

Establishing a business process reference model for Universities: A case study in Hanoi University of Industry - Vietnam

Hoang Anh¹, Ha Xuan Quang²

¹Manager, Quality Management Centre, Hanoi University of Industry (HaUI),
Minh Khai Ward, North Tuliem District, Hanoi, Vietnam
E-mail: hoanganh@hau.edu.vn

²Vice Rector, Hanoi University of Industry (HaUI),
Minh Khai Ward, North Tuliem District, Hanoi, Vietnam
E-mail: hxquang@hau.edu.vn

Abstract

The adoption of Information Technology (IT) by organizations has grown tremendously in the last fifty years. During this period the focus of how IT is used has gradually changed from computational support to using IT as a means to realize more effective and efficient processes. One of the trends that have caused this change is the rapidly growing globalization in which organizations collaborate within and across supply chains around the world. Traditional IT support for these types of collaboration is expensive and the implementation of customized solutions does not live up to expectations. Consequently one of the domains receiving increased attention is that of Business Process Management. BPM can be considered a 'holistic' management approach that enables process orientation and improvement within organizations and aims at more flexible processes and information systems, thereby making organizations more agile.

This paper addresses the applicability of BPM in education institutions and provides an example on how to set up a business process reference framework for a higher education institute, especially in Vietnam. It also describes Business Process reference models designed and applied in Hanoi University of Industry.

Keywords

Hanoi University of Industry, BPM, University, IT.

1. Introduction

Process management is an approach that has been becoming more popular recently and gets increasingly implemented in more and more companies. Process management can be understood from two perspectives. One is the process management as a managerial discipline. The second aspect understands the process management as a technology that supports process-oriented management. Process approach allows organizations to eliminate the biggest disadvantage of the traditional functional approach that cannot be considered as an approach appropriately flexible for changes in the corporate environment, variety of procedures, or excessive substitution of workers. The application of process approaches is not just a domain of corporate, or more precisely, business sector, but it has been ever more intensively promoted in the service supply area especially in higher education institute

Business Process Management (BPM), in terms of management, is a systematic approach for organizations to standardize and optimize the operational process in order to reduce cost, increase effectiveness towards the fulfillment of set objectives. BPM is derived from Management by Process (MBP), by which management is based on the categorization of operational process; identification of connections between activities; monitoring how much a job is completed by the establishment of flow charts and identification of milestones.

Unlimited to management, BPM is considered computerization of MBP. Technologically, BPM is, to some extent, the close collaboration of IT and users to address organizational procedures and information. BPM can also be considered the link between normal management system and process-monitoring information system. BPM consists of key components as follows:

- Processes – displayed as cross functions and interactions among them.
- IT applications to manage work flows - the processes with capability to integrate and exchange data.

- Communication tools between parts of the system such as Forums, Portal... they are integrated as web-based and other systems.

The establishment of a BPM-modeled management system leads to the synchronization through the entire system. For managers, BPM gives them the ability to manage segments of the process as time goes by, so that they can identify where actions are needed and timely taken. The applications of such model will put individuals at ease as their work completion receives greatest IT support and at the real time, will take full advantage of roles played by each individuals in the system as there is inter-pressure between the links of the chain. BPM model is increasingly applied amongst enterprises as well as service providers. At higher education in Vietnam, where IT application in management is at a low rate and the concept of process management is long to be popular, the establishment of a BPM model at a highly representative Higher Education Institute (HEI) could set an example of high value for other institution to follow once successful.

For a good BMP, the first step for a HEI is to have and run such management systems as MBP or ISO 9001 in an effective and efficient way. Fully recognizing which activities that need to be controlled in the system as well as interactions between them is a primary and essential step towards a process management system. The next level of requirement for the development of BPM is the design of cross functional operational processes within which specific job and position descriptions are clearly defined.

