



Deployment Policy

Higher Education Management Information System (HEMIS)

1 GENERAL

The Higher Education Management Information System (HEMIS) relates to the automation of both academic processes (e.g. admissions, course registration, attendance, grading, transcripts, degree award, and the processes up to alumni records) and administrative processes (e.g. finance, recruitment, payroll, grants, etc.) within the higher education institution. HEMIS is comprised of two major components, which are, Campus Management Solution (CMS) and Enterprise Resource Planning (ERP) modules;

- I. Campus Management Solution [CMS], deals with automation of academic processes at HEIs and so includes relevant modules. Other components pertinent to HEIs, like Master Data Management and Grant Management Systems are also part of this component.
- II. Enterprise Resource Planning [ERP], addresses the needs of automation of administrative procedures and so includes modules like Financial Management, Human Capital Management, and Asset Management.

Pilot project of implementing Campus Management Solution (CMS) at selected eight (08) HEIs was a success and so encouraged the launch of Higher Education Management Information System. The HEMIS deployment project is one of the major initiatives under Higher Education Mid-Term Development Framework II (HE MTDF-II 2010 – 15) with a target of implementing HEMIS at fifty (50) HEIs during next five years. The Commission in its 23rd meeting held in July 2010 has also emphasized that to encourage the use of ERP Software in all Public Sector Universities in the country; HEC may plan to launch ERP Solutions in 15 institutions per annum for accomplishing its full application by higher education institutions within next five years.

2 BACKGROUND

A pilot project for the implementation of Campus Management Solution (CMS) was initiated in 2007 to facilitate selected university with the standard off-the-shelf solution for automation of academic business processes. For the pilot project eight (08) public sector HEIs of different disciplines including medical, engineering, and general; geographically dispersed; and varying in size representing all the regions of country were selected. Those were;

1. Quaid-e-Azam University, Islamabad
2. University of Engineering & Technology, Peshawar
3. University of the Punjab, Lahore
4. Islamia University, Bahawalpur
5. Baluchistan University of IT, Engineering & Management Sciences, Quetta
6. Dow University of Health Sciences, Karachi
7. Institute of Business Administration (IBA), Karachi
8. Sukkur Institute of Business Administration (SIBA), Sukkur

The CMS project implementation encompassed following listed modules of Oracle PeopleSoft:

- i. PeopleSoft Enterprise Student Administration
- ii. PeopleSoft Enterprise Campus Self-Service
- iii. PeopleSoft Enterprise Grade Book
- iv. PeopleSoft Enterprise Portal
- v. PeopleSoft Enterprise Contributor Relations
- vi. Accommodation System (custom development)

The costs of the Pilot project were constituted of Software & Licenses, Implementation Services, and Hardware for deployment. The cost associated with Software Licenses was borne by HEC, whereas implementation as well as hardware costs were paid off by participating HEIs to HEC in installments over two (02) years. HEIs also acquired post-production support as well as product warranty support for some time as to gain momentum for sustainability of this important venture.

A concept paper along with cost estimates of project was prepared in December 2008 for the implementation of HEMIS at additional sixty (60) HEIs for its consideration and inclusion in overall project of HEC-FAD, however concurrence of USAID could not be secured at the final stage. Later, the HEMIS deployment project proposal was included in Tertiary Education Support Project (TESP) with the World Bank support. The Project Appraisal Document (PAD) while realizing inadequacy in governance and management at HEIs, however acknowledging the success of Pilot project, has included HEMIS to strengthen governance and management at HEIs. A target of establishing fully functional HEMIS by the end of the Project is about thirty (30) HEIs over next three years.

