GAINING EXPERIENCE AND KNOWLEDGE THROUGH ROMANIAN-AMERICAN UNIVERSITY – MICROSOFT INNOVATION CENTER

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Abstract:

This paper presents activities of Microsoft Innovation Center set inside of Romanian-American University (MIC-RAU) and the implementation of Dynamics Program in student activities and curricula. Romanian-American University is the most known private university from Romania, Bucharest, having more the 15 000 student, being organized in six faculties, where fifth has economic profile and one being specialized in law. In this case the challenges of Dynamics Programs implementation was to elaborate courses suitable for various groups of student with different background, but in the same time to keep the core knowledge needed to understand and operate with Microsoft Dynamics products.

The learning process was completed with practice experience in internships organized in collaboration with Microsoft Partner network from Bucharest. The last stage of Dynamics implementation consists in a series of researches made by graduate students on Master program, in their Dissertation Thesis.

Keywords: innovation management, information systems, R&D management, knowledge management.

1. Introduction

To face an increasingly competitive environment the businesses continues to advance the technology at an ever increasing rate and because of the relentless pressure and demands put on them by their consumers and competitors respectively, having in mind new organizational structures appears with specific rules (Naiman et al.,2006, Carutasu, Botezatu, 2006). The EU expansion, together with other markets unification, causing lifting of barriers to trade and increased globalization, generate new business opportunities, as quickly customer response, but on the other hand created new threats to existing businesses also (Sweeney, 2000). Also the financial crush of 2009, relieve that many enterprises suffered severe losses and even close their gates. So, the most important point of today business plans is to cut costs. One solution to cut costs and to gain

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advantage over the market competitors is to have the needed information in the right time with best accuracy that it can be obtained. To have such, an integrated information system must be implemented, generally defined as Business Software Applications (BSA). Depending of the focusing activity we can draw up the boundaries of: Enterprise Resource Planning (ERP), where the main functionality is to support internal business process of an enterprise, but covering also with extending modules the customer-enterprise and vendors-enterprise economic relationships, Customer Relationship Management, focusing on customer-enterprise relationship and Supply Chain Management (SCM), focusing on vendors-enterprise relationship. Basically, an enterprise could choose the right type of BSA depending of activity field.

Information technology-related changes in organizations have always been a central issue to information systems researchers (Niculita et al. 2007). Various studies refer to ERP implementation (because is the BSA solution with oldest history, starting with MRP and we will use the ERP to explain the problems met with all BSA implementations and because we implement from Dynamics Program mainly Navision product), as critical success factor (Souza 2000), involving a large Change Management Process often as known as Business Process Reengineering (BPR) (Aurite 2004), which objective is to maximize the collective efforts of all people involved in the change. It is no use in changing an organizations technology to the latest ERP system which will give huge benefits in efficiency and cost benefits if you don't have employees willing to use the technology (Hong, 2002).

2. ERP implementation issues

Managing such change has become increasingly important with rapidly emerging social, economical and technological conditions. As emerging information technologies such as ERP and Internet-based Information Systems are becoming widespread, such technologies are often seen as enabling complex changes such as global systems integrations and virtual team working. Starting from systems theory, Zhang (Zhang 2003) propose several definition elements that define ERP:

- The Goal of an ERP System - improving and optimizing internal business processes;
- The Components of an ERP System - common components of a Management Information System (MIS).
- ERP Software - Module based ERP software is the core of an ERP system. Each software module automates business activities of a functional area within an organization. Common ERP software modules include product planning, parts purchasing, inventory control, product distribution, order tracking, finance, accounting and human resources aspects of an organization.
- Business Processes - Business processes within an organization falls into three levels - strategic planning, management control and operational control.
- ERP Users - employees of the organization at all levels, from workers, supervisors, mid-level managers to executives.
- Hardware and Operating Systems - Many large ERP systems are Windows based. Legacy ERP systems may use other operating systems.

- The Boundary of an ERP System - usually small than the boundary of the organization that implements the ERP system.