2. BPM model at Hanoi University of Industry (HaUI)

• Briefing of HaUI

HaUI is a HEI specially in technical and technological engineering's. HaUI, located in the North of Vietnam, has a tradition of training for over 100 years. HaUI is currently providing more than 200 courses at a wide range of levels and fields including management and technical engineering. The numbers of existing students of 50,000-odd and of nearly 100,000 applicants each year have confirmed the ranking of HaUI as one of the biggest HEI. With its vision as one of the well-known university in the ASEAN region, generations of leaders have realized that management capacity is one of the key issues and plays a very important role, besides science research and other academic issues, in developing HaUI to meet the harder and greater demand of the labor market. From thorough studies of management models for corporates, service organizations and HEI, BPM has been chosen and applied since 2012. For successful establishment of a BPM model, HaUI leaders have identified the hereinafter conditions, both favorable and unfavorable. Favorable conditions include but not limited to:

- Leaders' strong determination and commitment to the establishment of the management system and quality management system, the improvement of which must go along with daily changes.
- Process management having been applied in separate operational activities at HaUI, since 2005 when ISO 9001 was developed. Apart from the quality management system, working discipline and technological processes is not new to staff and students of a HEI.
- HaUI's IT infrastructure and the force of technicians and software programmers being able to become task forces in the requirement for electronic management at the organization.
- Relatively high stability of operational processes, which is much different from those in corporates having much adjustment due to ongoing customers' requests. Big changes at HaUI have arisen mainly to adapt to changes of government regulations. Adjustment made in training programs as required by employers can be made solely after at least a cycle of a program.

There are, however, some disadvantages:

- Process management and BPM are not the new concepts in the world but in Vietnam, especially conventional environment as at HEIs, it is not easy to persuade people in the system of these "strange" concepts of its profound benefits. The running of the system must go with the use of computers, which is not a simple job for a high proportion of middle-aged and older staff.
- The application of BPM promises high socioeconomic effectiveness but the establishment of IT system seems to be unaffordable to many HEI in Vietnam, especially with products from world famous providers like IBM, Oracle, SAP or Microsoft. Open-resource products might be financially feasible but would bear some problems in terms of psychological issues, stability or user interface.
- BMP suite could also have problems with handling, storing and managing data when working with work flows having high complexity of steps and connections to huge number of users in the system.

• Specification and requirement of HaUI – BPM

Well aware of the conditions, HaUI leaders and staff have identified core Specification and requirement of HaUI – BPM

Management process and interaction between tasks must be fully analyzed and identified, work process must be established as a cross functional flowchart, in which task and responsibility at each step is clearly shown. IT application is the combination of BPM suite and work flow application, in which some process might require constant changes such as administration and management of institutions, finance, property, and human resources. Processes like training programs management, student management, with its uniqueness and high complication, will be developed internally, with the ability to connect and share with other processes. Internal communication and information exchange will be established as a social network where teaching staff and students can exchange in groups and topics.

With such basis, HaUI has developed its BPM containing main operational areas with processes that require controls as Figure 2.1. below

