The above risks and assumptions were initially provided in the charter. Risk management plan is developed throughout the project and available in section 2.7.

2 SCOPE

2.1 PROJECT OBJECTIVES

As part of the graduation requirements, project participants will apply the principals taught in the Project Management course & gain practical experience from the implementation of the theories learned.

The driving force for the adoption of the project is to allow Office of Workforce Development to be able to access data that is currently available and use it to generate concept and content in specific reports. This will avail the Office's additional programmatic tools and understanding from which to formulate future programmatic changes.

Currently, federal reports are required and are generated but cannot be manipulated to produce any trend analysis or forecasting projections that would be able to measure the success or the failure of program implementations of changes.

The analysis of current data generation, structure, volume, flow, and form will allow the Project team to recommend data analysis tools and procedures that will avail the Office of the above stated capability.

2.2 PROJECT DESCRIPTION / DELIVERABLES

There are two primary sub-deliverables needed for the primary deliverable which is the Recommendation to the Office of Workforce Development.

- The first of these is Business Needs. Subsets of this Deliverable are Current Procedures, Identify Challenges, Human Resource Capacity and Business Requirements.
- The second of these is Software Analysis. Subsets of this Deliverable are Systems Availability and New Tools' Ability.

2.3 PROJECT FEATURE AND FUNCTIONS

The product will be delivered as a recommendation that will contain PMP (Project Management Professional) style derivation of the logic and valuations that were processed in order to defend the recommendation. The product should be easily digested by the management of the Office of Workforce Development and acted upon.

2.4 OUT OF SCOPE OBJECTIVES

The product will not include implementation procedures. The product will not provide an exhaustive exploration of data analysis tools or data base management systems.

2.5 INITIAL PROJECT ORGANIZATION

Project Manager: Paul Bounds

Sponsor: Michelle Horn

Project Management Team; Mike Allen, Jamileh Assaf, Adrienne Carr, James Lansden, Tiffany Winfield

Subject Matter Experts (SME) As needed

2.6 BUDGET

Total estimated costs based on the available seven weeks by the team, meeting once a week, to complete the project and provide the two main deliverables to the Office of Workforce Development is \$11,172 determined as follows:

Project team members x Days x hours per day x average hourly rate

$$6 \times 7 \times 7 \times \$38 = \$11,172$$

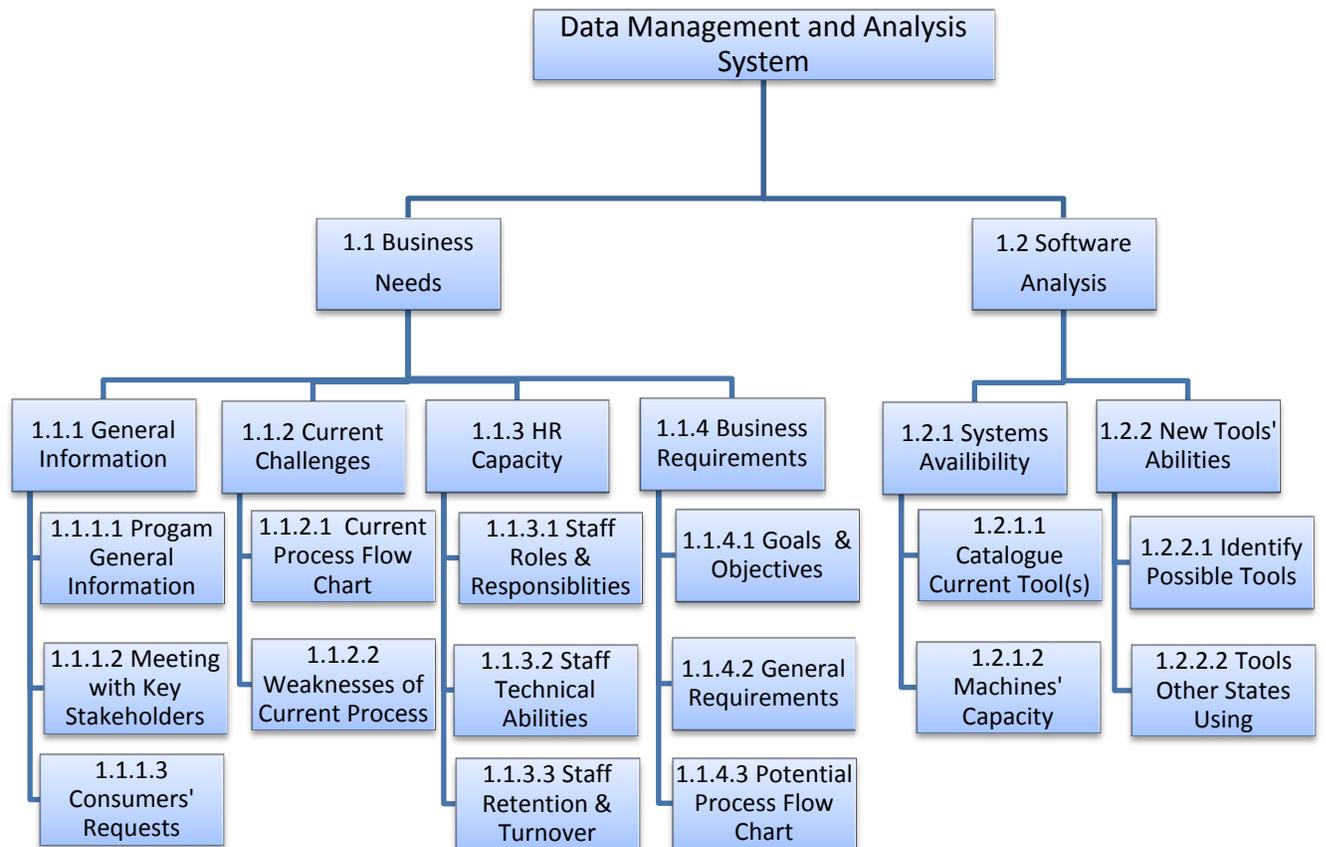
2.7 ACCEPTANCE CRITERIA

The project will be completed by May 24, 2012.

Criteria for the success of the project will be provided by the sponsor after reviewing the material provided. A survey to understand the acceptance of the project will be developed and issued after implementation of the recommendation, Appendix B. The results of this survey will be used to develop a scoring matrix of success parameters.

2.8 WORK BREAKDOWN STRUCTURE (WBS)

The WBS is a view into the project which shows what work the project encompasses. It helps to easily communicate the work and processes involved to execute the project. The Project Manager and project team used the WBS to develop the project schedule, resource requirements and costs. The WBS presented here represents all the work required to recommend a tool for data management and analysis for OWD.

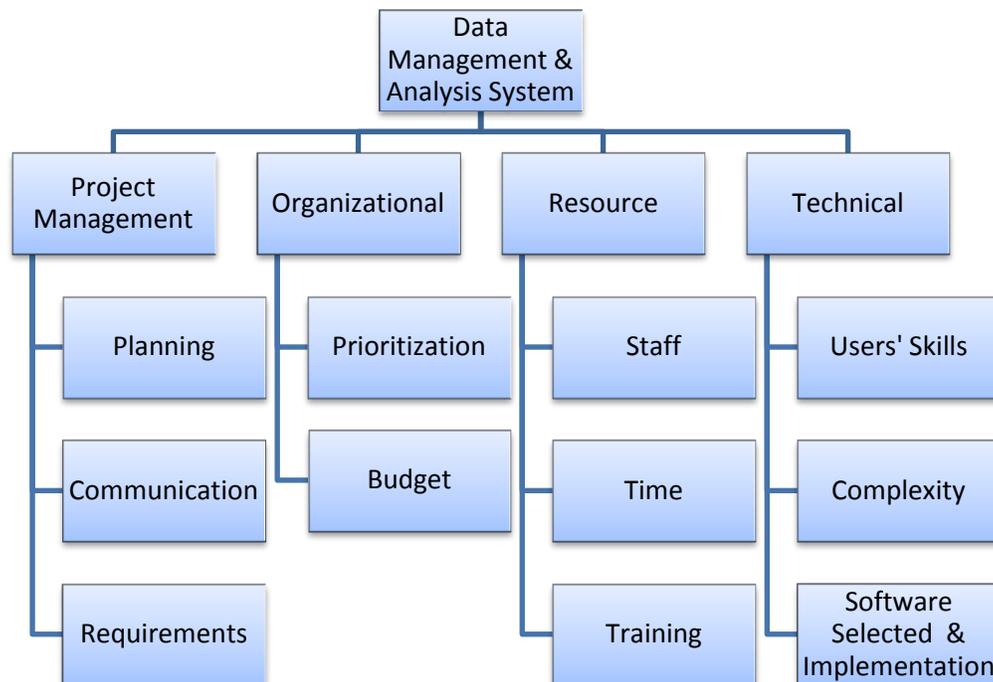


3 RISK MANAGEMENT PLAN

This section provides a general description of risks which is essential to effectively manage a project. As organizations begin new projects, they begin operating in an area of uncertainty that comes along with developing new and unique products or services. By doing so, these organizations take chances which results in risk playing a significant part in any project. A risk management plan is a plan for identifying and managing the uncertain events or condition which if occurs, have positive or negative effects on project's objectives. The project team used Risk Breakdown Structure and Risk assessment log tools to identify, categorize and develop strategies to respond to risks if occurred.

3.1 RISK BREAKDOWN STRUCTURE (RBS)

RBS is a graphical, hierarchical presentation of the categories of risks. Categorizing the detailed risks helps built a better big picture of the risks.



3.2 RISK ASSESSMENT LOG

The Risk Management Plan for this project is captured in the risk assessment log. The main purpose of the risk assessment log is to establish the framework in which the project team will identify risks and develop strategies to mitigate, accept, transfer, or avoid those risks. See risk assessment log, Appendix E.

4 HUMAN RESOURCES PLAN

4.1 INTRODUCTION

The management of human resources is an important part of any project. This tool is presented to the Data Management and Analysis System Project for their consideration in the implementation of the project. We felt it somewhat presumptive to determine how the ODJFS will handle their human resource capacity but felt that we can provide guidance and some examples. The human resource management plan is to aid in the management of this project's human resource activities throughout the project until closure. The goal is to achieve project success by ensuring the appropriate human resources are acquired with the necessary skills. Resources are trained if any gaps in skills are identified, team building strategies are clearly defined, and team activities are effectively managed.

The human resources management plan includes:

- Roles and responsibilities of team members throughout the project
- Project organization charts
- Staffing management plan to include:
 - a. How resources will be acquired
 - b. Timeline for resources/skill sets
 - c. Training required to develop skills
 - d. How performance reviews will be conducted
 - e. Recognition and rewards system

4.2 ROLES AND RESPONSIBILITIES

All team members must clearly understand their roles and responsibilities in order to successfully perform their portion of the project.

For the Data Management and Analysis Project the following project team roles and responsibilities have been established as examples. Additionally, the project team here at DAS has been included as some framework for the recommendations:

Robin Rice: (614) 644-0775

Robin.Rice@jfs.ohio.gov

Title: Project Administrator with Office of Workforce Development

Role: Sponsor

Authority: May change any aspect of project

Responsibility: Development of Project team and ultimate deliverable

Competency: Expert in Public Workforce Systems, fiscal and program management

Bob Hass: (614) 466-9730

Robert.Haas@jfs.ohio.gov

Title: Chief of Performance and Reporting with Office of Workforce Development

Role: SME

Authority: May approve

Responsibility: Completion of Implementation

Competency: Expert in data management, performance measures, report writing/creation

Paul Bounds: (614) 466-9468

Paul.Bounds@jfs.ohio.gov

Title: Project Manager with Office of Workforce Development

Role: Project Manager

Authority: May suggest change to implementation to project

Responsibility: Development of Project team

Competency: Expert in Public Workforce Systems

Gina Felton: (614) 995-9051

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Title: Social Science Research Specialist

Role: SME

Authority: None

Responsibility: None

Competency: Expert in current end product use and production

Kermetta Folmar: (614) 995-0709

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Title: Social Science Research Specialist

Role: SME

Authority: None

Responsibility: None

Competency: Expert in current end product use and production

Julie McKay: (614) 466-9692

Julie.McKay@jfs.ohio.gov

Title: Project Manager

Role: SME

Authority: None

Responsibility: Provide information on as needed basis

Competency: Expert in IT database structure management and graphic user interface

Stacey Pettway: (614) 644-0492

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Title: Program Manager with Office of Workforce Development

Role: SME

Authority: None

Responsibility: Provide information on as needed basis

Competency: Expert in Public Workforce Systems

James Lansden: (614) 728-3018

james.lansden@ode.state.oh.us

Title: Project Facilitator with Office of Workforce Development

Role: Team Member

Authority: None

Responsibility: Risk Guidance, Tech Support

Competency: Expert in IT database structure management and graphic user interface

Adrienne Carr, Ed.D.: (614)

adrienne.carr@ode.state.oh.us

Title: Professional Development Manager, Ohio Department of Education

Role: Team Member

Authority: None

Responsibility: Presentation Consultant, Document Management

Competency: Expert Education System Development

Tiffany Winfield: (614) 752-2055

twinfield@dps.state.oh.us

Title: Project Facilitator with Ohio Bureau of Motor Vehicles

Role: Team Member

Authority: None

Responsibility: Communications, Time Organization

Competency: Personnel and Project Management

Jamileh Assaf: 614-725-4016

jamileh.assaf@jfs.ohio.gov

Title: Manager Ohio Jobs and Family Services

Role: Team Member

Authority: None

Responsibility: Structure Document Production

Competency: Expert in business application for the public sector, data management in government systems

Mike Allen: (614) 644-2322

Michael.Allen@epa.state.ohio.gov

Title: Supervisor Environmental Protection Agency

Role: Team Member

Authority: None

Responsibility: Human Resource Plan

Competency: Environmental Risk Assessment

4.3 PROJECT ORGANIZATIONAL CHARTS

This section provides a graphic display of the project tasks and team members. This illustrates the responsibilities of team members as they relate to the project tasks. Additionally, organizational or resource breakdown structures may be used to show how responsibilities are assigned by department or by type of resource respectively. The following RACI chart shows the relationship between project tasks and those responsible for the implementation. Any proposed changes to project responsibilities must be reviewed and approved by the manager. Changes will be proposed in accordance with the project's change control process.

