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Terms of Reference

Hiring a firm to automate tertiary education facilitation for integrated labour market alignment in the Maldives

1. Introduction

The Government of Maldives (GoM), with the support of the World Bank, has initiated a national human capital needs assessment through the Sustainable and Integrated Labor Services (SAILS) project. This strategic initiative aims to systematically discern the prevailing labour demand patterns across sectors and occupations, identify skills deficiencies within economic domains, and produce a strategic blueprint for addressing the nation's human capital development needs and gaps. By using the insights from this study as a baseline, the GoM is committed to establishing a system for regularly updating the national skills gaps and conducting analyses to generate timely and accurate information pertaining to various facets of employment, job opportunities, and skill requirements. Such a system is essential for facilitating data-supported policymaking, particularly for annual forecasting of skills gaps, national training needs, budgetary allocations, and ensuring efficient matching of labour supply and demand. To achieve these objectives, it is imperative to ensure access to information housed within various government institutions, whether in documentary formats or within standalone information repositories.

A well-functioning labour market relies on the alignment of workforce skills with market demands. Tertiary education serves as the conduit in bridging this gap, ensuring that workforce skills meet market needs. This alignment is vital for sustaining a healthy economy and maintaining low unemployment rates, as education equips individuals with advanced skills and knowledge, enhancing their competitiveness and adaptability in the labour market. The SAILS project aims to develop a strategic blueprint for human capital development by identifying areas where tertiary education can address skills gaps. The GoM intends to use the human capital needs assessment to determine training needs and financial allocations for government- funded tertiary education programmes. To achieve this, it is important to house all relevant information in a digital platform for regular updates to the national skills gap register and thorough analyses to inform decision-making.

In this context, the Ministry of Higher Education, Labour, and Skills Development (MoHELSD), as the apex authority responsible for career guidance, skills development, labour regulation, and governance of labour force and tertiary education policy, including government-funded educational programmes and scholarships, aims to establish an integrated labour management and skills repository. This repository will inform decisions regarding criteria for government-funded tertiary programmes and scholarships, ensuring that governmental decisions not only align with but also are driven by labour market needs and industry-specific skills required for the nation's economic trajectory envisioned. Information from this repository will also facilitate targeted interventions, enabling the enhancement of individuals' employability by aligning their skills with industry needs and reducing skills mismatches. As part of the implementation of the skills and labour market information system (SALMIS), MoHELSD wishes to contract a firm to automate its tertiary education facilitation function.

2. Objectives

2.1. The purpose of this consultancy is to design, develop and implement a tertiary education repository for integrated labour market alignment in the Maldives. This repository will serve as a platform for regular assessment and updating of national skills gaps and human capital development requirements, while shaping the national policy on public expenditure on tertiary education to effectively address market demands and skill shortages.

3. Scope of Services

The scope of services encompasses the following:

3.1 The consultant must design, test, and deliver a fully operational user interface and supportive database capable of automating tertiary education facilitation function of the Ministry for integrated labour market alignment in the Maldives. This includes facilitating registration, real-time updates, payment and repayment updates, full automation of relevant modules, and providing support for institutional users.

3.2 The consultant will also prepare comprehensive documentation of the full stack development process and conduct training sessions to familiarise MOHELSD, and other key stakeholders' teams with the new system.

3.3 The consultant is responsible for developing a basic operation manual or user guide of the developed system to assist users in navigating the portal effectively.

3.4 The developed portal must undergo rigorous testing to ensure compatibility across various platforms and mobile devices. MOHELSD will collaborate in testing the portal, and the consultant must provide technical support for launch of the service.

3.5 When developing and enhancing the system, the consultant is encouraged to recommend design methods to improve user friendliness, system performance, and versatility. The consultant is also encouraged to make recommendations on improving the process flows.

3.6 In developing and enhancing the systems, the consultant must consider the following aspects:

    3.6.1   Research, design, implement, and manage software programs.

    3.6.2   Enable user supervision though the system and generate analytical reports.

    3.6.3   Integrate communication held through text (email, letters, and chats) and voice into the applicant's case file.

    3.6.4   Teste and evaluate new programs to ensure functionality.

    3.6.5   Identify areas for modification in existing software and implement these necessary changes.

    3.6.6   Write and implement efficient code to optimise system performance.

    3.6.7   Assess operational practicality to ensure user needs and project objectives are met.

    3.6.8   Develop quality assurance procedures to maintain high standards.

    3.6.9   Deploy tools, processes, and metrics for effective management and functionality.

    3.6.10 Maintain and upgrade existing systems to keep it relevant and current.

    3.6.11 Train users.

    3.6.12 Collaborate closely with other developers and UI/UX designers at the Ministry and other government institutions.

    3.6.13 Provide necessary support, adjustments, and bug fixes for a period of 1 year.

3.7 Implementation of robust measures to enhance the security of applicants' information, ensuring confidentiality and safeguarding sensitive data.