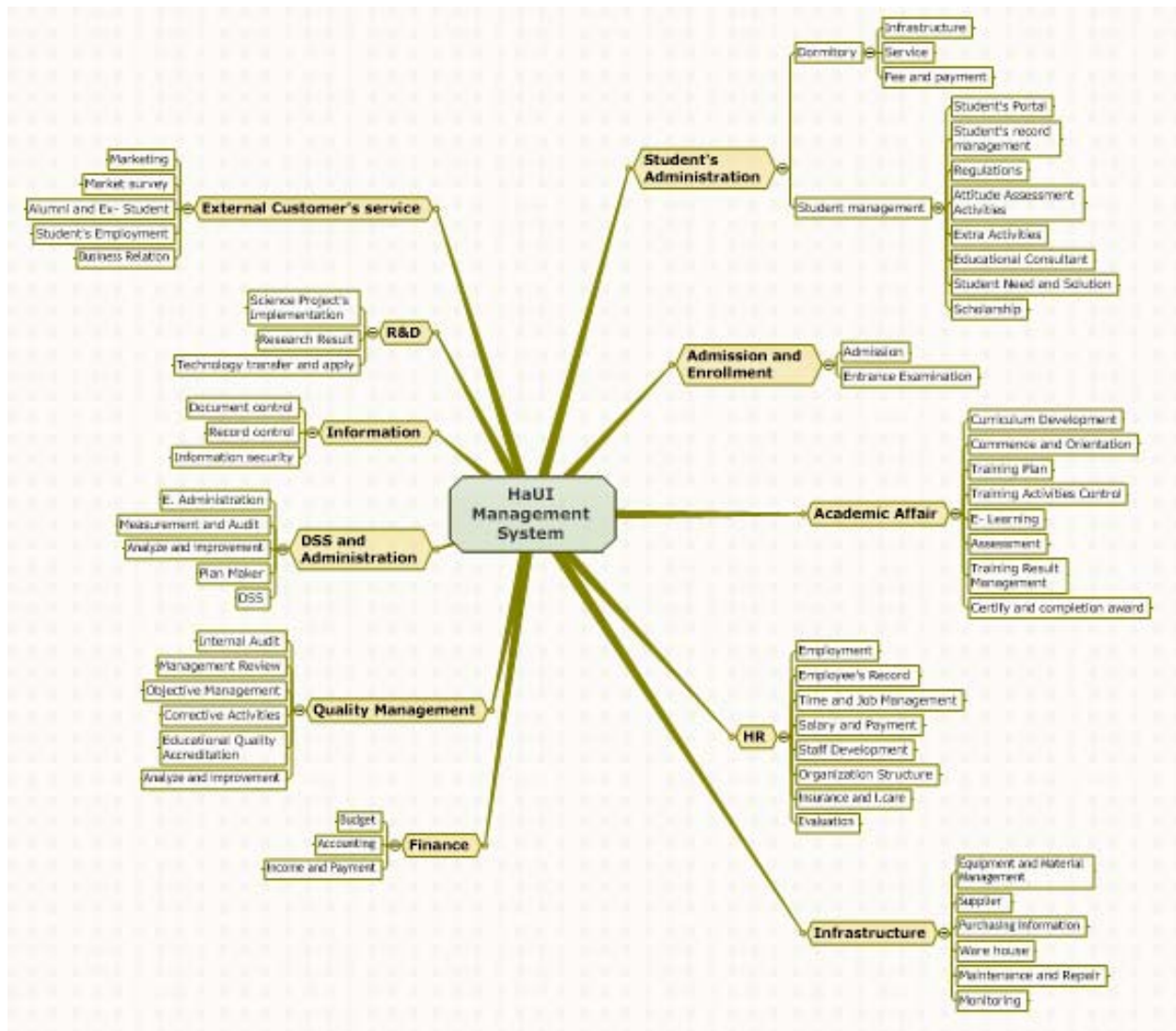


Figure 2.1: Processes requiring controls at HaUI

Connections between big operational areas is closely and makes information exchange almost instantly. Information exchange model is illustrated in Figure 2.2

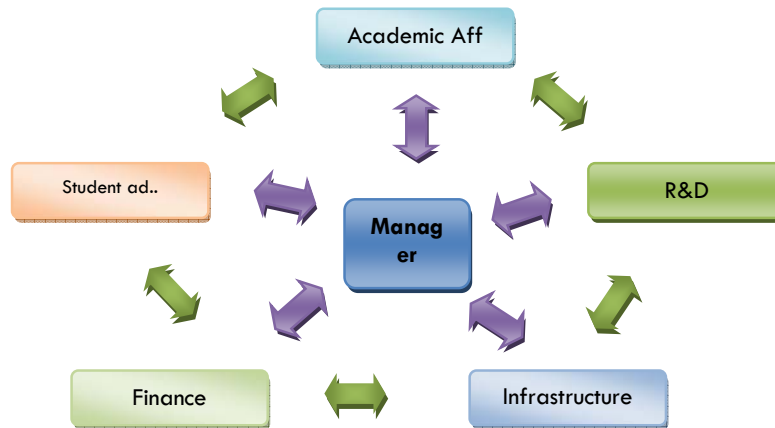


Figure 2.2: Sample of an Information exchange model in the system.

Figure 2.3. gave an example of a process designed and illustrated as a cross functional flowchart. In HaUI BPM, over 120 processes have been identified and established. Example of an established process is provided.