Business Needs (BN) Software Analysis (SA)	Sponsor	Project Manager	Implementation Manager	SMEs	Team Members
BN ~ Current Practice	A	C/R	A	C	R
BN ~ Identify Current Challenges	A	C/R	A	C	R
BN ~ Human Resource Capacity	A	C/R	A	C	R
BN ~ Business Requirement	A	C/R	A	C	R
SA ~ Systems Availability	A	C/R	A	C	R
SA ~ New Tools' Ability	A	C/R	A	C	R

Key:

R – Responsible for completing the work

A – Accountable for ensuring task completion/sign off

C – Consulted before any decisions are made

I – Informed of when an action/decision has been made

4.4 STAFFING MANAGEMENT

The success of this project will depend on the combination of clear goals set for staff and competent staff available to fulfill them. This will mean that some staff will need initial training and all staff will need maintenance training as the development of the system matures. Consistent monitoring of the staffs' capabilities will provide feedback to management as to individual staff attributes and skills. For example, it may be found that certain statistical programmers may excel in developing queries and others excel in producing graphic representations of the results.

We would suggest that the development of a team of 'researchers' or data managers be encouraged. This development will provide for synergistic understanding across queries and provide staff with a sense of ownership as the project matures. Team development must be organized by management and conditioned to provide results that are effective and understood by management in order for management to provide a meaningful product to the agency.

The Agency should consider a staff acquisition plan that will provide the level of support to properly operate the presented recommendations. By utilizing a resource calendar, the Agency will be able to install and implement the presented recommendations effectively. Quarterly training is suggested to ensure that the users are current with the latest system knowledge.

Lastly, the Agency should utilize its document processes for evaluation of performance and recognition of productive professional growth.

5 QUALITY MANAGEMENT PLAN

5.1 INTRODUCTION

The Quality Management Plan is an integral part of any project management plan. The purpose of the Quality Management Plan is to describe how quality will be managed throughout the lifecycle of the project. It also includes the processes and procedures for ensuring quality planning, assurance, and control, which are all conducted. All stakeholders should be familiar with how quality will be planned, assured, and controlled.

Much of what will be recommended to the sponsoring agency is meant to mirror the high standards of quality that already are in place. The vision and mission of the agency clearly state that quality output in all of their work is absolutely imperative. It is our intent to maintain that standard of high quality for this project.

The Quality Management Plan for the Data Management and Analysis System (DMAS) project will establish the activities, processes, and procedures for ensuring a quality recommendation upon the conclusion of the project. The purpose of this plan is to:

- Ensure quality is planned.
- Define how quality will be managed.
- Define quality assurance activities.
- Define quality control activities.
- Define acceptable quality standards.

5.2 QUALITY MANAGEMENT APPROACH

This section describes the approach the organization will use for managing quality throughout the project's life cycle. Quality must always be planned into a project in order to prevent unnecessary rework, waste, cost, and time. Quality should also be considered from both a product and process perspective. The organization may already have a standardized approach to quality; however, whether it is standard or not, the approach must be defined and communicated to all project stakeholders.

The quality management approach for the DMAS project will ensure quality is planned for both the product and the processes. In order to be successful, this project will meet its quality objectives by utilizing an integrated quality approach to define quality standards, measure quality and continuously improve quality.

Product quality for the DMAS project will be defined by the current standards and criteria in which the Ohio Department of Jobs and Family Services operates.

Process quality for the DMAS project will focus on the processes by which the project end result will be delivered. Establishing process quality standards, that coincide with the already high standards of the agency, will ensure that all activities conform to an organizational standard which results in the successful delivery of the recommendation.

The project team will work with the Quality Group to define and document all organizational and project specific quality standards for both product and processes. All quality documentation will become part of the DMAS Project Plan and will be transitioned to the sponsor upon completion of the project.

Metrics have been established and used to measure quality throughout the project's life cycle for the product and processes. The Quality Group Manager will be responsible for working with the project team to implement these metrics, conduct measurements, and analyze results. These product and process measurements will be used as one criterion in determining the success of the project and must be reviewed by the project sponsor. Metrics will include:

- Schedule
- Resources available
- Cost
- Process performance
 - Efficiency in the decision making process
 - Relatively low measures of "wasted" time and effort
- Product performance
 - Timely delivery of the recommendation
 - The tool recommended could actually deliver everything that was stated, if used properly.
- Customer Satisfaction
 - A measure of how the sponsor felt the overall process went and their perception of the recommendation that was ultimately delivered to them.

Quality improvements will be identified by any member of the project team or quality group. Each recommendation will be reviewed to determine the cost versus benefit of implementing the improvement and how the improvement will impact the product or processes. If an improvement is implemented, the project manager will update all project documentation to include the improvement, and the quality manager will update the organizational documentation the improvement affects.

5.3 QUALITY REQUIREMENTS / STANDARDS

5.3.1 Product Quality

The product quality standards and requirements will be determined by the project team and quality group and will be approved by the sponsor. These standards will primarily be based on the sponsor's documented standards and their requests. There may be product-specific quality standards identified that are not currently part of the documented organizational standards. In this case, the quality group will review these newly identified standards and incorporate them into organizational documentation if approved. The project team will also document any newly identified quality standards into the DMAS project plan and ensure communication with all stakeholders.

As we work toward our ultimate deliverable of the recommendation, we have set in place a concrete set of quality benchmarks that must be passed in order for our product to be considered of high quality. The tools that will be recommended will have passed a rigorous assessment in which five pre-determined scenarios are able to have data easily accessed and manipulated without much effort on the part of the user.

5.3.2 Process Quality

The process quality standards and requirements will be determined by the project team and quality group. Many of these standards will be based on existing company process standards. However, it is anticipated that there will be several unique steps in the development of the DMAS product which will require new quality standards. The DMAS project team will work with the quality group to establish acceptable standards and document these standards for incorporation into both organizational process documents as well as the DMAS project plan. These standards will be communicated to all project stakeholders.

5.4 QUALITY ASSURANCE

The quality assurance of the DMAS Project focuses on the processes used in the developing of the DMAS product. In order to ensure quality, an iterative quality process will be used throughout the project's life cycle. This iterative process includes measuring process metrics, analyzing process data, and continuously improving the processes. Survey was used to get feedback from customer, see Appendix C.

Process Action	Acceptable Process Standards	Process Phase	Assessment Interval
Schedule of team members involved (Weekly Meetings)	- Everyone on the project team is able to participate.	Planning	Weekly meeting with recorded minutes
Identify and assign team members	- Members of this project team come from a variety of backgrounds. This fact coupled with a decision matrix will work to eliminate bias in the decision making process.	Planning	Beginning
Review of available software tools	- Creation of Data Management Tool Recommendation Matrix Cost analysis is part of the project plan.	Planning	Weekly, changes made as needed.
Regular communication with the stakeholders	- Stakeholders are kept up to date via our communications plan.	Planning	Weekly, updates to our end deliverables are communicated immediately.
Document reviews	- Each week our project manager will review all newly created documentation, as well as all edits deemed necessary to existing documentation.	Planning	Weekly, changes and recommendations will be provided accordingly.
Stakeholder signoff	- All new materials and communications will be approved by the stakeholder prior to moving forward with any phase of the project.	Planning	Weekly
Product delivery	- Recommendation of a data management tool that will allow OWD to analyze the data from the CSV files	Delivery/Implementation	End

The quality manager will provide day-to-day quality management and conduct process audits on a weekly basis, monitor process performance metrics, and assure all processes comply with project and organizational standards. If discrepancies are found, the quality manager will meet with the Project Manager and review the identified discrepancies.

The Project Manager will schedule regularly occurring project, management, and document reviews. In these reviews, an agenda item will include a review of project processes, any discrepancies and/or audit findings from the quality manager, and a discussion on process improvement initiatives.

Process improvement is another aspect of quality assurance. Quality assurance reviews, findings, and assessments should always result in some form of process improvement and as a result, product improvement. All process improvement efforts must be documented, implemented, and communicated to all stakeholders as changes are made.

5.5 QUALITY CONTROL

The quality control of the DMAS project focuses primarily on the DMAS product and the acceptable standards and performance. The quality performance standards for the DMAS Project are in accordance with the organizational standards of performance of all fiber optic cable products. However, there are several project-specific quality standards which were established specifically for the DMAS Product. All trial cables which are produced will be submitted to the characterization group for standard loose tube cable performance testing. Additionally, all physical measurements will be conducted on each produced cable to ensure compliance with established quality standards. The table below illustrates all performance and physical quality standards for the DMAS Product:

Products	Performance Standards	Quality Assessment Activities	Assessment Intervals
Weekly meetings	Weekly meetings with mandatory attendance by all project members every Thursday until completion	Recorded minutes of all activities and attendance will be taken and archived.	Weekly
Identify and assign team members.	Completed by the assigned date All members are currently employed by the state of Ohio and have expertise in a variety of areas to prevent bias in the decision making process.	Backgrounds and expertise were verified at the beginning of the process.	Beginning
Review of tools that are currently available	A standardized matrix with a specialized scoring system will be utilized to make the final recommendation to the stakeholders.	All calculations will be correct when the final scores are tallied. These numbers will be inspected by multiple members of the project team, as well as the stakeholders in the end.	Weekly

Products	Performance Standards	Quality Assessment Activities	Assessment Intervals
Regular communication with stakeholders	Per our communication plan, we will have regular contact with stakeholders, and every major decision and process change will be communicated through multiple channels.	Project manager will maintain a document log of all communications per our communications plan to insure stakeholder participation is at its maximum.	Weekly
Document reviews	All documents will be error free and communicated in the most plain terms what we are trying to convey to the stakeholders.	Project and quality managers will inspect all documents created and make sure that there are no typos, erroneous data, etc. that might cause confusion when viewed by the stakeholders.	Weekly
Stakeholder signoff	All major decisions and components of the project's management process will be signed off on by the stakeholders themselves.	Project and quality manager will insure that all components of the process receive appropriate signatures and nothing goes forward without proper guidance from the instructor of the project management course.	Weekly
Product delivery	A final recommendation of a software analysis tool presented to the sponsor	Both the project and quality managers will inspect the final presentation and make sure that everything necessary is included and there are no errors. All members of the project team will inspect this document to insure that nothing is missed.	End

The Project Manager will schedule regularly occurring project, management, and document reviews. In these reviews, an agenda item will include a review of products, any discrepancies and/or audit findings from the quality manager, and a discussion on product improvement initiatives.

It is imperative to the success of the project that all of the established physical and performance standards are met. By doing so, the DMAS Project Team will ensure that the product achieves the higher level of customer satisfaction anticipated, and that future operational cable production will be in line with budget and resource allocations.

5.6 QUALITY CONTROL MEASUREMENTS

This section should contain a sample or useable table/log to be used in taking quality measurements and comparing them against standards/requirements. These forms may be found in many different styles or formats. The most important aspect of this log is to provide documentation of the findings. If actual measurements do not meet the standards or requirements, then some action must be taken. This may be done in regularly scheduled project status meetings or as necessary throughout the project's lifecycle.

All DMAS Project products and processes must be measured and fall within the established standards and tolerances. The below logs will be used by the project and quality teams in conducting these measurements and will be maintained for use as supporting documentation for the project's acceptance:

5.6.1 Quality Assurance Log

Assurance Category	Date	Process Measured	Required Value	Actual Measured	Acceptable? (Y/N)	Recommendation	Date Resolved
Weekly meetings	4/12/2012 - Ongoing	Attendance at all meetings	Attendance	Attendance of team members	Yes		Ongoing
Identify team members and assign roles.	4/19/2012	Assign roles	Assign roles	Which roles were assigned by the project manager?	Yes	Roles can be changed if expertise of one individual warrants it.	4/19/2012
Review of current tools available	4/26/2012	Inventory of JFS tools and utilities	Tools available	An accounting of the current tools available to JFS	Yes		4/19/2012
Quality of documents produced and reviewed	4/26/2012	Quality of all documents produced thus far	Zero tolerance for mistakes and errors on documentation for the stakeholders	Total number of mistakes in final documentation for the stakeholders	Yes		Ongoing
Stakeholder signoff	Ongoing				Yes		Ongoing

5.6.2 Quality Control Log

Quality Control Item	Date	Item Measured	Required Value	Actual Measured	Acceptable? (Y/N)	Recommendation	Date Resolved
Weekly meetings	4/12/12	Attendance	Mandatory attendance of all project team members	Attendance was recorded by project manager	Yes		Ongoing
Identify team members and assign roles	4/19/12	Skill levels and expertise among team members	Technical skill level of team members involved in the project	Background information from all team members involved in the project	Yes		4/19/2012
Review of current tools available to the stakeholder	4/19/12	Current data analysis software tools available	Tools currently in the stakeholders' inventory	Tools currently in the stakeholders' inventory	Yes		4/19/2012
Quality of documents produced and reviewed	4/26/12	Quality of all documents produced thus far that will be reviewed by the stakeholders	Average number of mistakes in each document that requires a resolution	Average number of typos and grammatical errors that are in all current documentation	Yes	Multiple sets of eyes need to be reviewing every document that we have.	Ongoing
Delivery of presentation is acceptable to the stakeholders and sponsors of the project.	5/24/12	Satisfaction and approval from the sponsors	Acknowledgement from the sponsors	Verbal approval or disapproval of what was presented	(Future)		Ongoing

6 FIRST DELIVERABLE: BUSINESS NEEDS

6.1 GENERAL INFORMATION

6.1.1 Program General Information:

Wagner-Peyser is a federally funded program to provide labor exchange services to employers and job seekers statewide. The goal of labor exchange services is to help job seekers obtain meaningful employment opportunities and to assist employers in obtaining skilled and productive employees. Services for job seekers include job placement, resume preparation, testing, job-seeking skills' workshops, computer-based job matching, and labor market information. Services for employers include assistance in listing and filling job vacancies, including basic screening and referral of qualified job seekers. Job seekers who are Veterans receive priority referral to jobs and training as well as special employment services and assistance. In addition, the program provides specialized attention and service to individuals with disabilities, migrant and seasonal farm-workers, ex-offenders, youth, minorities and older workers.