3 DEFINITIONS

- 3.1 **HEMIS** is the acronym of Higher Education Management Information System – a solution for automation relating to academic and administrative processes of HEIs.
- 3.2 **CMS** refers to Campus Management Solution – one of the components of HEMIS which deals with automation of academic processes.
- 3.3 **ERP** refers to Enterprise Resource Planning – a major component of HEMIS which deals with automation of administrative processes of an organization.
- 3.4 **TESP** refers to Tertiary Education Support Program – a project of HEC supported by the World Bank for the promotion of higher education sector in Pakistan.
- 3.5 **PERN** is the acronym of the Pakistan Education & Research Network – a nationwide education and research network connecting premier education and research institutes.
- 3.6 **HEIs** refer to higher education institutions both public and private sector universities, centers of excellence, affiliated colleges, degree/ postgraduate colleges, etc.
- 3.7 **Post-production Support** is the technical assistance provided to HEI by the implementer for some time after the roll-out of the HEMIS solution.
- 3.8 **Product Warranty Support** covers the eligibility of HEI to upgrade the HEMIS application software released by the product principal during the course of warranty cover. However,

patches and bugs fixation are available to HEIs without any product warranty support.

4 PURPOSE OF DOCUMENT

The purpose of this document is to provide guidelines for the deployment of Higher Education Management Information System in public HEIs at the sectoral level across the country. Implementation of HEMIS solution at HEIs has been planned in phases, and in Phase – I, a total of thirty (30) HEIs are to be provided with the intended solution, with a possibility of launching Phase – II for the remaining public HEIs in the country. The document though covers the policies primarily related to HEMIS deployment at public HEIs, however it also defines the limited provision for private sector institutions as well. This document elaborates HEMIS deployment strategy, eligibility criteria, and funding model applicable under this policy.

5 HEMIS DEPLOYMENT

The deployment of HEMIS at the higher education institutions refers automation of business processes to provide HEIs and HEC information-intensive and quantitative and qualitative analytical skills and capacities with reliable and high-quality data. It will provide means of collection of considerably more and different types of information than is currently available to the Government and to individual institutions.

HEC's vision is to take up a solitary process for the best system selection with a standard and inter-operable architecture to manage, and implement Campus Management Solution and Enterprise Resource Planning System, which when combined together will form Higher Education Management Information System (HEMIS) for the HEIs of Pakistan.

5.1 Deployment Scope

The scope of the deployment includes implementation of following major and their sub-components which would cover the areas like enterprise portals, student system, finance, financial aid packaging, HR, and alumni management modules include dynamic communications management and other triggers to automate a broad range of academic and administrative tasks,

- Campus Management System (i.e. Academics Information System)
- Financial Management
- Human Resource Management
- Asset Management
- Grants Management
- Master Data Management

5.2 Execution & Implementation

The project execution and implementation shall involve following three major steps which will be taken up by HEC on behalf of HEIs;

- 5.2.1 HEC shall acquire globally accepted off-the-shelf HEMIS Solution(s) (i.e. Software and licenses) through centralized and volume procurement.

- 5.2.2 HEC shall hire implementation services for acquired solution(s) as per the requirements of HEIs.
- 5.2.3 HEC shall provide access, control and management of the deployed solution(s) to HEIs as hosted and managed services through a Private Cloud. However, HEI may choose to have the acquired solution implemented at HEI's designated hardware meeting the requirements.
- 5.2.4 HEC shall hire services for providing necessary training(s) to identified technical and functional resources of HEIs.

6 ELIGIBILITY CRITERIA

- 6.1 All chartered public sector higher education institutions recognized by the Higher Education Commission, subject to receipt of a formal request and signing of agreement with HEC. Such HEIs shall be entitle for funding support from HEC under the provision of this policy.
- 6.2 All constituent and affiliated colleges of public sector HEIs, subject to receipt of a formal request from parent or affiliating HEI and signing of agreement. However, such institutions are NOT entitle for any funding support from HEC under this policy.
- 6.3 All chartered private sector higher education institutions recognized by the Higher Education Commission, subject to receipt of a formal request and signing of agreement with HEC. Private HEIs shall NOT be entitled for any funding support from HEC under this policy.

7 DEPLOYMENT METHODOLOGY

Both HEC and HEI acknowledge that timely and proper implementation of the project requires project management and implementation services. Such services are to be provided to ensure the orderly and efficient delivery of software/ licenses, implementation of solution, integration (if any), commissioning and testing for acceptance of the HEMIS in accordance with the project management and implementation plan which will be prepared after commencement of project.

