  
Republic of Uganda

Ministry of Public Service

­­­­­­­­­­­­Terms of Reference for the Development of a Smart Dashboard for the Public Service

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| https://e-resolve.co.uk/wp-content/uploads/2018/03/HR-Word-cloud.jpg | https://images.template.net/wp-content/uploads/2016/02/Responsive-Bootstrap-Admin-Template1.jpg |
| https://www.sap.com/dam/application/shared/photos/misc/sap-successfactors-workforce-analytics-device-rptsdshbrd.png.adapt.970_546.false.false.false.true.png | https://www.researchgate.net/profile/Dr_Arup_Barman/publication/301727449/figure/fig1/AS:616390742515719@1523970413333/Human-Resource-analytics-Source-Analytics-India-Magazine-2015_Q320.jpg |

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# Background

Ministry of Public Service mandated with providing strategic and managerial leadership on all matters of Human Resource in Uganda’s Public Service.

To achieve this, the Ministry has introduced a number of public service reform initiatives aimed at improving the capacity and performance of the Public Service, as the implementing arm of Government.

The public service reform initiatives are a deliberate and well-coordinated process of radical change intended to re-orient the public service machinery and systems in a new direction to make them more efficient and effective, and to facilitate fulfilment of the government mandate to citizens.

Some of the public service reform initiatives introduced include;

1. The Integrated Personnel and Payroll System (IPPS),
2. Service Uganda Centers (One-stop Government Service Centres).

In order to further enhance its Human Resource Planning function, the Ministry intends to introduce HR Analytics and Visualisation tools. The aim of these tools are;

1. The enhance ability to process, analyse and visualise HR Data and Statistics for better Decision making,
2. To easily communicate to staff and the public on the state of the public service.
3. Smart Dashboard Screens for visitors and staff to view this information on large screens.

The contribution of the proposed Smart Dashboard in the bigger strategic chain is outlined below.

# Problem Statement

The Ministry of Public Service has been implementing a number of public service reform initiatives to bring about smart government.

As a result, the Ministry now has a lot of high-quality Human Resource Data (HR Data), but does not have adequate tools to analyse, visualise and communicate this data to the key decision makers and the public.

HR Information is being generated from systems, such as the following.

1. Integrated Personnel and Payroll System (IPPS),
2. Programme Based Budgeting System (PBS),
3. Performance appraisal reports,
4. Learning and training,
5. Compensation and Pensions,
6. Inspection Reports,
7. Data collection exercises and Surveys

These datasets are not being used fully to predict workforce trends, minimize risks and maximize returns to Government from Public Servants. The inability to fully use this data for planning has impeded our ability to fully effect far reaching public service reforms.

This can result in high attrition, poor hiring, sub-optimal compensation, keeping below par employees, bad training & learning strategies.

Strategic Analytics and Data-driven insights to make decisions are always better than judgmental (subjective) HR practices in terms of;

1. how to recruit and retain,
2. when and whom to hire,
3. how to onboard and train employees,
4. how they keep public servants informed and engaged through their tenure in the service,
5. track and diagnose problems,

# Proposed Solution

The proposed solution is Smart Dashboard for the Public Service that will analyse and display visual data on the following.

1. Large Screens at key points for target audiences.
2. Mobile Devices like Ipads, Tablets and Phones.
3. Desktop Computers.

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| The proposed system will adopt business intelligence tools to generate the following presentation layers, that will be visually appealing and easily interpreted by all audiences.   1. Graphs, 2. Charts, 3. Maps, and 4. Tabular Data |  |

The dashboard screen presented will be packaged according to the target audiences e.g.

1. Top Management,
2. Senior Management,
3. Human Resource Cadre Staff,
4. Visitors and the General Public.

# Objectives of the Smart Dashboard

1. Enable Management to have a constant update on Data/Statistics on the State of the Public Service.
2. Allow the visitors and the public to view basic overview of the public service.
3. Provide visually appealing and easily interpreted data that can be used by non-technical people through graphs, charts and maps.
4. Provide Strategic data to support Top Management of the Ministry in Decision making through Business Intelligence and Data Analysis.

# Tasks of the assignment

1. Detailed needs assessment of reports and dashboards required by different target audiences
2. Identify the source of each dataset
3. Development of the Smart Dashboard
4. Installation of the system on the platforms and large screens
5. Training of staff on how to update the Dashboard

# Scope of assignment

## Smart Dashboard Data Interfaces

1. Based on a Relational Database System
2. Based on Open Software Solutions
3. Ability to pick information from existing systems like IPPS, Semi manual systems, MS-Excel Systems and Manual system
4. Ability to drill down or summarise up information at different levels and MDAs/LGs

## Screens and Accessibility

The Large Screen for viewing the Smart Dashboards will be in the following locations.

1. Ministers Waiting room
2. Office of the Minister for Public Service
3. Office of the Minister of State for Public Service
4. Permanent Secretary Waiting Room
5. Office of the Permanent Secretary
6. One stop Service Centre at the MoPS Headquarters
7. Department of Planning, Monitoring and Evaluation
8. MoPS Main Noticeboard
9. MoPS Main Waiting Lounge (Block B)

The Dashboard should also be accessible over Internet or Local Area Network by:

1. Mobile Devices like Ipads, Tablets and Phones.
2. Desktop Computers.

# Requirements Specifications

## Software Systems Requirements

1. Web based Single Page application based on Angular 5 or above, or React/Reduc or Vue JS
2. Software based on Objected Oriented Programming with MVC (Model View Component)
3. Based on SQL Relational Database System
4. Authentication and Role Based Users administration system based on Two-Factor Authentication via SMS with Active Sessions Management, Active Sessions Management, Reset Token Lifetime and Audit Trail. Secured password forms with Google Captcha
5. Ability to assign specific roles, rights for read, edit and delete to each page and component
6. Dynamic Mapping and Graphing Engine for displaying any data or table on Map and Graph
7. Filter and Drill down of information by Vote, Region, Subregion, District, LC Level, Sector, Ministry or Local Government, Employee type
8. Activity Calendar to allow viewing all events and activities, and roles-based ability to add or edit events
9. Timeline and recent posts for all users to share information
10. Concurrent access by over 100 users at any one time
11. All data and tables must be exportable to PDF, Excel, CSV
12. Sticky Notes for each user to quickly add sticky notes and reminders
13. Single Search engine to search all data in the system
14. Ability to get remote data from other systems via REST APIs

## Data collection and Reports requirements for the Uganda Public Service disaggregated by

1. *Human Resource Breakdown by Salary Scale and Seniority*
2. *Salary scales*
3. *Sex* and Gender
4. *Age and Age category*
5. *Education level*
6. *Function type*: E.g. top management, middle management, production personnel and support staff, cadres.
7. *Permanent and Pensionable vs Contract Staff*
8. *Employees Active*
9. Payroll and Wage bill: Permanent vs Contract, Central Govt vs Local Govt, by Gender, Scale, e.t.c
10. Attendance
11. *Turnover*: The number and/or percentage of employees who left in the previous period.
12. *New hires*: The number and/or percentage of new employees who joined the service within the last year.
13. *Absenteeism*: Whether on medical grounds, abscondment, training, e.t.c.
14. *Training cost*
15. *Recruitment cost*
16. *Time to fill or recruit*
17. *Trends Analysis for last 3 year*
18. *Pensions Data by entity or vote, age, Gender, time taken by pensioners to access pension*

## Additional Reporting Requirements

In addition to the HR Analytics Reports, the Dashboard System should have the following Data Reports

1. Sectors and Thematic Areas / List of Sector Objectives, List of Sector Outcomes
2. Graph showing Number of Ministries, Departments and Agencies by Sector
3. List of Ministries, Departments and Agencies
4. List of Government Programmes, Departments and Projects
5. Key Department Outputs, Key Performance Indicators
6. Types of Votes and Administrative Units
7. List of NDP Objectives
8. List of Parastatals List of Donors
9. List of Indicator Types, List of Item Class at Level 3, List of Line Items
10. Number of Administrative Units by Level
11. Local Government Administrative Levels
12. Uganda Population Growth
13. Graph showing Population Growth across the years
14. Graph Showing Average Annual Growth Rate
15. Graph showing Population Growth across the years by Sex
16. Uganda's Population by Region Table and Graphs
17. Population by District
18. Population by Subcounty / Town Council / Division (Based on 2014 Population Census)
19. Map of Uganda showing Districts by Number of Sub counties
20. Map of Uganda showing Districts Grouped by Region
21. Map of Uganda showing Districts Grouped by Sub Region
22. List Districts in Uganda by Region and Sub region

# Deliverables

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| Description | Quantity | Unit of Measure |
| Develop Dashboard Software Application | 1 | Units |
| Collect and Generate Dashboard Data as per Data requirements above | 1 | Units |
| Installation of the system on the platforms | 1 | Units |
| 50" HD Flat Screens with Wall Mount   1. LED 4K Screen | 5 | Units |
| Desktop PCs   * i7 (icore 7), 8GB Ram, 1TB, 29” screen | 2 | Units |
| Training of staff | 3 | Trainees |
| Develop and Print User Manuals Book   1. Systems administration 2. Users Handbook 3. Training of trainers | 3 | Manuals |

# Company and Personnel Requirements

1. 7 Years of Experience in Developing ICT Systems and M&E Systems
2. Annual turnover of atleast UGX 400M per year for the last 3 years
3. Experience in providing ICT and M&E services to Govt Ministries/Agencies
4. ISO Certification will be an added advantage

**Personnel**

1. ICT Specialist with 5 Years’ experience in providing similar scale Systems Development and Systems Support to Ministries, Agencies or other reputation organisations, with Bsc Degree in Computer Science or Information Technology, or related qualifications
2. Statistician / M&E Specialist with 5 Years’ experience in providing similar scale Statistical and M&E Services to Ministries, Agencies or other reputation organisation, and must have Bsc in Statistics, or related qualifications, with a Post Graduate Qualification in M&E or Project Planning and Management.
3. 2 ICT Systems Developers with 4 Years’ experience in providing Systems Development and Systems Support to Ministries and Agencies. Bsc Computer Science or Information Technology or related degree
4. 1 Statistician with 4 Years’ experience in providing Systems Development and Systems Support to Ministries and Agencies. Bsc Statistics or M&E
5. The vendor will be required to use the specialists mentioned to cover entire assignment. Express permission will be required to change or add new staff.

## Potential O&M cost drivers/estimates

The supplier must document all Potential O&M cost drivers/estimates of maintaining and updating the system

## Technologies

Web-based Client Server architecture to ensure all users get same consistent information based on Single Page Applications (see systems requirements above)

## Hardware Requirements

1. Presentation System on Large Screens
2. Large Screens 50”

## Software requirements

1. Software system solution
2. Source code
3. User Manuals
4. User Licenses where necessary for atleast 1 ½ Years from commissioning.

## Training Requirements

The firm will be required to develop a Users Manual, Training Manual and Systems Maintenance Manual

# Warranty and Support

The firm will be required to support and fix any system bugs for a period of 6 months at its own cost.

The firm will also be required to work with the Ministry’s Information Technology Unit to transfer all necessary skills to manage and maintain the system.

# The End