Wagner-Peyser (Labor Exchange Services) performance measures are established at the federal level. Ohio's most recent performance covers the most recent four quarters of activity.

6.1.2 Meeting with Key Stakeholders

The project team met with key stakeholders on April 12, 2012, in addition to several conference calls and e-mails to clearly understand the current process and the challenges they face to meet their goal. States are required to track the program performance measures and provide federal reports timely and accurately. The monthly reports for the Veterans and Wagner-Peyser Workforce programs are intensive and need to be incorporated into a manageable, automated, & searchable system to efficiently report on performance outcomes. This project is new to OWD due to reassignment of duties in March. The Agency has experienced a staff change and reduction which has affected its ability to effectively produce timely reports. The sharing of staff and resources has limited the department from devoting time to sorting and reviewing data. OWD contacted the Office of Information Services (OIS), Office of Health Plans (OHP) and Family Assistance to provide guidance on how to achieve management goals. OIS is working on Cognos as the solution; however, it will not work with Oracle platform (SCOTI platform where data resides). There is a possibility to migrate to Cognos within a year or two as OIS converts the data to JAVA, but it is not one of the top priorities for OIS. Additionally, there might be challenges learning how to build Cognos reports. Therefore, OWD is looking for a solution where they can implement, learn, and use the tool to report on Wagner-Peyser and Veterans' performance measures.

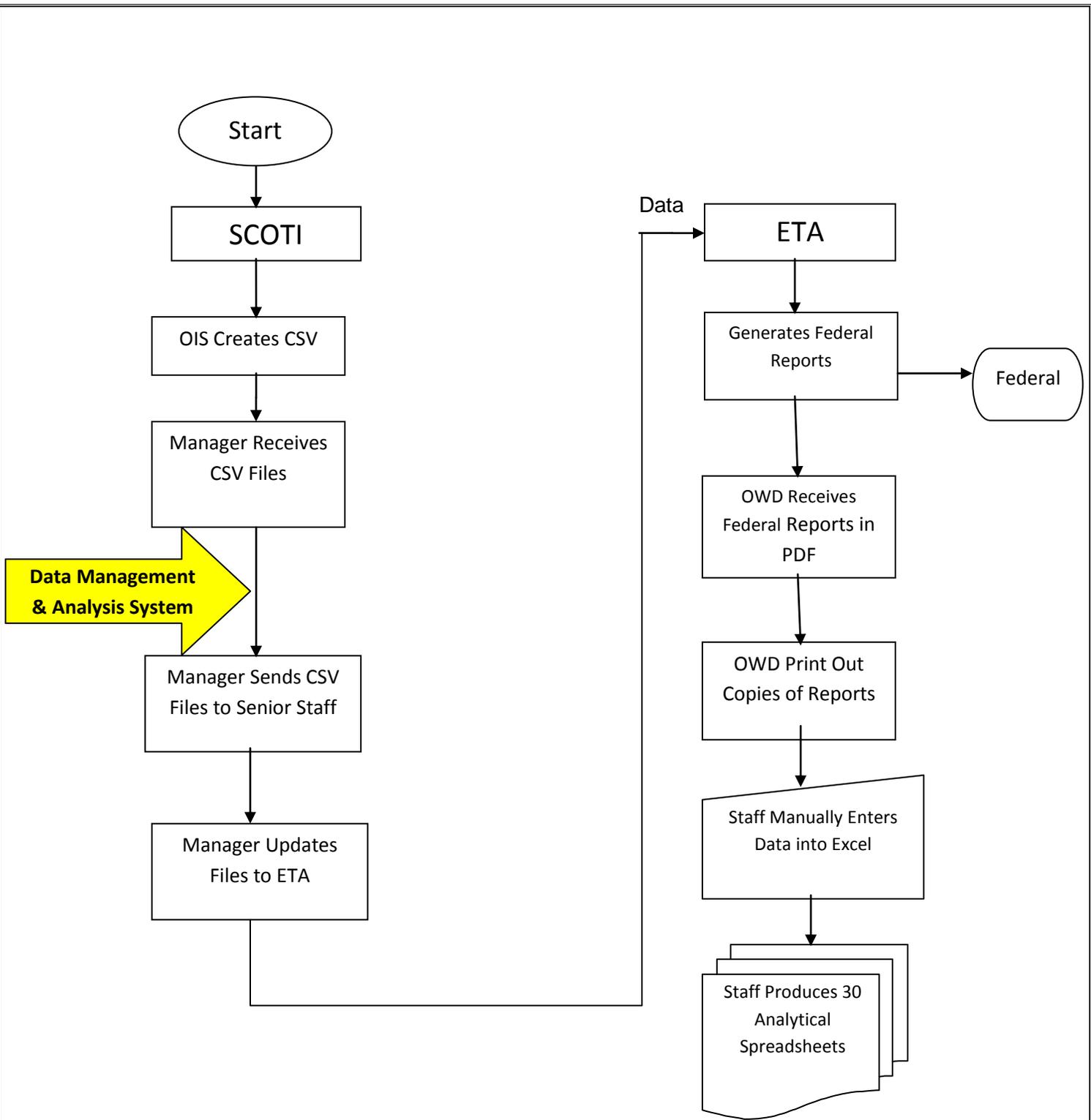
6.1.3 Consumers Requests:

Currently there is no formal process documenting how, who, and when requests are submitted. OWD could receive requests regarding performance measures for decision making or any other reason at any time. This is new to management, and they are still working on finding the most effective ways to answer consumers' questions.

6.2 CHALLENGES OF CURRENT PROCESS

6.2.1 Current Process Flowchart

The project team met with key stakeholders, see section 3.1.2.1,;they explained that analyzing the data is new to OWD. They were successful in receiving CSV files from the SCOTI system which included historical data for the last five years. However, this data is not efficiently used to report on performance and meet OWD's objectives. Additionally, there is no documented process in place to analyze the data. Staff manually enters data into Excel based on print-out reports provided to the analyst. This process currently takes about two weeks to provide reports. The project team flowcharted the current process, showing how steps in the current process fit together, how processes work, and to document how OWD currently analyzes Wagner-Peyser and Veterans' data. The flow chart also helped identify where the current process can be improved and where the new data management and analysis system can be used to achieve OWD's goals and objectives.



Legend:

ETA: Employment Tracking Administration, Federal system used to produce federal reports to measure performance
 SCOTI: State internal application system used by workforce development to enter and track WIA program data.
 OWD: Office of Workforce Development
 CSV: Comma Separated Value

6.2.2 Weaknesses of the Current Process

The current process involved a lot of manual work, has limited abilities, and is not efficient, see Current Process Flowchart section 3.2.1. The current process has the following limitations:

- Inability to quickly provide answers to business problems or for decision making on a timely manner
- Inadequate storage space to house five years of historical data for trend, statistical, and long term analysis
- Inability and inflexibility to efficiently analyze data that is stored in different PDF reports and CSV files
- Inability to load historical data to be used for further analysis and to report on performance measures due to the fact that these are only located on a hard copy
- The risk of inconsistency in reporting and analyzing data, due to the current manual process
- Inability to produce increasingly complex and varied queries and analysis.
- High risk of human errors due to manual process
- Limitations of using Excel for data analysis and Discoverer for adhoc reporting
- Lack of complete documentation of the current process
- Current process has capacity, speed, and timing issues.

6.3 HR CAPACITY:

6.3.1 Staff Roles and Responsibilities

There are three staff in the Office of Workforce Development's Program Measures and Performance Outcomes Section:

Bob Haas, Management Analyst Supervisor 2

Gina Felton, Social Science Research Specialist

Kermetta Folmar, Social Science Research Specialist

Their current responsibilities are focusing on programmatic federal reporting and data analysis for a number of Department of Labor's Programs which includes participant, statistical and outcome data. The section also prepares the annual report to the Department of Labor.

6.3.2 Staff Technical Abilities

The current staff that might be using the new system has the analytical skills to analyze the data but they are not programmers or IT personnel.

6.3.3 Staff Retention and Turnover

Management and staff who are currently involved in this project and might be using the new system are eligible for retirement. One of the staff is planning to retire in a year.

6.4 BUSINESS REQUIREMENTS

6.4.1 Goals and Objectives

Management's main goal is to improve data analysis to provide more timely access to information for monitoring and management of services. Data currently available should be compiled and utilized to answer the following main questions for stakeholders:

- Who do we serve? What are our results? The purpose of the program is to assist all job seekers to find work and employers to find skilled workers to meet their needs.
- How well did we do it? What are the trends? The goal is to provide staff assisted services (e.g. workshops, career guidance) to those unemployed claimants that are most in need of staff guidance as opposed to information they can obtain themselves.
- Is anyone better off? Where are we most and least effective? The basic objective of the program is to return jobseekers to work at their highest wage and skill level. Due to current data system's limitations, the ability to do management analysis makes it difficult to determine if there are particular sub-groups of workers more or less impacted by the economy.

6.4.2 General Requirements

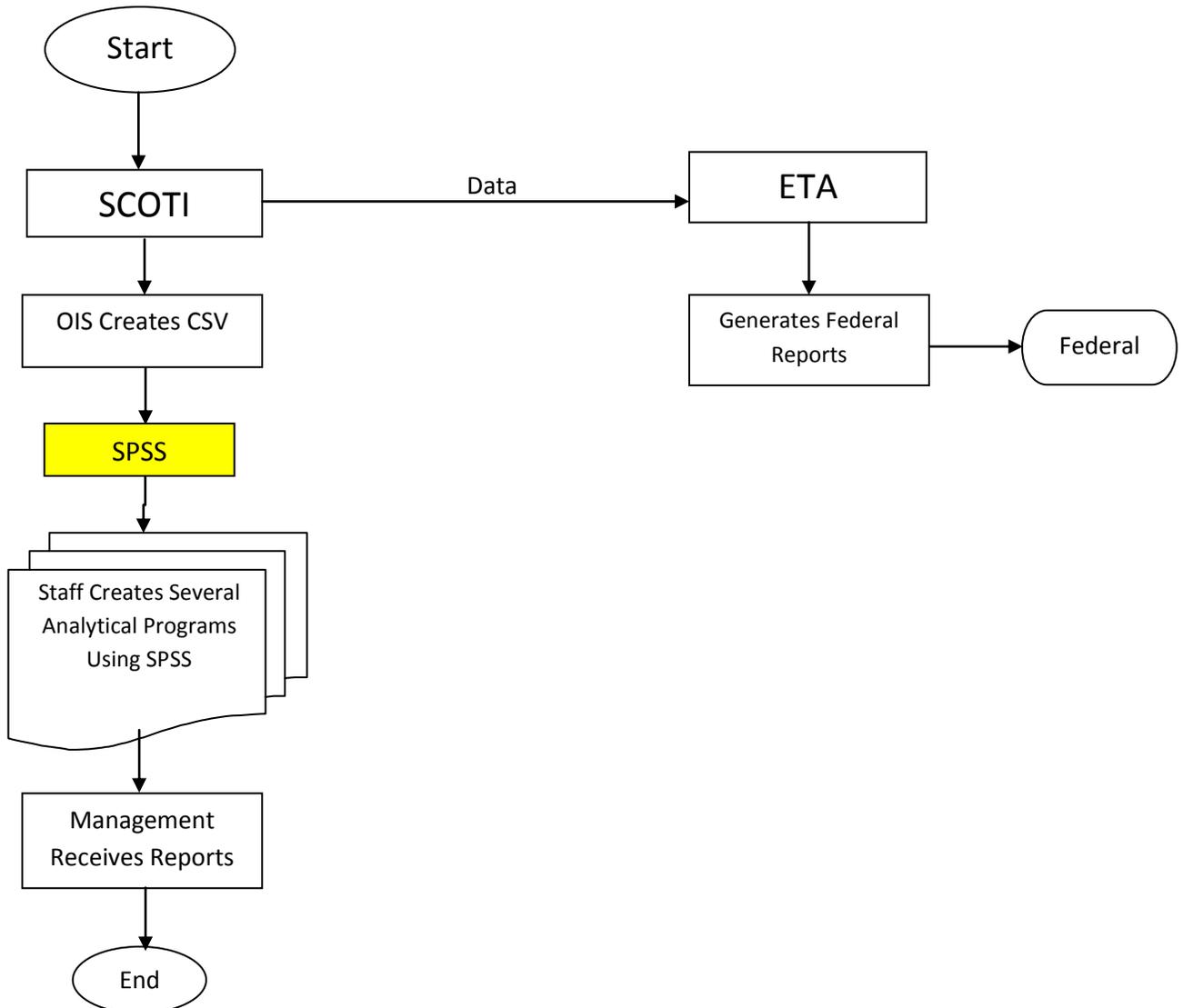
OWD would like to efficiently use a data management analysis tool that utilizes raw data from the Veterans and Wagner-Peyser Workforce programs. This tool would provide management the resources to accurately present progress toward performance outcomes. The solution with the following characteristics will become a valuable tool to help improve program outcome and achieve management goals:

1. Establish one data base repository to house all data received electronically (CSV files);
2. One solution that will work for all other programs in OWD;
3. Easy and timely access to all Veterans and Wagner-Peyser data;
4. High availability for information and analytical functions;
5. Flexibility to manipulate the data;
6. Easy to maintain and consumer friendly tool;
7. Powerful, flexible, and simple to use regardless of users' skill level;
8. Ability to easily access, analyze, and share information directly from the user's desktop;
9. Easy point-and-click query construction for the use of current staff;

10. Provide information that identifies and facilitates improvements in the quality of service provided under the Wagner-Peyser and Veterans programs;
11. Have the analytic capacity to assess the outcomes of services provided;
12. Have the ability and flexibility to create and report on performance measures;
13. Have the ability to receive and incorporate data from new sources,
14. The solution must be capable of creating standard and ad hoc reports designed to measure general trends (financial, eligibility, demographics, within and across the program population); and
15. Support efforts to maximize the effective utilization State fund.