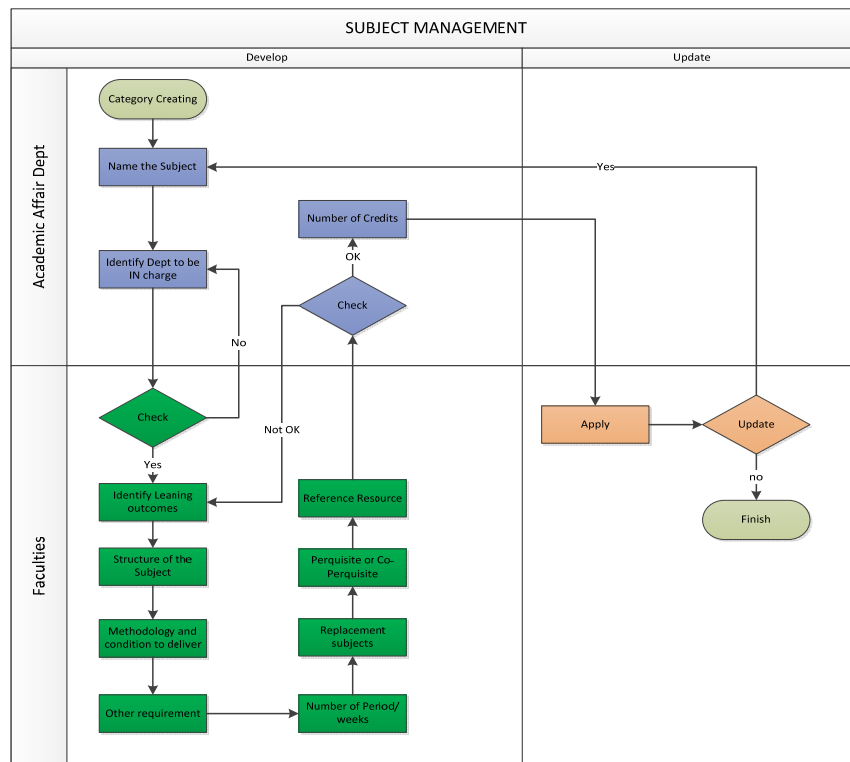


Figure 2.3: Example of an established process

IT system, developed on the basis of designed processes, is step by step completed and employed. Basic interfaces of the software system is introduced in Fig4. Example of a system interface.

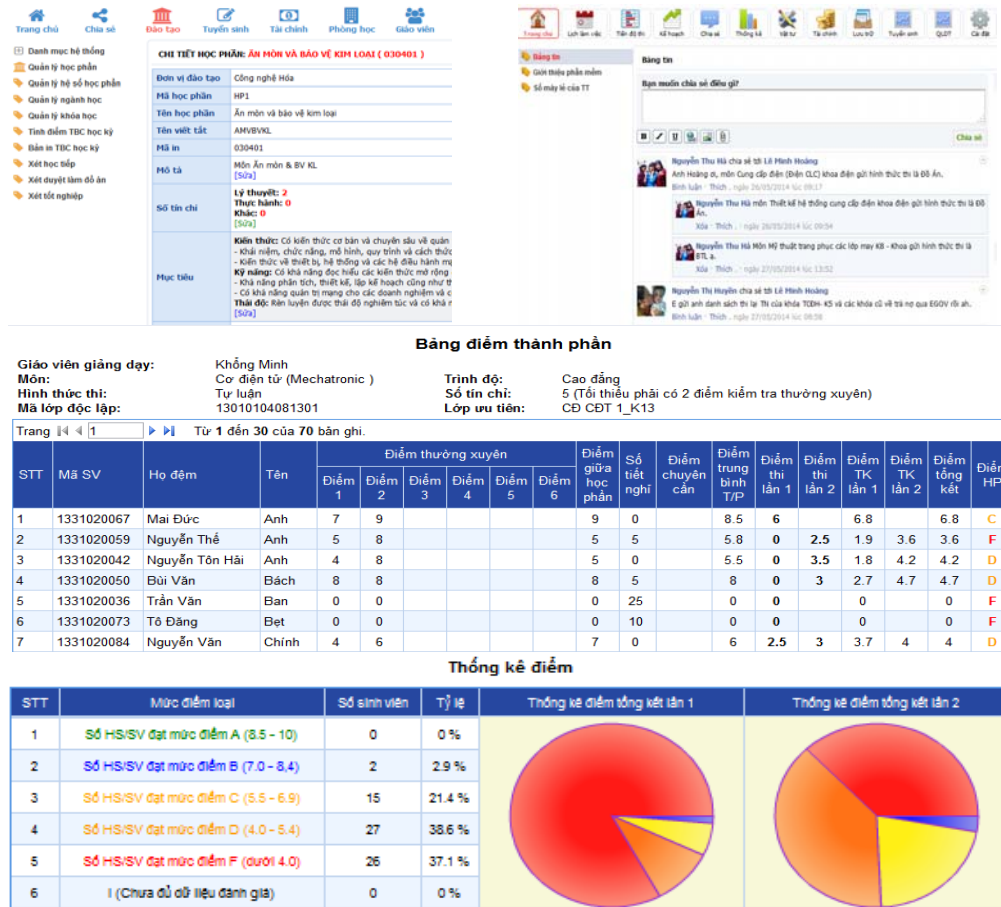
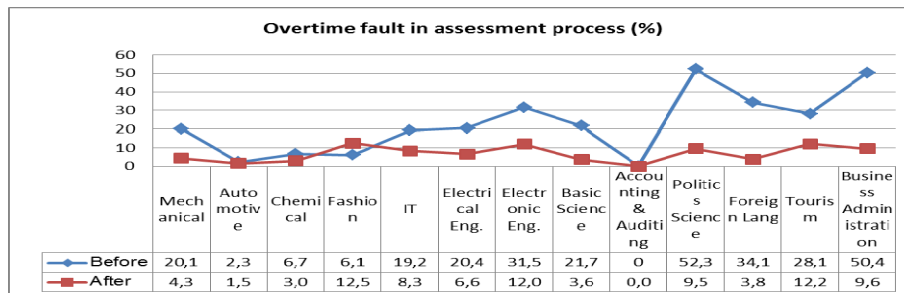