Other definitions presents ERP like a system with multi-module application software packages that integrates key business and management processes across an enterprise. It serves as a backbone for the enterprise and helps manage the important aspects of a business, including procurement, order tracking, materials management, product planning, manufacturing, human resources, and financial management.

The problems presented in relevant literature (Motwani 2002, Panorama 2008) suggests a various set of reasons. These include the below reasons and ordered as we see as importance:

- Understand the purpose of ERP. First, the enterprise management must understand what an ERP solution can do and what cannot. Even if competitors are using ERP solutions, an implementation failure could produce important financial losses caused by project itself and also by time spent with implementation.
- Lack of top management support, changes in personnel, lack of discipline, resistance, and lack of broad-based company commitment are the major factors that slow down the process of implementation.
- Capturing clearly AS IS stage of enterprise. More often, companies jump into technical specifications without having in mind business process developed inside. During business process analysis is need to capture all aspects of gain value business threads and detect anomalies and information flow concentrator. In this stage is need to decide if the software business logic is suitable for the enterprise and if changes occur, it is need to customize the software or to change inside enterprise organization.
- Establish key performance measures, setting baselines and targets for those measures and track the results obtained in every stage of implementation and post-implementation. Thereby, the management and stakeholders could appreciate if the ERP implementation was a success of not.
- During the implementation of an ERP system is needed a strong business process changes management and to assure resources to the project. In many cases, the cause of implementation failure is the lack of track changes management or when the budget is overrun, supplementary resources needed for implementation. Statistics show that over 50% of implementations in 2008 were over budget.
- Lack of data accuracy and user involvement can attribute to system implementation failures. Populating with data a clean implementation could be a tricky job, because in this stage any error will be carried out to the rest of time. In most cases, old data are obtained from a different solution or from more than one, which can cause compatibility issues in import process.
- Underestimating of education and training. Even if the implementation process goes well and the data are correctly introduced in the new system, the next period of product lifecycle involve the actions of the enterprise employees to correct manipulate the existent data and add new data. The training of employees often is planned at the end of implementation, when the budget is overrun and the managers choose to cut implementation cost by underestimate staff education and training.

Having in mind the issues presented above, as higher education institution we understand to offer to our students the necessary skills and knowledge to avoid, as it possible, the failure into ERP implementation process, regardless of their position in an enterprise, as manager, IT consultant or ERP vendor. To do so, we developed tailored curricula for undergraduate and graduate programs (enlisted more clearly later in this paper) which cover the issues presented above. Together with Microsoft Romania we establish an extended collaboration program that include an innovation structure and also academic programs. We will present in the next section RAU – Microsoft Innovation Center and inside academic programs.

3. Romanian American University – Microsoft Innovation Center and academic programs

First Romanian MIC is set inside of RAU and is clearly focused on business applications, being the result of collaboration between RAU and Microsoft Romania, having as goal to assure the students competences in business applications domain. The MIC was inaugurated on January 30, 2008 in the presence of Romanian Secretary of Communication and Information Society Ministry Mr. Zoltan Szomogy, General Manager of Microsoft Romania, Mr. Silviu Hotaran and professor Ion Smedescu, Rector of Romanian-American University.

Through this initiative, Faculty of Computer Science for Business Management, which has undergraduate and graduate in Economics Informatics, reconfirmed by RAQAHE (Romanian Agency for Quality Assurance in Higher Education), have in mind:
- Create new connection between academic learning and professional skills from labor market, helping to develop those computer abilities to have success on employment market;
- Offer a new and actual technological platform and curricula, with modern on-line large learning facilities on Microsoft site. It is proposed to design and develop and to implement of an e-Campus platform;
- Organize courses, workshops, labs and seminars, accordingly with international standards of academic education;
- Direct implication of employers in internship period;