6.4.3 Potential Process Flowchart

Based on the business needs' analysis, the flow chart of the potential process and the use of the recommended tool will be as follows:



7 SECOND DELIVERABLE: SOFTWARE ANALYSIS

7.1 SYSTEMS AVAILABILITY

Both Statistical Programming for Social Studies (SPSS) and Statistical Analysis System (SAS) make themselves widely available to customers within all realms of government that deal with extremely large datasets. The availability of these tools to be procured and ultimately implemented within the network environment could happen very rapidly. The Office of Workforce Development has stated that there are already a few licenses for SPSS and a couple of users who have the software tool already. Listed below are some high-level systems' requirements that all machines within the network of the Office of Workforce Development will need to adhere to before any software tool of this nature can be installed and run efficiently:

1- SPSS

The minimum systems' requirements to run SPSS version 20.0 are the following:

Operating system (Windows)

- Microsoft® Windows® XP (Professional, 32-bit) or Vista (Home, Business, 32- or 64-bit) or Windows 7 (32- or 64-bit)

Hardware

- Intel® or AMD x86 processor running at 1 GHz or higher
- Memory: 1 GB or more recommended
- Minimum free drive space: 800 MB
- DVD drive
- XGA (1024x768) or higher-resolution monitor
 - For connecting with an IBM SPSS Statistics Server, a network adapter running the TCP/IP network protocol

Mac OS X Operating system

- Apple Mac OS 10.5 (Leopard) or 10.6 (Snow Leopard) (32-bit or 64-bit versions)

Hardware

- Intel processor
- Memory: 1 GB or more recommended
- Minimum free drive space: 800 MB
- DVD drive • Super VGA (800x600) or a higher-resolution monitor

2- SAS

The minimum systems requirements to run SAS version 9.3 are the following:

Operating System (Windows)

Microsoft Windows XP and Microsoft Windows Vista 32-bit products:

Microsoft® Windows® XP Professional, updated with Service Pack 2

Microsoft® Windows® Vista - Enterprise, Business, and Ultimate Editions

Microsoft Windows XP and Microsoft Windows Vista x64 products:

Microsoft® Windows® XP Professional for x64 systems

Microsoft® Windows® Vista for x64 systems - Enterprise, Business,

Not all functionality within SAS is supported within the Microsoft Windows 7 operating system

Boot Camp software required to run SAS on a MAC Operating System

Hardware

Requirements are identical to those of SPSS.

7.1.1 Catalogue Current Tool(s)

The Office of Workforce Development is equipped with many of the data management tools that are common throughout most State of Ohio Agencies. These tools include the following:

- Microsoft Excel
- Microsoft Access
- Oracle Discoverer

These three tools are adequate for most of the needs of the agency. However, moving forward the agency is leaving an Oracle database platform and migrating towards a Java based system. Any possibilities of ad-hoc queries from the discoverer program are not going to be available once this occurs. More than likely, a new business intelligence tool such as IBM Cognos will be utilized in the years to come.

7.1.2 Machines' Capacity

Systems Properties of the Machines Currently Available to Users at the Office of Workforce Development: All client computers within the Office of Workforce Development meet or exceed the minimum specifications necessary to efficiently and effectively run either SPSS or SAS. Currently all machines are running the Windows XP Operating System which works well with both SPSS and SAS. It should not be necessary to perform any hardware upgrades in order to have these software tools function properly. In terms of performance issues, the speed in which a machine is able to query the database might depend on its CPU speed, etc. Overall the infrastructure available at this office will be adequate to run these types of powerful data analysis tool(s).

7.2 NEW TOOLS' ABILITIES

7.2.1 Identify Possible Tools

The ability of any new tool for data management and/or manipulation is required to be flexible and work on demand. In this case both SPSS and SAS can be programmed to perform queries and produce corresponding output ranging from frequency distribution to forecasting, etc. The amount of manipulation and feedback from using either tool is vast to say the least. Some of the major advantages of both SPSS and SAS are found below:

SPSS

1. A Comprehensive Data Management Tool
 - Data can be entered or imported via spreadsheet or complex database queries to run on a schedule can be written if necessary.
 - Data stored in common forms such as CSV files can be easily brought into SPSS and analyzed very efficiently. This can be done on demand, or even by scheduled runnings of the program.
2. Graphical Displays of Outputs Are Extremely Strong
 - After the data has been manipulated, the graphical displays that can be created, utilized, and distributed afterwards are excellent. All outputs work well when exported to more popular programs such as Excel.
3. Ease of Use
 - SPSS has a user interface that mimics programs like Excel and provides an easy bridge to learn the software. Once the basic premises of the tool have been achieved, moving on to more advanced functions of the software are much easier.
 - Limited training will be necessary after the initial familiarization with the product.

SAS

1. Also a Comprehensive Data Management Tool
 - Data can be entered or imported via spreadsheet, query, or text files, etc.
2. Graphical Displays of Outputs Are Adequate
 - Report output and tables are more general than what can be done in SPSS.
3. More Types of Statistical Analyses are Actually Available in SAS
 - Some user friendliness is lost because of the availability to do more types of analyses. Many of the extra types of analyses are nothing that the agency would gain any benefit.

7.2.2 Tools Other States Using

The U.S. Department of Labor has standardized how this type of Veteran's data input takes place between the states, and all of the corresponding pdf files that are given to them afterwards. Each state has their own way of examining this data closer when they need to. An example of the business intelligence tools that other states are using to examine this data can be found in Appendix B.

In order to add validity to our comparisons we sought the input of how other states are handling these processes and which types of business intelligence tools they are using. We have received input from three states regarding their handlings of the data management processes. They are as follows:

Illinois

Employs a customized software suite called the Illinois Workforce Development System. This is a multi-faceted program that was deployed originally in 2004. It allows for a relatively small staff of around seven individuals to track all types of data and create customizable reports as needed. The software is very easy to use and takes minimal training to achieve proficiency in the software. Communication and interface with their online Web portal is virtually seamless, and the overall satisfaction of the users involved seems very positive. Although no information was provided regarding cost, it is understood that this was a custom system built especially for them, and the initial cost was very expensive.

Iowa

Uses the Iworks suite in a Mac environment for all of their business intelligence needs. They have the ability to develop custom programs in-house as needed in order to meet changing needs in storage or reporting. The system evolves to meet their needs, and maintenance is classified as minimal. In terms of cost, they categorized it as average and would not consider it a major expenditure.

Minnesota

Uses a tool called Futureworks. This is a Web based application that can be accessed through any Internet Explorer browser window. Training for all of the functionality within Futureworks is self-contained and broken into many canned training modules that can be accessed on demand. The user interface is extremely simple, and the tool is extremely powerful when creating customized reports. The cost to initially get Futureworks is extremely expensive. This tool is only beneficial if used for the long-term.

Adding a tool such as SPSS or SAS to supplement the current business intelligence software that the Office of Workforce Development uses would be highly beneficial. SPSS would be the more logical choice at this point, see appendix C.

8 COST MANAGEMENT

Cost estimates are a valuable project management tool for determining the costs for a project. It is used to provide financial information about both proposed projects and those in progress. The project team estimated the costs of acquiring the recommended tool. Labor costs were not estimated as those will be estimated based on labor and time available for OWD to implement the recommendation. As the project progresses through, costs will be more accurately identified and costs will be updated.

8.1 BASIS OF ESTIMATES

The project team used Parametric estimating to estimate the cost of acquiring and training on using SPSS software. Parametric estimating is done by determining and using a unit cost calculated over a duration or quantity of units. With the assumption that SPSS software is available for ODJFS staff, only additional licenses are needed. The training cost estimate is based on formal training as available from software developer IBM SPSS.

8.2 COST ESTIMATES

Resource	Type of Cost	Time Estimates	Assumption/ Constraint	Cost Estimate
SPSS License	Direct	N/A	SPSS software is available for ODJFS staff, only additional license needed.	\$ 1,850
Introduction to SPSS Training	Direct	2 days	Basic training, no pre-requisites needed	\$ 1,400
Data Management and Manipulation with SPSS	Direct	2 days	Intermediate training, introduction to SPSS needed as pre-requisites	\$ 1,400
SPSS Statistics Syntax I	Direct	1 day	On line, advanced training	\$ 700
Cost Per User				\$ 5,350

Based on information from the sponsor, three of the OWD staff/management will be using the recommended software. Accordingly, total estimated cost for all users is \$16,050 (3 X \$5,350). Users will be encouraged to use training funds available for union and exempt employees. Additionally, cross training might also be available as one of the OWD employees is experienced in using SPSS. OWD might be able to save the cost of formal training and the only cost is acquiring SPSS license for \$1,850 per person for a total of \$5,550 for all three users.

8.3 BENEFITS

8.3.1 Non-Financial

Using the recommended tool will reduce time analyzing data and producing reports, in addition to more accurate reporting due to using specialized software for data analysis.

8.3.2 Financial

Project team saved OWD/ODJFS \$13,452 to plan for the project, analyze business needs, and recommend software to efficiently analyze data (actually spent 354 hours on this project, for an estimation of \$38 per hour). As mentioned earlier, OWD can also benefit from training funds available for exempt and union staff in addition to cross training to reduce estimated cost of using SPSS to \$5,550 for all users.

9 CONCLUSION

The primary deliverable of this project is to provide a recommendation of a data management and analysis tool for the Office of Workforce Development at the Ohio Department of Jobs and Family Services. After a thorough examination of two tools that are capable of handling this type of task, we narrowed our focus to recommend only one of those tools.

In order to arrive at this recommendation, we completed a multi-faceted analysis that took into account both the business needs of the agency and the availability of tools that could reasonably handle the job. We developed a scoring matrix to aid in our final decision process to avoid any bias in our final recommendation (please see Appendix C for final results of the Data Management Tool Scoring Matrix).

We have looked extensively at the benefits of both SPSS and SAS in order to do some analyses on the Wagner-Peyser and Veterans Programs data that is ultimately submitted in PDF form to the U.S. Department of Labor. Based on all of the factors we considered and investigated, it is the recommendation of this project group that the Office of Workforce Development begin using the SPSS program. SPSS works well with a variety of systems that are already in place, and would provide management the types of trend analysis and forecasting they are seeking. A simple query could be written that will allow for on demand analysis of the data and allow the office to respond to data requests more efficiently. Some SPSS licenses are already available which means this recommendation could be implemented very soon.

It was a pleasure to work with the Office of Workforce Development and the Ohio Department of Jobs and Family Services as a whole. We indeed hope that this recommendation will prove useful to you in the future and that your experience with this particular project group was favorable.

10 APPENDICES

10.1 APPENDIX A: ACRONYMS

Acronym	Description
Cognos	An integrated business intelligence suite that provides a wide range of functionality to help you understand your organization's data. Business intelligence is a category of technologies and applications for assembling, analyzing, storing, reporting on, and giving access to data to facilitate enterprise users take superior business decisions.
CSV	Comma Separated Value
ETA	Employment Tracking Administration, Federal system used to produce federal reports to measure performance.
OWD	Office of Workforce Development
SAS	SAS stands for Statistical Analysis System. It is a statistical and informational system that performs sophisticated data management and statistical analysis. SAS is an integrated system of software products provided by SAS Institute Inc.
SCOTI	State internal application system used by workforce development to enter and track WIA program data.
SPSS	Statistical Programming for Social Studies SPSS (Statistical Package for the Social Sciences) is a computer application that provides statistical analysis of data. It allows for in-depth data access and preparation, analytical reporting, graphics, and modeling.