7.1 HEC's Responsibilities

- 7.1.1 HEC shall ensure implementation of HEMIS solution at HEIs as per the scope envisaged and defined herein.
- 7.1.2 HEC shall execute a centralized tender and select a most viable solution and implementer partner through open competitive bidding.
- 7.1.3 HEC shall coordinate with HEIs for the successful implementation and rollout of HEMIS at the HEIs.
- 7.1.4 HEC shall offer infrastructure-as-a-service (IAAS) and/ or software-as-a-service (SAAS) model for HEMIS through Private Cloud based services to HEI.
- 7.1.5 HEC shall arrange to provide training to both technical and functional resources under master trainer program on both HEMIS solution and Cloud based systems

administration.

- 7.1.6 HEC shall provide financial support for six (06) months for the newly appointed/ hired project staff by the HEI.
- 7.1.7 HEC shall ensure collection of HEIs' share as per cost sharing model under this policy and make payments centrally to the solution provider/ implementer.

7.2 HEI's Responsibilities

- 7.2.1 HEI shall take the ownership of the project implementation and its successful rollout within the stipulated time as per Project Implementation Plan.
- 7.2.2 HEI shall ensure strong coordination with the stakeholders and arranging meetings, workshops, trainings and technical sessions as deem required for various phases of the project, viz. Requirement Gathering, Gap Analysis, Solution Design, Data Collection & Migration, UAT, etc.
- 7.2.3 HEI shall ensure timely signing-off of the documents related to the project from the concerned authorities, as prepared time to time by the implementer, its team and/ or HEC.
- 7.2.4 HEI shall depute a dedicated team for the implementation of project and subsequently for the operational needs of the system
- 7.2.5 HEI shall allow the HEC, its selected implementer and/ or vendor including its employees/ professionals/ labors such reasonable access to the sites and people as it shall from time to time require to perform its obligations.

7.3 Preparatory Work by HEI

- 7.3.1 HEIs shall augment proper resources for the following areas:
 - a) Project Management Team – Identification of Project Director/ Manager.
 - b) Functional Team – Identification of Resources with respect to modules/ functional domains of solution.
 - c) Technical Team – Hiring/ Identification of project team.
 - d) Master Trainers – Identification of resources from Technical Team/ Functional team for the trainings.
 - e) Data Entry and Migration Team – Identification of resources from divisions/ departments for data entry purposes.
- 7.3.2 HEI must empower Project Management team with mandate to lead the project to success. This mandate must be communicated to all the departments/ divisions within the institution, e.g.
 - a) Administration
 - b) Registrar's office
 - c) Academics/ Student Information

- d) Dean
- e) Admissions
- f) Examination
- g) Finance and Accounts
- h) Human Resource
- i) Information Technology
- j) Placement / Advisement/ Counseling / Coordinator Office

7.3.3 Preparation/ availability of the Standard Operating Procedures (SOPs) and/ or activity diagrams for academic and administrative recurring tasks / activities

7.3.4 Availability and access to existing applications/ database/data sheets in use at HEI.

7.4 **Staff**

7.4.1 HEC shall engage some of its existing human resources from HEC and HEIs having implemented such solution(s) who possesses experience of project management and CMS implementation.

7.4.2 HEC shall hire services of Specialists/ Consultants relating to CMS and ERP shall also be acquired for the complete duration of project as to have their expertise and guidance available to HEIs during project for its successful implementation.

7.4.3 HEIs shall ensure availability of dedicated team of minimum resources as recommended by HEC.

- a) HEIs shall be required to hire these resources afresh and maintain the same not only for the duration of project but on long-term basis under their regular stream of HR as budgeted/ sanctioned positions.

7.5 **Other Terms & Conditions**

7.5.1 HEC shall purchase HEMIS software application(s) and associated licenses in bulk to have volume discount which may be in addition to the educational discount as normally offered.

7.5.2 The software licenses so acquired as per the enrolment base of HEI shall be in the name of HEI.

7.5.3 Product warranty/ support services from the principal shall also be in the name of HEI so that after rollout, the ownership rights and obligations are transferred to HEI.