Microsoft Innovation Center offer now programs, essential for software industry development, grouped by:
- Skills and intellectual capital development (software development courses, business skills, professional certifying programs and training for juniors' employment). Universities use MIC to achieve continuous teachers learning programs, to develop new curricula adapted to market changes;
- Industry partnerships (implying software companies into training curricula, software quality certification, research programs for students). MICs consolidate the connection between academic environments, software industry and Microsoft. Microsoft partner companies and local representative prepare training curricula,

pilot programs, workshops, opening new horizons regarding initiative and opportunities for professional carrier for future graduate;

- MIC accelerate the innovation through pilot programs (e.g. RAU is oriented to business application developing, with Microsoft Business Division and ISV partners;

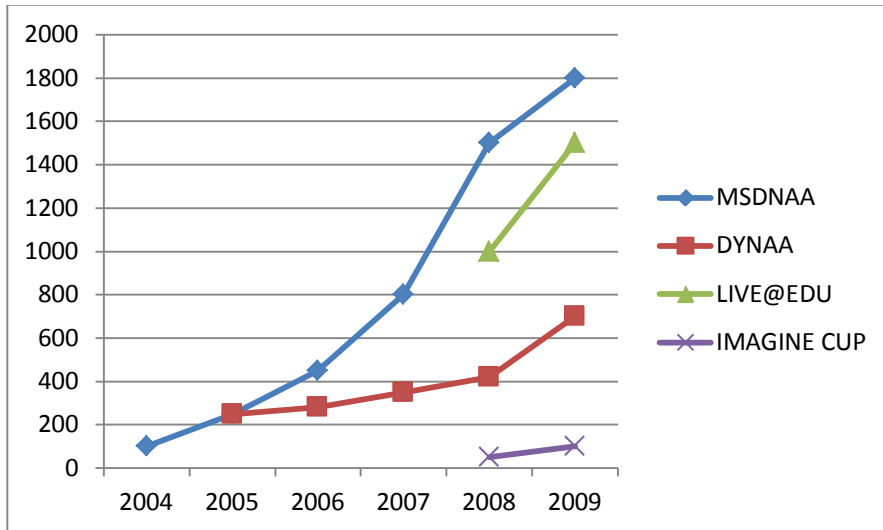The Microsoft Academic Programs where RAU-MIC (see figure 1) is part are:

Fig.1 Number of student per academic program between 2004-2009

- MSDN Academic Alliance, since 2004 –access to genuine software and training materials for teachers and students.
- Dynamics Academic Alliance, since 2005 – access to Microsoft business solutions, training materials and certifications for students.
- Live@Edu, since 2008 – sharing resources and improve communication between teachers and students
- Imagine Cup, since 2008 – promote the students interest for future research

4. Dynamics Program and RAU curricula

Beside, MIC where the Microsoft partners are meeting with the students, sharing their experience, to develop new applications, testing programs into different hardware and software architectures. RAU is part of Microsoft Dynamics Academic Alliance Agreement – EMEA. This collaboration starts in 2005, when students from faculty mentioned above fallow the course named Business Software Application having as study Dynamics products (Microsoft Dynamics NAV and Microsoft Dynamics CRM). At this course has participated 180 in 2006, 250 in 2007 and 350.

On graduate academic programs (Economic Informatics and Business Management Integrated Systems of Faculty of Computer Science for Business Management) is mandatory the ERP Integrated System course, which will use as software platform Microsoft Dynamics NAV. The same course is also introduced in curricula of

Management-Marketing Faculty and International Economic Relationship Faculty starting with 2007-2008 academic year, estimated students number being over 400. The course dedicated to Microsoft Dynamics CRM was introduced from 2009 at Faculty of Management-Marketing curricula having 150 students on course.

A second activity is summer internship period. In 2008 and 2009, two such stages where experienced, dedicated to Dynamics products and to Windows 2008 network platform. In these internships we mixed students from different faculties, with the great help of Microsoft business partners, Novensys in 2008 and Ager Solution in 2009 and make an introductory course module for Navision and also visit on partners locations mentioned above. The internships have 50 participants in 2008 and 90 in 2009. In 2010 we expect to have around 150 students from three faculties.

The modules of Navision used in curricula are presented in table 1.