10.2 APPENDIX B: STATE TOOLS COMPARISON

Product Quality Feature	FW	IWDS	ITWorks
Accessibility	5	5	5
Training Availability	4	3	4
Ease of Use	4	4	4
Cost	2	2	2
Reporting Abilities	4	4	4
Other	4	4	2
Average	3.8	3.7	3.5

Legend:

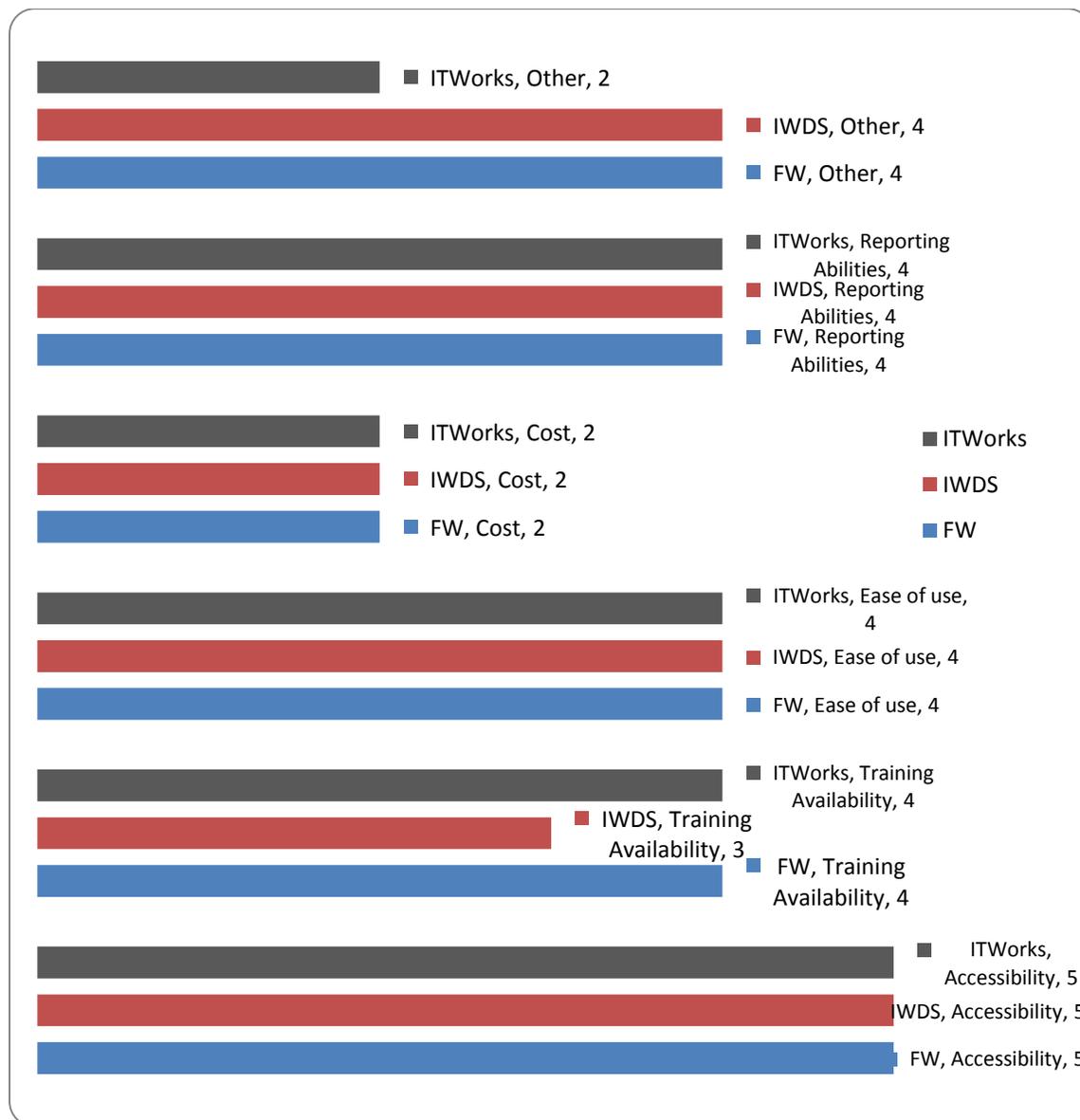
FW= Future Works

IWDS= Illinois Workforce Development System

ITWorks= Iowa Works Systems

Scale from 1 to 5

(1 = very poor, 2 = poor, 3 = average, 4 = good, 5 = very good)



State	Minnesota	Illinois	Iowa
Tools	Future Works	Workforce Development System	Iworks
Accessibility	The application is hosted by FutureWorks. It is readily accessible through any IE Browser on a computer with an internet connection.	Illinois employs two web based applications to address its workforce technology needs. The Illinois WorkNet portal is maintained via a partnership and grant with Southern Illinois University.	Utilizes IWorks a Microsoft office suite of desktop applications created by Apple for the Mac OS X and IOS operating systems. Able to upload all our data from Lotus Notes into the system
Training Availability	Site has a new support center built within the application with comprehensive documentation and training videos for almost any aspect of the application.	A relatively small staff of seven provides IWDS help desk functions for local areas, provides eligibility and case management training for local case managers, maintains the IWDS system's software, provides data analysis of systems data for a variety of information consumers and produces all federal and state reporting.	Training is provided for office-automation tools, commercial software used by County agencies, and custom applications developed internally by Information Systems department programmers
Ease of use	Content is organized with main themes in tabs across the top and a navigation pane within each theme along the left to select specific topics. When the report presents in the main frame there are numerous options to customize from simple filtering to rebuilding the entire report. So getting to the information is pretty simple and then usage scales from there based on training and expertise.	Easy to use with minimal training or skill required	A Geographic Information Systems (GIS) group manages the complex collection of hardware, software, spatial data layers, and metadata that comprise the system. It is user friendly and requires little maintenance.
Cost	Not cheap but a very good value. I was told that take it would cost close to \$1 million to replicate what FutureWorks can do.	Information regarding cost was not provided	Information regarding cost was not provided. It was stated that the purchase was not classified as major.

State	Minnesota	Illinois	Iowa
Tools	Future Works	Workforce Development System	Iworks
Reporting Abilities	An easy to managed system that produces a report layer for ease of access and use. It can respond very quickly to legislative and news organizations requests using this application.	A relatively small staff of seven provides IWDS help desk functions for local areas, provides eligibility and case management training for local case managers, maintains the IWDS system's software, provides data analysis of systems data for a variety of information consumers and produces all federal and state reporting. The IWDS system has primarily been maintained by state IT staff as USDOL WIA & TAA data collection and reporting requirements have changed over the last 8 years.	Can upload all our data from Lotus Notes into the system
Other	The application uses the standard WIASRD, LEPR and TAPR base files as source files. Additional info can be added as supplemental files to the base files. Can upload monthly WIASRD and LEPR files; and quarterly TAPR files.	Illinois employs two web based applications to address its workforce technology needs. The Illinois Workforce Development System (IWDS) was custom developed by a contractor and first deployed in 2004. The portal provides open access to all informational resources and service locators but also allows account registration to take advantage of participant profiles, periodic notifications, and individual assessment progress. The Illinois WorkNet® portal and program utilizes partnerships and technology to expand seamless and real-time access to workforce development resources aimed at Individuals, Businesses and Workforce Professionals.	N/A

10.3 APPENDIX C: DATA MANAGEMENT TOOL SCORING MATRIX

Product Quality Feature	SPSS	SAS
Accessibility	5	3
Training Availability	4	3
Ease of Use	4	2
Cost	4	2
Reporting Abilities	4	5
Other	4	4
Average	4.2	3.2

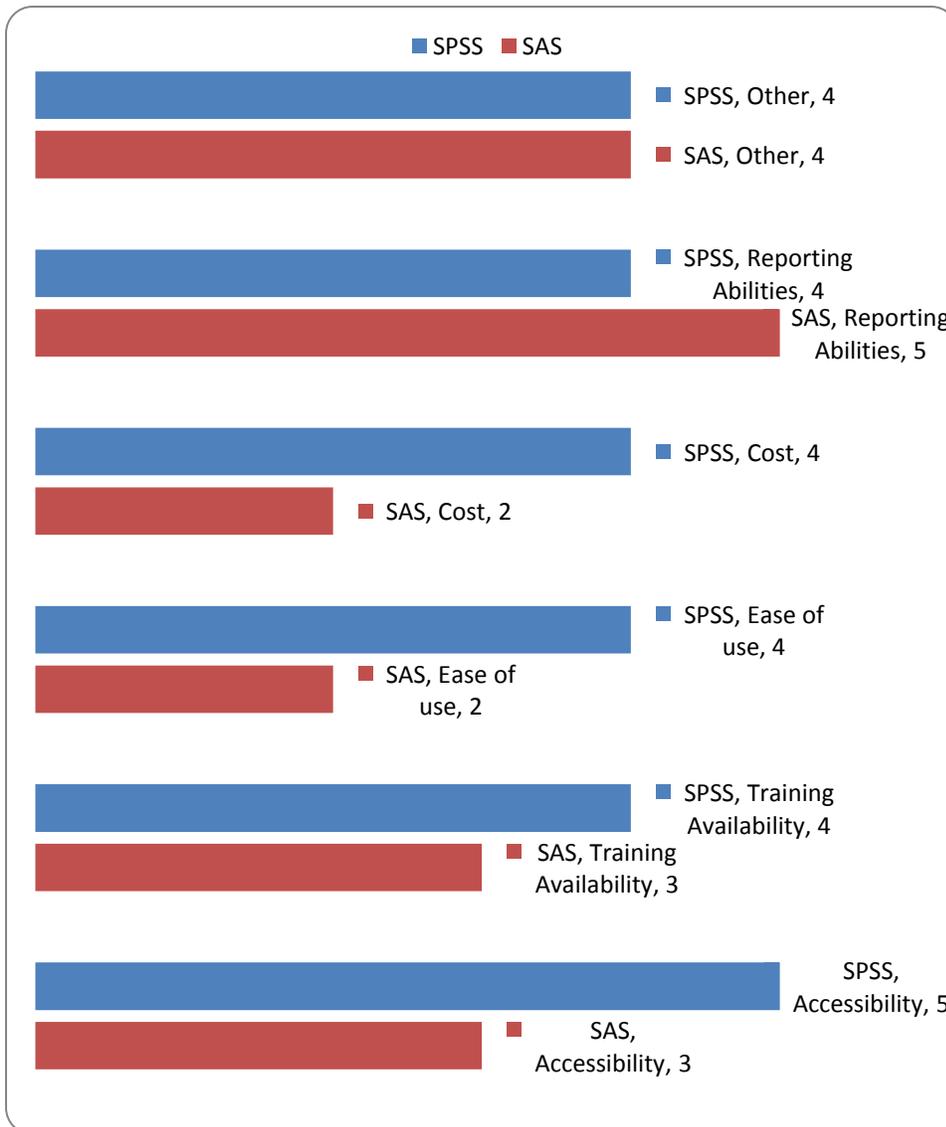
Legend:

SPSS = Statistical Programming for Social Studies

SAS = Statistical Analysis System

Scale from 1 to 5

(1 = very poor, 2 = poor, 3 = average, 4 = good, 5 = very good)



Features	SPSS	SAS
Accessibility	Currently using, easy to obtain additional licenses.	Currently not in use by OWD. Would need to purchase software and licenses.
Training Availability	Offers thousands of courses delivered via classroom, e-learning or blended learning formats. Additionally, OWD has access to individuals who currently are trained in this system and are able to provide training.	Maintains an on-line e-based training system.
Ease of use	Easy to use with minimal training or skill required	Is a more difficult program to learn, it would require additional time to learn and become proficient.
Cost	Advance license cost 1,000.00. OWD currently has a license, reducing the product cost.	License and software cost, 2,000 to 3,000.00
Reporting Abilities	The reports contain more detailed information.	Generates many different types of powerful reports, but graphics and tables for export are somewhat limited.
Other	Has the ability to import and export data with ease. Compatible with excel and access. The system comes with technical support.	Can work with either excel or access. Has available system support.

10.4 APPENDIX D: CUSTOMER SATISFACTION SURVEY

Please circle your response – 1 being the least satisfied and 5 being the most satisfied

1. Overall, how satisfied are you with the end deliverable of the recommendation that was provided to you? (1 2 3 4 5)
2. Was the speed of delivery adequate for your needs? (1 2 3 4 5)
3. Was the communication from the project team adequate throughout the process? (1 2 3 4 5)
4. Were you satisfied with the quality of the end recommendation? (1 2 3 4 5)
5. Will you be able to use this recommendation going forward? (1 2 3 4 5)
6. Would you consider working with this project team in the future? (1 2 3 4 5)
7. If you have specific concerns, please use the space below to provide feedback to the project team.

