

Preface

Enterprise Resource Planning (ERP) is seamlessly integrated computer-based application used to manage internal and external resources, including tangible assets, financial resources, materials, and human resources covering all the functions and processes of an enterprise/institution. Education institutions and universities all over the world are facing challenges in designing robust Enterprise Resource Planning applications and methodologies to align themselves with the expectations of students and other stakeholders. The existing standard Enterprise Resource Planning solutions are proprietary, inflexible, and expensive to implement in academia. Thus, there is a growing demand for action-oriented research to provide insights into the challenges, issues, and solutions related to the design, development, implementation, and management of education institutions' resources through Enterprise Resource Planning applications. Education sector, being a huge service sector and having a high social and economic impact value with its unique set of challenges, has a high potential for using ERP application. Hence, the editors gathered the recently completed and ongoing research in this field and shared them with other researchers. Each researcher has brought some fresh insights and experiences to ERP applications for the education sector. All the chapters were peer-reviewed before they were accepted. This book suggests Enterprise Resource Planning frameworks for the academic sector along with their applications and methodologies to improve effectiveness and efficiency of processes including teaching-learning processes, and to enhance student-centric and stakeholders related services. This book helps the reader in gaining a good insight into various aspects of (a) process automation, (b) reduction of process cycle time, and (c) prompt and better service to all stakeholders.

THE BOOK'S ORGANIZATION

This book consists of five sections. Section 1, "Learning Management and Administration," opens with José Luis Sánchez de la Rosa, Silvia Alayón Miranda, and Carina Soledad González's chapter Evaluation of Transversal Competences of the Engineering Students and their Relation to the Enterprise's Requirements. This chapter describes the importance of and methodology for the evaluation of the transversal competences of engineering students during their final year project assessment. Transversal competences are of great importance to enterprises which like to recruit students after their graduation. Chapter 2, Academics' ICT Capabilities in a New Educational Paradigm in Developing Countries: A Capability Approach by Agnes Chigona and Rabelani Dagada, focuses on analysing the factors that impact on the academics' effective use of ICTs for teaching and learning in the new education paradigm. P. Srinivas Subba Rao and P. Suseela Rani describe characteristics and essential requirements along with current

practices, web resources, and tools and technology for Virtual and Interactive Learning (VIL) in their chapter Virtual and Interactive Learning (VIL) in Transformation and Imparting Education in the Digital Era (Chapter 3). Chapter 4, Principles of Concurrent E-Learning Design by Knut Arne Strand, Arvid Staupe, and Tor Atle Hjeltne, presents the sixteen principles of concurrent e-learning design that are grouped into five categories, in detail.

Section 2, “Knowledge Management,” focuses on knowledge and content management for institutions and universities. Chapter 5, Knowledge Management Model for Electronic Textbook Design by Elena Railean, describes a new knowledge management (KM) model for electronic textbook design which comprises a dynamic and flexible instructional strategy in order to construct the personalized content through development of core structure of competence. Gayatri Doctor throws light on the concepts of Enterprise Resource Planning and Enterprise Content Management and then explores academic institutions in India who have already initiated the use of Institutional Knowledge Repositories as an enterprise content management system for knowledge sharing & management with regard to content, access and other factors in her chapter Institutional Knowledge Repositories: Enterprise Content Management in Academics (Chapter 6). Chapter 7, Learn to Learn to Integrate ERP-Systems and Content Knowledge Using Problem Based Learning and Cases: A Swedish Business School’s Experiences by Annika Andersson, describes experiences and lessons learned from integrating ERP-systems into economic topics course using problem-based learning (PBL) and cases created for the integration of technology and content knowledge in a business school setting. Chapter 8, Towards an Ontology-Based Educational Information System by Erika Nyitrai, Balázs Varga, and Adam Tarcsi, presents an ontology which is able to picture the connections between the actors of a higher education system.

Section 3, “ERP Adoption and Implementation,” showcases two chapters that examine ERP investment and its role as a commodity or a strategic investment for institutions. Chapter 9, ERP Adoption: Is it Worth the Investment? by Jorge A. Romero, discusses previous research on ERP and how much we know about the effects of ERP investments. Y. Callero, M. Aguilar, and V. Munoz present example of a possible use of BPS in academia with SIGHOS along with simulation tests and results in their chapter Business Process Simulation in Academia (Chapter 10).

Section 4, “Customer Relationship Management,” examines the scope and role of CRM for academic institutions and universities. Chapter 11, CRM for Academic Institutions and Universities by Viral Nagori, describes the fundamentals of CRM, its uses and application in academic environment, and technology supporting CRM. Chapter 12, ERP Modules for Industry-Institute Interaction, Training and Placement, and Alumni Management by P. A. Khatwani and K. S. Desai, describes the different modules related to industry-institute interaction management, training & placement, and alumni database & management.

Section 5, “Course and Curriculum Development” focuses on course and curriculum development not only for students but also for faculty development. Chapter 13, Design, Development and Implementation of an ERP Security Course by Theodosios Tsiakis and Theodoros Kargidis, explains how universities and educational institutions are responding to current educational needs by integrating ERP security course to current curriculum programs. The last chapter (Chapter 14), University of Ottawa Department of Family Medicine Faculty Development Curriculum Framework by Colla J. MacDonald, Martha McKeen, Donna Leith-Gudbranson, Madeleine Montpetit, Douglas Archibald, Christine Rivet, Rebecca Hogue, and Mike Hirsh, presents a Faculty Development Conceptual Framework (FDCF). This framework outlines the processes, opportunities and support structures needed to improve preceptors’ teaching skills and effectively deliver a newly revised ‘Triple C’ competency-based curriculum.

We hope that these chapters open up a sense of possibilities of use of ERP and point the way to new directions for the design and development of ERP applications for the academic sector. We anticipate this book will benefit management and engineering students; professionals and researchers working in the field of education including policy makers, ICT vendors, consultants, and implementing agencies, and top-management of institutes and universities.

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