Figure 2.4: Example of a system interface

• *Results from the application of BPM model into management at HaUI*

Since June 2013, BPM – HaUI has led to positive impacts on different dimensions. For certain activities, phases are monitored and statistics show timely efficiency and relatively lower errors. Thanks to computer support, labor is required less. Part of the results is displayed in Fig.2.5. results from BPM application



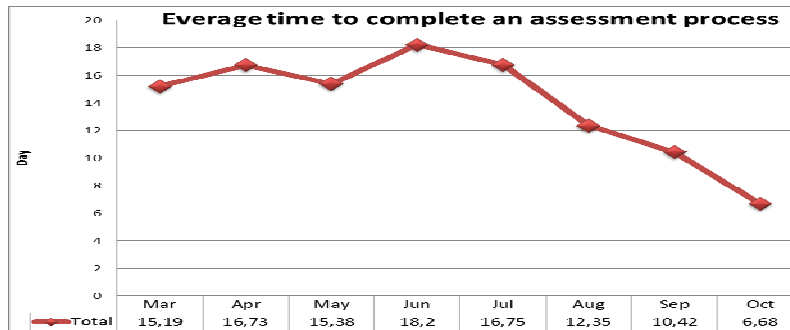


Figure 2.5: Results from BPM application

Figure 2.6. showed results from staff survey on the effectiveness of BPM application into individuals' daily work activities. All most are agree with the effectiveness of BPM.

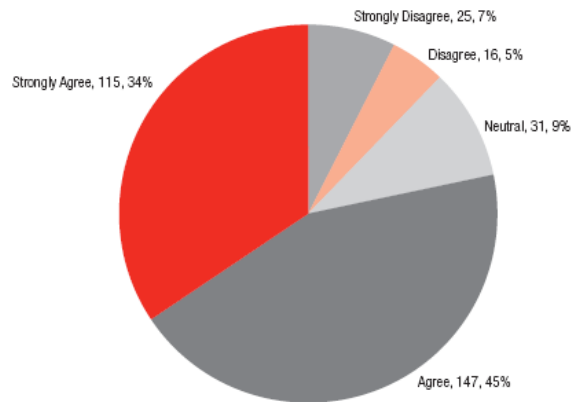


Figure 2.6: Results from staff survey about BPM application at HaUI

3. Conclusion

BPM is a radical and beneficial approach. BPM application in management practices entails changes in management in terms of mindsets, methods and environment of an organization. In the era of IT development, BPM approach is a positive trends of modern management. The duration of BPM application at HaUI is not long enough to conclude its effectiveness. However, initial results reveal the feasibility of this model at HEIs in Vietnam.

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Authors' Biographical Notes

Hoang Anh¹ is Manager of Center for Quality Management – Hanoi University of Industry. He graduated from Hanoi University of Education in Vietnam with M.E. Degree and worked for HaUI over 15 years. His interest is in application of IT in management. In 2012, He won Vietnam Talent Award in IT field with the management system in HEI's assessment process.

Ha Xuan Quang² is a Vice Rector of Hanoi University of Industry. He graduated from Southern Luzon – Philippines with Doctor of Business Administration Degree. He is the Vice Chairman of Vietnam Quality Association of Ho Chi Minh City (VQAH).