10.5 APPENDIX E: RISK ASSESSMENT LOG

Date Identified	Risk ID.	Risk Description	Category	Potential Impact	Risk Owner	Probability of Occurrence (1-5)	Impact of Risk (1-5)	Risk Level (1-25)	Response Type	Risk Response Plan	Status
04/17/12	1.1	The project scope, vision, objectives, & deliverables are not clearly defined or understood	Project Management	Project objective will not be met and tool selected might not meet requirements	Project Team	2	5	10	Mitigation	Confirm project scope with key stakeholders and sponsor; Confirm business needs and user requirements with management, users and technical staff.	
04/17/12	1.2	No appropriate contingency plans have been developed	Project Management	Project objective will not be met	OWD Management	1	3	3	Acceptance	Staff will manually analyze data, OIS might recommend using Cognos.	
04/17/12	1.3	Project does not have senior management "Buy In"	Project Management	Project will not be completed, tool selected will not be purchased and management goals will not be met	Sponsor	1	5	5	Acceptance	OWD will manually analyze data	
04/17/12	1.4	New responsibilities to the unit, no previous background or historical information	Project Management	Planning including cost and time management might not be accurate	OWD Management	3	3	9	Acceptance	Provide more time and funds to implement the project	
04/17/12	1.5	Requirements are not baselined and kept changing	Project Management	Time and cost will be increased	Sponsor	2	4	8	Transference	New requirements materially affect the scope will be moved to another project	
04/17/12	2.1	Might use another tool in a year or two, OIS is working on using Cognos	Organizational	Selected tool will not be utilized, time and funds lost in training staff and the additional training needed for the new tool	Sponsor	4	3	12	Acceptance	OWD will use the most efficient tool to achieve their goal	
04/17/12	2.2	Client communication time (e.g., time to answer requirements-clarification questions) is slower than expected	Organizational	Delays in project schedule	OWD Management	2	4	8	Mitigation	Continuous communication with sponsor and OWD for the importance of communications and get answers and information on time.	
04/17/12	2.3	Change of management priorities and directions	Organizational	Project will not be completed, time and cost lost in implementing the project and learning the selected tool.	Sponsor	2	5	10	Acceptance	OWD will analyze data manually until Cognos is available	
04/17/12	2.4	Insufficient funds (Budget)	Organizational	Not enough funds available to purchase the tool and train staff using the new tool	Sponsor	4	5	20	Mitigation	Acquire licenses for a software available at ODJFS and use training funds available for union and exempt employees	

Date Identified	Risk ID.	Risk Description	Category	Potential Impact	Risk Owner	Probability of Occurrence (1-5)	Impact of Risk (1-5)	Risk Level (1-25)	Response Type	Risk Response Plan	Status
04/17/12	3.1	Personnel need extra time to learn unfamiliar software tools	Resource	Longer time to utilize the tool and meet goals in addition to delays in implementing the project.	OWD Management	3	5	15	Acceptance	Allow for overtime and/or comp time	
04/17/12	3.2	Possible retirement of staff with technical capabilities	Resource	Lose of knowledge and time lost training the retired staff and additional time and funds needed to train new staff	OWD Management	5	4	20	Mitigation	Train more staff at least 6 months before the retirement date.	
04/17/12	3.3	Only one person working with another unit is available for technical support	Resource	Delays in providing support and answer users' questions and meet management goals on time.	OWD Management	4	4	16	Acceptance	Train another staff as soon as possible, seek support from offices outside OWD and from tool developer	
04/17/12	3.4	Not available resources/staff	Resource	Purchased tool will not be utilized.	OWD Management	2	5	10	Acceptance	Management might need to train more staff to use the tool or/and hire more staff with more technical and analytical skills	
04/17/12	3.5	People's assignments do not match their strengths	Resource	Delays in using the tool and meeting objectives	OWD Management	2	5	10	Acceptance	Hire staff with more technical skills or/and provide additional training	
04/17/12	3.6	Formal training might not be available to users	Resource	Unable to utilize tool purchased	OWD Management	1	4	4	Acceptance	Staff will utilize training funds available for union and exempt employees and/or cross training with other ODJFS users.	
04/17/12	4.1	Technical skills of staff and management	Technical	Users unable to use the software purchased which might result in additional training or hiring more staff with more technical skills which will increase cost	OWD Management	3	4	12	Mitigation	Additional training needed, hire staff with technical skills, and the use of templates if available	
04/17/12	4.2	Complexity of program/software	Technical	Users unable to use the software purchased which might result in additional training or hiring more staff with more technical skills which will increase cost	Project Team	3	4	12	Mitigation	To select a tool that is more user friendly with the ability to use drop down menus with a point and click features	
04/17/12	4.3	Insufficient support of software maintenance	Technical	Delays in achieving goals and producing analytical reports.	External (OIS)	2	3	6	Mitigation	To select a tool available in ODJFS with multiple users and sign up for the developer maintenance and support	

Date Identified	Risk ID.	Risk Description	Category	Potential Impact	Risk Owner	Probability of Occurrence (1-5)	Impact of Risk (1-5)	Risk Level (1-25)	Response Type	Risk Response Plan	Status
04/17/12	4.4	User identified selected tool unsatisfactory and not as expected	Technical	Increase cost to select additional tool, delays in implementing project and meeting management goals.	Project Team	3	5	15	Mitigation	Contact current users for their feedback regarding using the tool, use on-line free trial if available, contact vendor for a demo.	
04/17/12	4.5	Limited software licenses	Technical	Delays in schedule to implement project, additional cost to require licenses	External (OIS)	3	4	12	Mitigation	Contact OIS for licenses inquiry before selecting the tool.	



Data Management and Analysis System

By Team DMAS



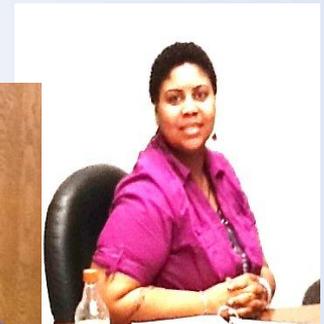
Overview

- Introductions
- Project Charter/ Scope
- Project Deliverables
- Questions



Team DMAS:

- ❖ Paul Bounds, Project Team Manager
- ❖ Michael Allen, Human Resources Manager
- ❖ Jamileh Assaf, Cost & Risk Assessment Manager
- ❖ Adrienne Carr, Co-Presentation Manager
- ❖ James Lansden, Quality Manager & Cost Co-Manager
- ❖ Tiffany Winfield, Resource & Communications Manager





Project Management Documents

The forms used in Project Management include:

- **Charter**
- **Scope**
- Work Breakdown Structure (WBS)
- Schedule
- Communication Plan
- Risk Registry
- Human Resource Plan
- Quality Plan
- Procurement Plan
- Cost Analysis



Charter

Document that formally authorizes a project:

- Project Manager assigned
- Business Case
- Description and Deliverables
- Stakeholders
- Pre-Assignments
- Known Contracts
- High Level cost estimate
- Risks
- Assumptions
- Constraints



Charter



Project Charter

PROJECT TITLE AND DESCRIPTION: Data Management & Analysis System
To create a presentation which illustrates the project management processes as taught in Project Management training. As part of the presentation, the project team will create an analysis and supply a recommendation regarding the Veterans and Wagner Peysner Workforce programs that helps management to select reporting system that accurately present progress towards performance outcomes.

PROJECT MANAGER ASSIGNED AND LEVEL OF AUTHORITY:
Project Sponsor: Nelson Gonzales, Project Management Training Program Manager
Project Manager: Paul Bounds

Acceptance Criteria:
By May 24, 2012:
-Approved project
-Completed project and presentation
-Completed analysis and recommendations for agency
-Project framework documents prepared and ready to submit to agency

BUSINESS CASE:
As part of the graduation requirements, project participants will apply the principals taught in the Project Management course & gain practical experience from the implementation of the theories learned.

PROJECT COST ANALYSIS:
Total estimated cost based on the available 7 weeks to complete the project by the team, meeting once a week.
Project team x Days x hours per day x average hourly rate
 $6 \times 7 \times 7 \times \$38 = \$11,172$

PRODUCT DESCRIPTION / DELIVERABLES:

- End of class presentation and project documentation
- Analysis of the agency's needs
- Recommendation of no more than 2 options to address the agency's needs
- Framework documentation of the project to present to the agency

Risks and/or Assumptions:

Risk: Will all assigned team members be available for the duration of the project?
Risk: Will there be available time for each team member to complete assigned tasks?
Risk: Will the SMEs and sponsor for the project be available as needed for the project?
Risk: Will any outside resources be available as the project moves forward?

Assumption:

SIGNED AND APPROVED BY:



Scope

Document that ensures that the project includes all the work required, and ONLY the work required, to complete the project successfully:

- Product or Service description
- Product requirements
- Clear & specific deliverables
- S.M.A.R.T.
- Constraints or assumptions
- Risks
- Stakeholder registry
- “Out of Scope”
- Work Breakdown Structure



Scope



Office of Learning and Professional Development
Human Resources Division
Service - Support - Solutions

Scope Statement

A Preliminary Scope Statement should be developed during the initiation phase of a project and then finalized during the planning phase. The purpose is to document key objectives of the project or product, the project boundaries in terms of what will be done and not done, in the project, high level deliverables and milestones. In addition, assumptions and constraints, alternate options and the acceptance criteria for verifying the project objectives have been met, should all be identified. The project manager and the project team will use this document as a point of reference for potential changes, added work, and any project decisions.

PROJECT IDENTIFICATION		
Project Name	Project Sponsor	Agency Name
Data Management and Analysis Systems	Nelson Gonzalez	Ohio OAS
Project Number (Finance Code - Optional)	Project Manager	Date Created
	Paul Bounds	April 13, 2012



Office of Learning and Professional Development
Human Resources Division
Service - Support - Solutions

Scope Statement

PROJECT / PRODUCT OBJECTIVES

To create a presentation which illustrates the project management processes as taught in Project Management training by May 24, 2012. As part of the presentation, the project team will create an analysis and supply a recommendation regarding the Veterans and Wagner Payser Workforce programs that helps management to select reporting system that accurately present progress towards performance outcomes.

PROJECT DESCRIPTION / DELIVERABLES - IN SCOPE

In order to consider this project complete, the project team will have the following deliverables: By May 24, 2012:

- Approved Project
- Completed Project S. Presentation
- Completed analysis and recommendations for Agency
- Project Documents prepared and ready to submit to Agency

PROJECT FEATURES AND FUNCTIONS

The presentation will be a PowerPoint slide presentation. It will include:

- An introduction of the Project Team
- An explanation of the Project processes
- An explanation of the Agency project challenge
- The analysis and recommendations that was presented to the Agency

The function of this presentation is to display that the learning objectives for the Project Management training course were met.

OUT OF SCOPE - OBJECTIVES

The objectives of the Agency project will not include a completed framework for the Agency. The only deliverables are:

- Analysis of Agency needs
- No more than 2 recommendations to address the Agency's needs
- Documentation of the analysis process
- Documentation of how recommendations were achieved

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John S. Smith, Governor
Betsy De. Custer

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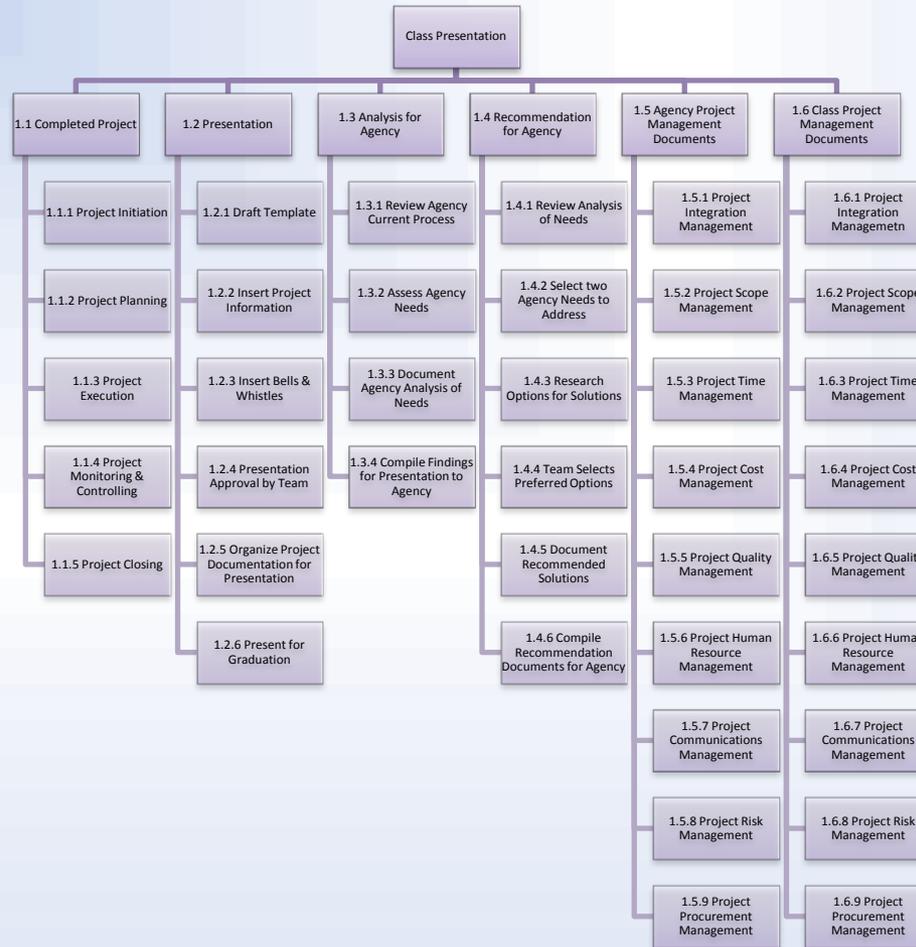
Work Breakdown Structure

A deliverable oriented grouping of project components that organizes and defines the total scope of the project.