3.8 Creation of an integrated platform that facilitates seamless communication platform for users, including features for user feedback, issue reporting, and suggestions.

3.9 Integration of analytical tools to enable data-driven decision-making, thereby supporting strategic planning, policy formulation, and institutional growth through comprehensive reporting and analysis tailored to user roles and permissions.

3.10   Dynamic service workflow creation and tracking with clearly defined roles and permissions.

4. Deliverables

4.1. **Deliverable 1:** System Requirement Specification Document (System Architecture)

  4.1.1. Undertake a comprehensive needs assessment to understand the services provided by the Ministry's tertiary education facilitation function, identifying requirements and expectations.

  4.1.2. Conduct an extensive system and process audit of the existing systems/platforms to identify process inefficiencies and inadequacies by analysing the business processes and operating principles.

  4.1.3. Obtain key inputs from existing systems and technical teams to identify solution interdependencies and identify any potential integration requirements of government's administrative platforms to allow real-time secure sharing of information across platforms including internal systems.

  4.1.4. Design and develop process maps illustrating the application processes, and management processes to streamline the administration and management by clearly articulating and documenting the optimised business processes and user requirements.

  4.1.5. Document both functional and technical requirements; solution design, supplemented with the required process and data analyses.

  4.1.6. Design a comprehensive development plan/charter by defining key development milestones, processes, and activities over the entire development lifecycle under an agile/scrum development methodology.

  4.1.7. Establish a project governance structure and communication plan to facilitate efficient decision-making and transparent information flow.

  4.1.8. Ensure that the proposed development plan is practical, easy to execute and adheres to the industry's best practices and standards.

  4.1.9. Design the wireframes required for finalising the UI/UX design of the proposed systems, including the administrative backend to manage the programmes with minimum reconfiguration.

  4.1.10. Design and submit the database architecture and database management system (DBMS).

  4.1.11. Design and finalise a fully functional and comprehensive prototype covering all the features and functionalities of the system.

  4.1.12. Ensure that the proposed processes/solutions comply with the governing laws, regulations, best practices, and specifically ensure that it is aligned to the Ministry's strategic objectives.

  4.1.13. Provide technical recommendations based on the system analysis to undertake process refinement and enhancement exercises to achieve greater efficiency and process optimisation.

4.2. Deliverable 2 – Development Phase

4.2.1. Develop core modules for all services along with associated database(s).

4.2.2. Ensure user registration, updates, analytics and integration with application performance monitoring (APM).

4.2.3. Incorporate user performance assessment mechanism to ensure efficiency and efficacy of the services delivered to the people.

4.2.4. Integrate data manipulation and analytic tools for generating timely reports and analytic products. These will aid informed decision-making for policy and decision makers, supporting strategic planning, policy formulation, and addressing human capital needs and gaps. The reports and analysis must be tailored to user roles and permissions.

4.2.5. Establish a communication platform for inquiries from applicants and internal collaboration within relevant stakeholders.

4.2.6. Adhere to best practices in collaboration with the Ministry and ensure meeting deadlines.

4.2.7. Proactively liaise with internal and technical stakeholders to ensure successful delivery of the system.

4.3. Deliverable 3 – Rigorous Testing, Deployment and Staff Training Phase

4.3.1. Test the modules internally to ensure functionality and identify potential issues.

4.3.2. Assist admin users in conducting the User Acceptance Testing (UAT) process by providing UAT test scenarios and scripts.

4.3.3. Engage with stakeholders to secure acceptance of modules and collect their input.

4.3.4. Address and resolve identified issues and ensure data accuracy.

4.3.5. Execute phased deployment of modules.

4.3.6. Conduct training sessions for units, project teams, decision-makers, and stakeholders for a total of approximately 60 participants.

4.3.7. The Consultant must schedule the training sessions at intervals that align with the project timeline and ensure optimal learning retention.

4.3.8. The training must be designed for individuals selected based on their roles, responsibilities, and relevance to the project's objectives.

