Article

Proposed Enterprise Architecture of an Education System

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Abstract
Enterprise architecture has become the backbone of today's business. Organizations are transferring their functional representations from traditional architecture to enterprise architecture. In this paper, I have proposed the enterprise architecture of an education system so that potential growth of the institute can be raised substantially. There are three views that govern this architecture, namely, modular view, communication view and sparse view.

Keywords: **Enterprise architecture, substantially, modular view, communication view, sparse view.**

Introduction

Considering the today's complex and competitive market, organizations need to constantly monitor and adjust their activities to the changing business scenarios, which results in continuous business transformation (from classical classroom teaching to Moodle system). However, with the monotonous and stereotype organizational activities and processes, the IT development and planning together with its implementation can be an intimidating task as complexity of various processes has grown up over the years.

The reason for this complexity is the lack of overall view of business functions and processes, correct use of information system resources, and implementation through technical platforms like servers, databases, communication medium, and cloud infrastructure and so on. This makes the transformation of existing processes difficult to execute as per the vision of the institution. Thus, business process development and IT improvements generally happens in isolation, ignoring firm's vision and changing mechanism in a totality. The change management projects generally swarm over estimated budgets and schedules are not able to reach goals and remain unknown to stake holders. Customary changing ways like business strategic planning, change management, E-governance are unable to change this, as institutions may short fall of the real picture and the attachment that bind the transformation together with business modules.

Enterprise Architectural Framework: Figure-1 shows the enterprise architectural framework.

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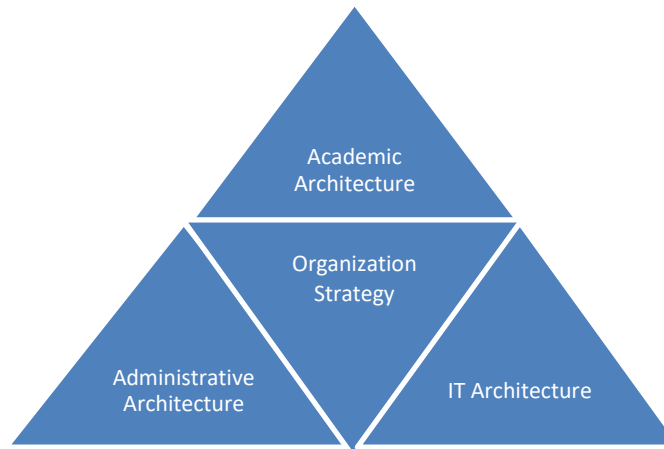
Figure-1

The academic architecture of the framework describes the academic activities and need of the education according to institute's mission and vision. It is an integration of three sub modules namely; vision, process, and information. The vision module gives a high level view on the nature of the education system in terms of courses offered in the ecosystem, the target stakeholders, goals to be achieved and the resource generation.

Process module categorizes and explains all functionalities that exist within the system and their respective out flow for value addition. This is important for any business architecture. This module is implemented in the core business processes like customer relationship management, supply chain management, product life cycle management and the management and support processes.

The information module explains the logical connectivity of all information related entities like student's information, placement, admissions, research and development, HR etc.

The administrative architecture gives an overview on all administrative activities supporting the processes of the institute like admission, HR, accounts, store and purchase and so on.

The IT architecture is the support and driving tool for all applications of the institution and consists of software, hardware and network infrastructure.

View of the Architecture:
1. Modular View
2. Communication View
3. Sparse View

Modular View: This view describes the process development structure of the architecture in scope of an education system. It describes the various process components of the architecture and the logical connectivity among one another. The modular component allows us to visualize the hierarchy of the components that build up the system. System components, sub components with the development structure can be grouped or decomposed in this view.

Communication view: This view describes the connectivity between the system and its sub systems. The logical connectivity among various sub systems of the system is

identified to have a clear understanding of the communication among them. Various types of communication can be identified like peer to peer, with non-redundant notations.

Sparse view: This view describes the geographic location of systems and sub systems implementing the concept of distributed computing so that resources at remote locations can be accessed.

Conclusion: Enterprise architecture framework described above shows how different architectures like academic, administrative and IT provides support to form the organization strategy as a whole. In today's competitive environment is it very necessary to integrate different architectures and then formulate the company's vision. This integrated architecture is called as enterprise architecture.

References:

Rohloff Michael, Enterprise Architecture - Framework and Methodology for the Design of Architectures in the Large, Proceedings of the 13th European Conference on Information Systems, Information Systems in a Rapidly Changing Economy, ECIS 2005, Regensburg, Germany, May 26-28, 2005.

Niemi Eetu and Pekkola Samuli (2019), The Benefits of Enterprise Architecture in Organizational Transformation, *Business & Information Systems Engineering* Volume 62 (1),

Wegmann Alain, Enterprise Architecture: What Aspects is Current Research Targeting?, Kerstin Langenberg, Laboratory of Systemic Modeling Ecole Polytechnique Fédérale de Lausanne, Lausanne LAMS-IC, EPFL, CH-1015 Lausanne, Switzerland, EPFL Technical Report IC/2004/77.

Gong Y. and Janssen Marijin(2019) The Value and Myths About Enterprise Architecture, International Journal of Information Management, Volume 46, 1-9.

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