- Start with high level deliverables, at the first level
- Use “Decomposition” to break down the project deliverables into progressively smaller components
- Establish ‘work packages’
 - ✓ Smallest component that can be realistically estimated for time and cost



Work Breakdown Structure





Schedule

In project management, a schedule consists of a list of a project's terminal elements with intended start and finish dates:

➤ Tools include:

- ✓ Schedule Network Analysis
- ✓ Critical Path Method
- ✓ Critical Chain Method
- ✓ Resource Leveling
- ✓ What-if Scenario Analysis
- ✓ Applying Leads and Lags
- ✓ Schedule Compression
- ✓ Scheduling Software



Communication Plan

Document that establishes stakeholder expectations on the project, letting them know what information they will receive and when & how they will receive it:

➤ The Communication Plan defines:

- ✓ How often communications will be distributed and updated
- ✓ In what format the communications will be distributed
- ✓ What information will be included in the project communications
- ✓ Which project stakeholders will receive these communications



Risk Management Plan

Roadmap for identifying risk, performing qualitative and quantitative risk analysis and planning a risk response strategy:

- Risk is related to an uncertain event
- Risk may affect the project for good or bad
- Historical data is the most accurate method of obtaining project information that can reduce risk



Risk Management Plan

Risk	Probability of Occurrence (1-5)	Impact Analysis (1-5)	Risk Level (1-25)
Assigned team members will not be available for the duration of the project	4	4	16
Time is not available for each team member to complete assigned tasks to meet deadlines	4	5	20
SMEs and sponsor for the project will not be available as needed for the project	2	4	8
Outside resources will not be available as the project moves forward	3	1	3
Total			47

Risk Legend: 1 = Low, 5 = High



Human Resource Plan

Identifying and documenting project roles and responsibilities for the resources needed to complete the project:

- ❖ Paul Bounds, Project Team Manager
- ❖ Michael Allen , Human Resources Manager
- ❖ Jamileh Assaf, Cost & Risk Assessment Manager
- ❖ Adrienne Carr, Co-Presentation Manager
- ❖ James Lansden, Quality Manager & Cost Co-Manager
- ❖ Tiffany Winfield, Resource & Communications Manager



Quality Plan

Identifying what the quality specifications are for the project and how these specifications will be met:

➤ Plan Quality Benefits:

- ✓ Less Work
- ✓ Higher productivity
- ✓ Lower costs
- ✓ Increased stakeholder satisfaction



Procurement Plan

Analyzing the project to determine which components or services of the project will be performed internally or procured from an external source:

➤ Procurement Roles:

- ✓ Buyer
- ✓ Seller

➤ Project Procurement Management has to do with contracts that are legal documents between the buy and the seller



Project Cost Management

The processes involved in estimating, budgeting and controlling costs, so the project can be completed within the approved budget

Total estimated cost based on the available 7 weeks to complete the project by the team, meeting once a week:

Project Team x Days x Hours/Day x Average Hourly Rate

$$6 \times 7 \times 7 \times \$38 = \$11,172$$



Data Management & Analysis Project



ODJFS Team

- ❖ Michelle Horn, Acting Deputy Director, Office of Workforce Development
 - ❖ Robin Rice, Program Administrator
 - ❖ Bob Haas, Chief of Performance and Reporting
 - ❖ Julie McKay, Project Manager
 - ❖ Wm. Stacey Pettway, Section Chief
- ❖ Kermetta Folmar, Social Science Research Specialist
 - ❖ Gina Fulton, Social Science Research Specialist



Program General Information

Wagner-Peyser is a federally funded program designed to help job seekers obtain meaningful employment opportunities and to assist employers in obtaining skilled and productive employees.



Business Case

- Limitation on resources due to major staff changes and reduction
- Unable to monitor and report program performance timely and accurately
- The Veterans and Wagner Peyser Workforce programs need a manageable automated searchable system



Initial Project Organization

- ❖ Project Manager: Paul Bounds
- ❖ Sponsor: Michelle Horn
- ❖ Project Management Team: Mike Allen, Jamileh Assaf, Adrienne Carr, James Lansden, Tiffany Winfield
- ❖ Subject Matter Experts (SME): As needed



Project Description

Recommend a data management analysis tool that utilizes raw data from the Veterans and Wagner Peyser Workforce programs to generate concept and content specific reports.



Project Objectives

- Context – Office of Workforce Development needs to access data to generate concept and content specific reports.
- Reports cannot be manipulated to produce trend analysis for forecasting projections.
- Analysis of current data generation, structure, volume, flow and form will lead to a recommendation for an analysis tool.



Human Resource Capacity

- The goal is to ensure that skilled and available resources are available when and for how long they will be needed



Human Resource Capacity

- Team strategies are defined and managed efficiently
- Roles and responsibilities are clearly described
- Organization charts are developed to define 'chain of command' or 'matrix' interactions and accountability
- Management of human resources should be clear and consistent and focus on long term involvement



Human Resource Capacity

- In particular, success of the implementation of the Data Management and Analysis System will require an honest and thorough determination of staff capabilities and desires.
- Training will need to be consistent, comprehensive and continually nurtured to provide for maximum potential of the software's power.



Out of Scope Objectives

- The product will not include implementation procedures.
- The product will not provide an exhaustive exploration of data analysis tools or data base management systems.



Project Description/Deliverables

➤ Business Needs

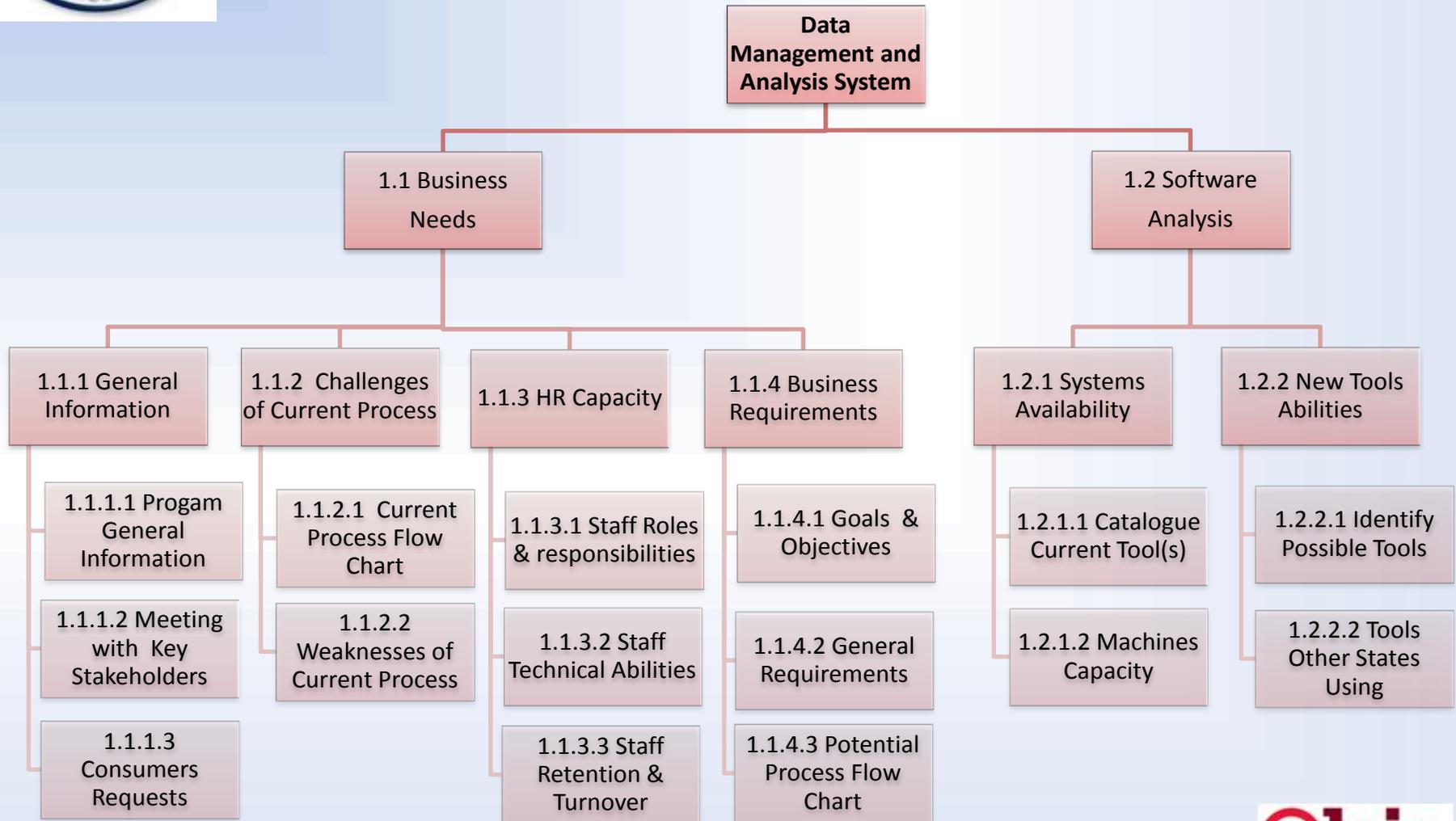
- ✓ Current Procedures
- ✓ Identification of challenges
- ✓ HR capacity and business requirements

➤ Software Analysis

- ✓ Systems availability
- ✓ New tool's ability

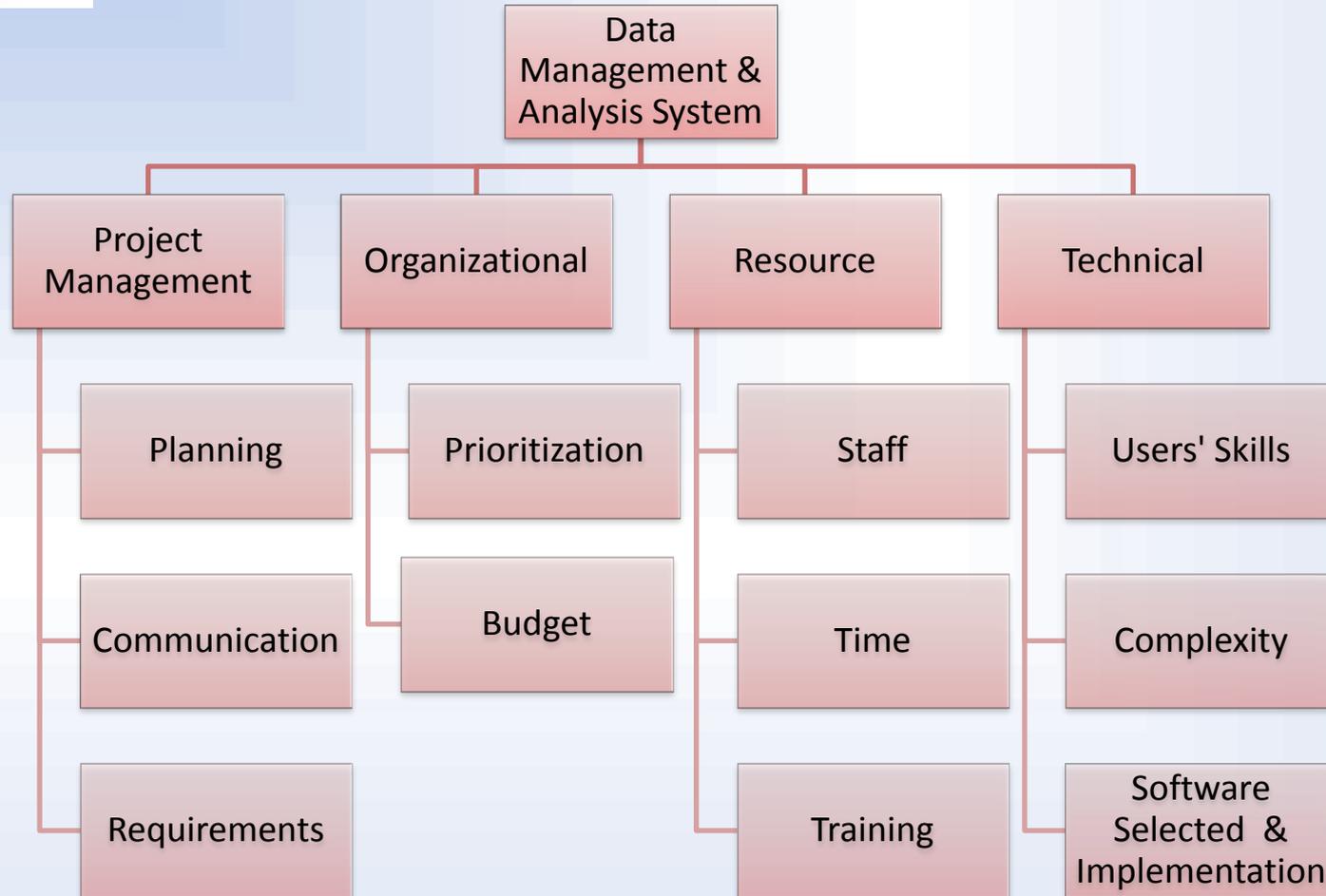


Work Breakdown Structure





Risk Breakdown Structure





Risk Assessment Log

1. Insufficient Funds

- ✓ Mitigate
- ✓ Acquire License for software available at ODJFS
- ✓ Use training funds available for Union and Exempt employees
- ✓ Cross Training



Risk Assessment Log

2. Retirement of staff with technical capabilities

✓ Accept

✓ Train more staff at least 6 months before the retirement date.



Assumptions

- Data is available in SCOTI and in CSV format.
- Available reporting tools in ODJFS, like Cognos, SAS and SPSS.