4.3.9. Monitor system performance during the initial rollout.

4.3.10. Address deployment related issues.

4.3.11. Knowledge transfer through workshop/training of Staff on portal usage and administration.

4.4. Deliverable 4 – Maintenance and Support (Continuous Improvement) Phase

4.4.1. Establish a support system for maintenance.

4.4.2. Monitor system performance and promptly address any issues.

4.4.3. Collect user-feedback for continuous improvement efforts.

4.4.4. Plan for future enhancements and updates based on emerging needs and expectations.

5. Duration of the Assignment

5.1. The duration of the assignment is 10 months from the date of signing the contract.

6. Data, services and facilities to be provided by the client

6.1. Data access and reports:

6.1.1. The client shall ensure timely access to relevant data, databases, and systems necessary for the work.

6.1.2. Clear guidelines shall be provided regarding data security, privacy, and any restrictions on data usage.

6.2. Information Access:

6.2.1. The client shall grant the developer access to relevant information sources, such as internal documents, policies, and related materials.

6.2.2. Access to specialised tools, software licences, and subscriptions (if required) shall be provided.

7. Schedules for sub-deliverables

#	Sub-Deliverables	Timeline
1	Assignment and timeline	7 days from the Commencement date
2	System Requirements Specification (SRS) document	2 months including time for feedback
3	Design and development	4 months
4	User acceptance and testing	2 months including time for feedback
5	Deployment	3 weeks

8. Experience, Skills, and Qualification Requirements

8.1. Must be a duly registered firm.

8.2. The interested firm shall have a qualified technical lead/developer proficient in software development including both front-end (user interface) and back-end (database) components. The individual should have a minimum of 3 years of demonstrable experience in software designing, implementation, and optimisation and shall be fluent in Unified Modelling Language (UML) and its tools. Additionally, familiarity with full-stack development, covering both client-side and server-side technologies, is essential.

8.3. The interested firm must employee a Solutions Architect/ Business Process Designer with more than 3 years of experience in business systems and applications, implementation, and project management processes.

8.4. The interested firm must demonstrate a proficient team of qualified domain experts specialising, software development, database designing, and UI/UX designing. The team must include at least one certified UI/UX engineer. Additionally, the firm is expected to have experienced and certified DevOps engineer familiar with OAuth and identity projects.

8.5. The firm must have experience in developing and delivering multilingual platforms, along with big data stacks for visualisations.

8.6. The firm must have experience integrating with application performance monitoring stacks.

8.7. The interested firm shall have at least 1 (one) relevant experience in business requirement analysis, process modelling including documenting and analysing functional procedures and workflows, business process re-engineering and definition and evaluation of user requirements and implementations of IT systems and business applications. Evidence of such experience, including client references and feedback must be provided.

8.8. The interested firm shall have the required technical expertise and experience to perform the assignment. Submission of the firm's portfolio is required to assess prior works on similar projects.

8.9. The interested firm shall have quality assurance and testing practices. The interested firm must submit documentation related to testing practices and the approach to quality assurance.

8.10. The firm must have cyber security engineers for unit testing architecture review. Experience with AI and machine learning (ML) will be an added advantage.

8.11. The interest firm shall be experts in documentation and training. Submission of sample technical documentation, user guides, operational manuals, and details of previous training sessions conducted is required.

8.12. The interested firm shall have experience in developing mobile-responsive web applications. This must be specified within the form's portfolio.

9. Reporting and Supervision

9.1. The selected firm shall report to the Ministries Representative on the status of the assignment on a regular basis.

10. Payment Terms

10.1. Payment for the selected firm will be paid in tranches upon provision of the following deliverables:

#	Deliverables	Percentage
1	Assignment Plan and Timeline	10%
2	System Requirements Specification (SRS) document	20%
3	Design and Development	40%
4	User Acceptance Testing, Deployment, and Staff Training	20%
5	Support and maintenance for a year	10%
	Total	100%

11. Selection and Evaluation Criteria

11.1. A consultant will be selected in accordance with the Consultant Qualification Selection (CQS) method set out in the Procurement Regulations of the World Bank. From the firms that have submitted an expression of interest (EoI), the firm demonstrating outstanding qualifications and relevant experience will be selected and invited to submit their technical and financial proposals for negotiations.

12. Type of Assignment

12.1. This assignment shall be carried out under a lump-sum contract. The service provider is expected to complete the specified tasks within the agreed timeframe and budget. Payment will be made in a lump sum upon satisfactory completion of the deliverables as outlined in the TOR. The lump-sum payment is inclusive of all costs associated with the assignment, including but not limited to personnel costs, travel expenses, and any other direct or indirect costs. The service provider is responsible for managing the resources efficiently to meet the expectations and deliverables specified in the TOR.