Tab.1 Navision modules used in curricula

Navision modules	Course content	Expected results
Introduction in Nav	Common internship on second undergraduate year	Understanding of business logic
Financial	Management-Marketing Faculty and International Economic Relationship Faculty First year/graduate studies	Understanding and using Navision for enterprise accounting. Possible certification
Development and Implementation	Economic Informatics and Business Management Integrated Systems programs	Understanding of implementation process. Possible certification
Any other module	Faculty of Computer Science for Business Management. Second year/graduate studies	Extending the knowledge regarding ERP implementation. Possible

5. Conclusions

Starting from ERP implementation issues, we present our experience with Dynamics Academic Alliance. Started in 2005, with Business Software Applications course, after five years, with more than 2000 students participated on different courses described above, we have tried to prepare the future employees to understand and proper use of ERP and other BSA (e.g. CRM) on enterprise level. We appreciate DyNAA for the prompted help given on the years.

About using Navision in classroom, we use several versions of Navision, starting with 5.0, 5.1 with Romanian package and 2009 and 2009 SP1 in first semester of 2009-2010 academic year. What is great in this academic program is that you have access to software and training materials. But, we think that, to improve the understanding of business software logic it will be useful a Romanian customized database, according with Romanian accounting law. Together with our partners (Novensys and Ager Solution) we create a Romanian demo database (it still demands many hours of customization).

In the future we intend extend the base of students by opening an IT Academy with the support of Microsoft Romania and their partners.

The authors are managers of RAU-MIC, teachers for courses mentioned and teaching assistant. The modeling of economic and technical phenomena, implied by a business activity, must be based on Romanian experience but also on EU experience in order to assure more accurate results.

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References

Naiman, K. Kopackova, H. Simonova, S. Bilkova R. (2006). *Approaches of quality outputs from the business systems*, Proceedings of the 5th WSEAS Int. Conf. on COMPUTATIONAL INTELLIGENCE, MAN-MACHINE SYSTEMS AND CYBERNETICS, pp. 282-285, Venice, Italy, November 20-22, 2006 ISSN: 1790-5095, ISSN: 1790-5117, ISBN: 960-8457-56-4

Niculita, L. Carutasu, N. L. Carutasu**,** G. (2007) *Governance Intelligence for Romanian R&D Funding***,** Proceedings of 7th WSEAS International Conference on APPLIED INFORMATICS AND COMMUNICATIONS (AIC'07), Vouliagmeni Beach, Athens, Greece, August 24-26, 2007, ISSN: 1790-5117, ISBN: 978-960-8457-96-6

Aurite, T. Cărutasu, G. Chira, C. (2004) *Business Process Reenginering in Virtual Enterprise*, 7th International Conference on Management on Innovative Technologies MIT 2004, pag. 107-110, ISBN 973- 700 – 028 – 5, Constanţa, October 2004

Căruţaşu, G., Botezatu, C.P., (2006) *New Rules in Business Environment*, International Journal of Computers, Communication and Control, Volume I Supplementary issue Proceedings of ICCC 2006, pp.103-108, ISSN 1841-9836

Estevez-Souza, J., Collado, P. (2000) T*owards the unification of critical success factors for ERP implementation*, http://www.army.mil/escc/docs/bit2000.pdf, *Accessed*: 2006-03-16.

Motwani, J., Mirchandani, D., Madan, M., Gunasekaran, A. (2002) *Successful Implementation of ERP Projects: Evidence from Two Case Studies*, International Journal of Production Economics, Vol. 75, pp. 83-96, ISSN: 0925-5273

Zhang, L., Lee, M., Zhang, Z., Banerjee, P. (2003) *Critical Success Factors of Enterprise Resource Planning Systems Implementation Success in China* Proceedings of the 36th Hawaii International Conference on System Sciences (HICSS'03), IEEE, ISBN 0-7695-1874-5/03, January, 2003

Panorama Consulting Grup, (2009) 2008 ERP REPORT, http://panorama-consulting.com/resource-center/2008_ERP_Report.pdf, *Accessed*: 2009-11-12.