7.5.4 The Post Production Support shall be available to HEI from the pool of resources (of implementer) after System Roll-out and for six (06) months. Beyond this period, if HEI further needs the services to be available, the same may be provided at an additional cost so available in the contract with the implementer.

8 FINANCIAL MANAGEMENT

8.1 Budgeting (Income & Expenditure)

- 8.1.1 HEC shall maintain an overall but separate budget line item under PERN recurring budget for the purpose as one of the Special Programs Cost.
- 8.1.2 Income part of Special Programs under PERN annual budget shall have following lines items at minimum as income;
 - a) Carry forward from previous fiscal year
 - b) Contribution from HEIs towards their share
 - c) Government grant as contribution towards HEMIS deployment
- 8.1.3 Expenditure part of Special Programs under PERN annual budget shall have expenditure budget line items as follow;
 - a) Application Software & Licenses Costs
 - b) Implementation Costs
 - c) Hardware Costs
- 8.1.4 HEC shall pay the costs of the project and subsequent O&M from the budget defined for the purpose and pay-off to the vendors/ implementers involved in providing the solution(s) of HEMIS, product warranty/ support services, post-production support (for two years), and O&M of the Cloud based services.
- 8.1.5 HEC shall offer to pay-off the prescribed salary for six (06) months from the commencement of project to the staff hired afresh by HEIs, specifically for HEMIS.

8.2 Funding Support & Contribution

- 8.2.1 HEC shall put its share against the Application Software & Licenses Costs component as contribution towards HEMIS deployment at HEIs. However, contribution shall,
 - a) be applicable to public sector chartered HEIs duly recognized by HEC.
 - b) NOT be applicable to the constituent or affiliated college, however HEIs may request additional licenses for the purpose on payment in full and in advance.
 - c) be restricted to initial number of licenses as determined based on enrolment numbers provided by HEIs to HEC for budget purposes for prevailing fiscal year.
- 8.2.2 HEIs shall pay their share of cost pertaining to implementation and hardware (i.e. Cloud based access)
- 8.2.3 Private sector chartered HEIs duly recognized by HEC may however benefit from the volume discount on licenses as available to HEC on payment in full and in advance.

8.3 Billing & Payments

- 8.3.1 HEIs opting the offered solution shall be required to sign an Agreement with HEC for the deployment of HEMIS at their respective HEIs.

- 8.3.2 HEC shall invoice all HEIs having signed agreement for HEMIS deployment as per the applicable cost defined in agreement;
- 8.3.3 Payments shall be made by HEIs to HEC on quarterly basis and in advance.
- a) Overall cost pertaining to HEIs shall be payable in eight (08) equal installments over two (02) years as part of PERN quarterly invoices.
 - b) HEIs shall also pay its share of O&M charges beyond two (02) years, annually on quarterly basis as part of PERN quarterly invoices.
 - c) Where applicable, the exchange rate between US\$ and PKR shall be the inter-bank rate ("in accordance with State-Bank rates") prevailing on invoice date.
- 8.3.4 Notice of complaints concerning amounts (invoiced 15 days before the quarter starts) shall be sent by HEI to the relevant billing contact of HEC in writing within ten (10) days of receipt of the invoice; else payment will be made within thirty (30) days of receipt of the invoice.
- 8.3.5 If HEI fails to make any payment by the due date, HEI will remain liable for the outstanding payment. If any amount payable pursuant to this agreement is not paid, this may result deployment at halt till outstanding invoices are cleared.
- 8.4 Prices relating to HEMIS Deployment at HEIs as stipulated in the agreement centrally signed by HEC with the vendors/ implementers may be made available to HEIs for reference and for audit purposes.

9 COMPLIANCE AND NON-CONFORMITY CLAUSES

Once the connectivity is established and commissioned under this policy, Organization will be required to comply all terms and conditions elaborated in here; and any subsequent terms and conditions; amendments or addendums as time to time notified to the Organizations.

10 REVISION IN POLICY

This policy shall be regularly reviewed for possible revision, if deem necessary, in any eventuality in PERN infrastructure, resources and services. Amended texts shall be approved by the PERN Principal and shall be made publically available.