First Deliverable:

Business Requirements

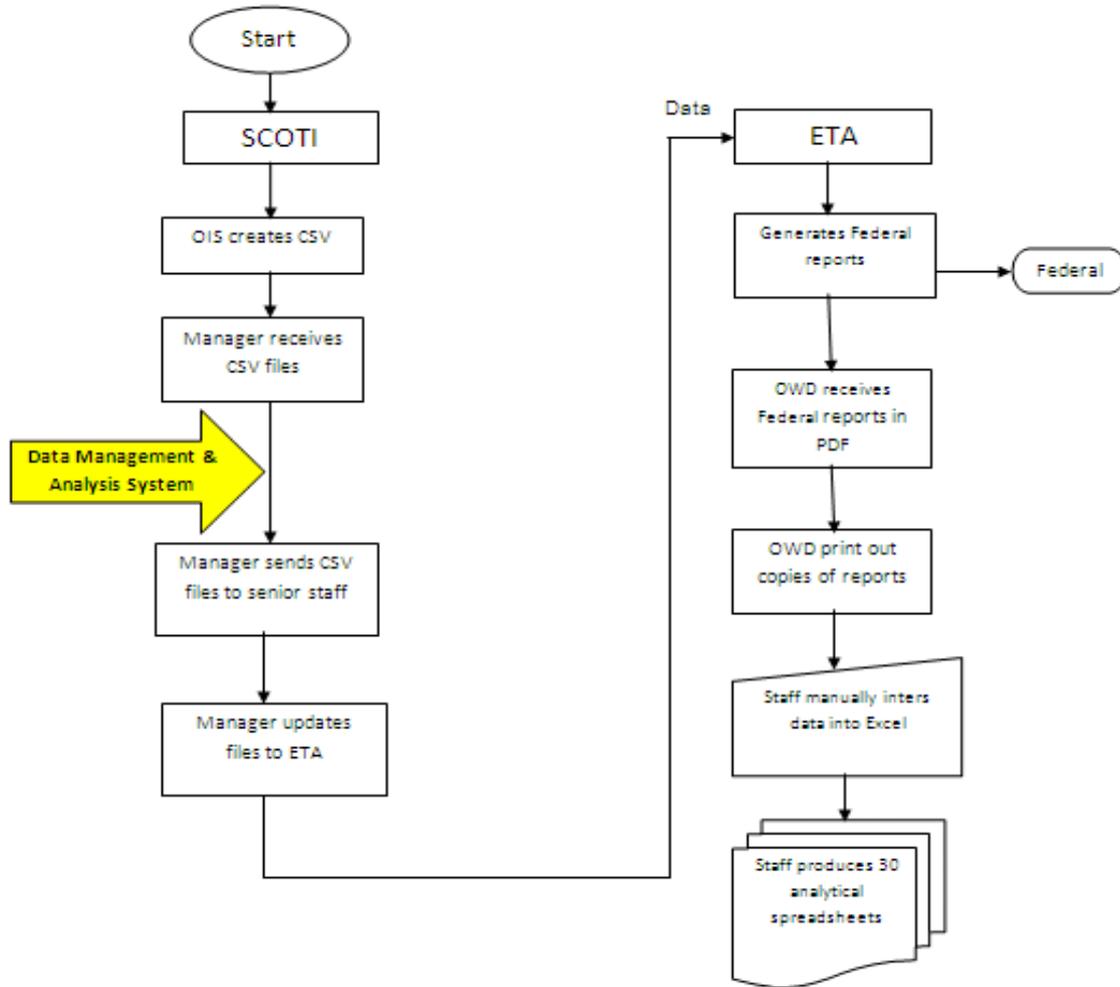


Challenges of Current Process

- ✓ Current process has capacity, speed, and timing issues;
- ✓ High risk of human errors;
- ✓ Inability to quickly provide answers to business problems or for decision making on a timely manner;
- ✓ Lack of storage of program data back for 5 years for trend, statistical, performance and long term analysis; and
- ✓ Inability to produce increasingly complex and varied queries and analysis.



Current Process





Human Resource Capacity

Business Needs (BN) Software Analysis (SA)	Sponsor	Project Manager	Implementation Manager	SMEs	Team Members
BN ~ Current Practice	A	C/R	A	C	R
BN ~ Identify Current Challenges	A	C/R	A	C	R
BN ~ Human Resource Capacity	A	C/R	A	C	R
BN ~ Business Requirement	A	C/R	A	C	R
SA ~ Systems Availability	A	C/R	A	C	R
SA ~ New Tools' Ability	A	C/R	A	C	R

A- Accountable for ensuring task completions

C- Consulted before decisions are made **R-** Responsible for completing the work

I- Informed when decision is made





Goals and objectives

Management's main goal is to improve data analysis to provide more timely access to information for monitoring and management of services.



Goals and objectives

- Who do we serve?
- What are our results?
- How well did we do it?
- What are the trends?
- Is anyone better off?
- Where are we most and least effective?



General Requirements

- ✓ Timely access to all Veterans and Wagner-Peyser data;
- ✓ Easy to maintain and consumer friendly;
- ✓ Powerful, flexible, and simple to use regardless of users' skill level; and
- ✓ Capable of creating standard and ad hoc reports designed to measure general and performance trends.



Second Deliverable:

Software Analysis



Focused Comparison

- We focused our attention on two software tools that we felt would be adequate to handle the needs of the Office of Workforce Development
 - SPSS (Statistical Package for the Social Sciences)
 - SAS (Statistical Analysis System)



Items for Comparison

- Cost
- Accessibility
- Training Availability
- Ease of Use
- Reporting Abilities



Analysis of the Tools

Features	SPSS	SAS
Accessibility	Currently using, easy to obtain additional licenses.	Currently not in use by OWD. Would need to purchase software and licenses.
Training Availability	Offers thousands of courses delivered via classroom, e-learning or blended learning formats. Additionally, OWD has access to individuals who currently are trained in this system and are able to provide training.	Maintains an on-line e-based training system.
Ease of use	Easy to use with minimal training or skill required	Is a more difficult program to learn, it would require additional time to learn and become proficient.
Cost	Advance license cost 1,000.00. OWD currently has a license, reducing the product cost.	License and software cost, 2,000 to 3,000.00
Reporting Abilities	The reports contain more detailed information.	Generates many different types of powerful reports, but graphics and tables for export are somewhat limited.
Other	Has the ability to import and export data with ease. Compatible with excel and access. The system comes with technical support.	Can work with either excel or access. Has available system support.



Comparison With Other States

- We investigated the current business intelligence tools being used by three other states
 - Illinois (Illinois Workforce Development System)
 - Iowa (Iworks)
 - Minnesota (Futureworks)



Comparison With Other States (cont.)

Product Quality Feature	FW	IWDS	IWorks
Accessibility	5	5	5
Training Availability	4	3	4
Ease of Use	4	4	4
Cost	2	2	2
Reporting Abilities	4	4	4
Other	4	4	2
Average	3.8	3.7	3.5

Legend:

FW= Future Works

IWDS= Illinois Workforce Development System

IWorks= Iowa Works Systems

Scale from 1 to 5

(1 = very poor, 2 = poor, 3 = average, 4 = good, 5 = very good)



Quality Management Plan

- Designed to ensure that all of our work adhere to the quality standards of the sponsor, and that the end result is exactly what it needs to be.
- A set of quality assurance metrics was established early on to maintain the highest levels of quality throughout this process.



Quality Assurance Metrics

- Schedules of Project Team Members
- Resources Available to the Project Team
- Cost
- Process Performance
 - Efficiency
 - Low wasted effort
- Product Performance
 - Timely delivery of recommendation
 - Tool recommended will perform adequately
- Customer Satisfaction



Quality Control

- Weekly meetings with mandatory attendance and recorded minutes
- Team members expertise and abilities were identified early
- Scoring matrix was developed to prevent bias in decision making
- Regular communication with the stakeholders
- Multi-tiered document reviewing process
- Stakeholder signoffs on all parts of the project life-cycle
- Product delivery
 - Customer satisfaction survey



DMAS Tool Scoring Matrix

Product Quality Feature	SPSS	SAS
Accessibility	5	3
Training Availability	4	3
Ease of Use	4	2
Cost	4	2
Reporting Abilities	4	5
Other	4	4
Average	4.2	3.2

Legend:

SPSS = Statistical Programming for Social Studies

SAS = Statistical Analysis System

Scale from 1 to 5

(1 = very poor, 2 = poor, 3 = average, 4 = good, 5 = very good)



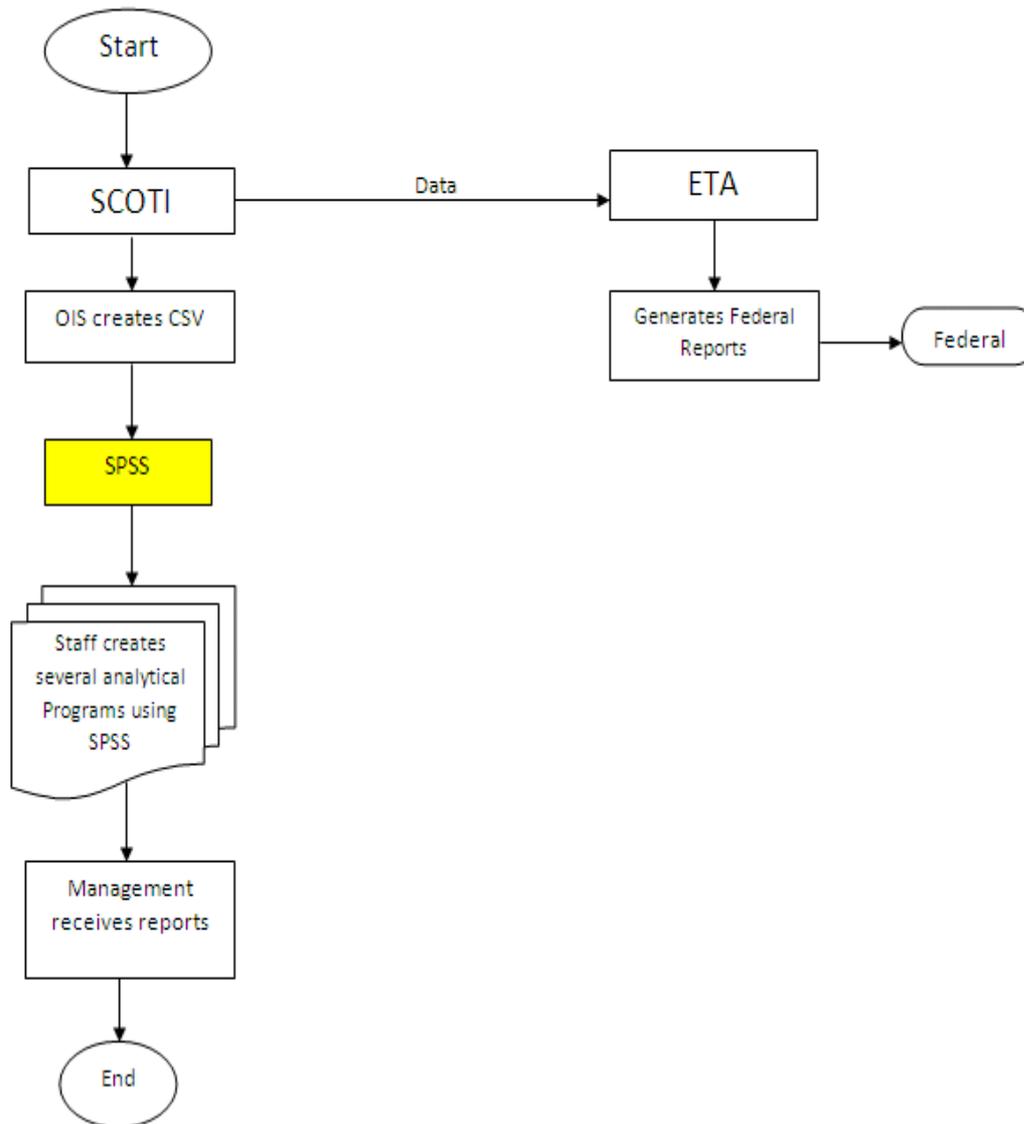
Final Recommendation

- After conducting an extensive analysis, we feel that the Office of Workforce Development could benefit from the SPSS program





Potential Process Flowchart





Cost Management

Resource	Type of Cost	Time Estimates	Assumption/ Constraint	Cost Estimate
SPSS license	Direct	N/A	SPSS software is available for ODJFS staff, only additional license needed	\$ 1,850
Introduction to SPSS Training	Direct	2 days	Basic training, no pre-requisites needed	\$ 1,400
Data Management and Manipulation with SPSS	Direct	2 days	Intermediate training, Introduction to SPSS needed as pre-requisites	\$ 1,400
SPSS Statistics Syntax I	Direct	1 day	On line, advanced training	\$ 700
Cost Per User				\$ 5,350



BENEFITS

Financial:

- ✓ Project team saved OWD/ODJFS \$13,452 planning for the project, analyze business needs and recommend a software to efficiently analyze data
- ✓ Agency may reduce cost to \$5,550 by utilizing training funds available for exempt and union staff & cross training



BENEFITS

Non-Financial:

- ✓ Reduce time analyzing data & producing reports
- ✓ More accurate reporting and analysis



Lessons Learned

Successes

- ✓ Meeting with key stakeholders
- ✓ Weekly conference calls
- ✓ Defined roles early in the process
- ✓ Selecting work space with resources needed

Challenges

- ✓ Learn the subject matter experts early
- ✓ SharePoint
- ✓ Learn the importance of the scope
- ✓ Develop key questions



Questions?

Thank you!