

# PROACTIVE IT AUDIT AS A COMPONENT OF A PROTOTYPE SDLC METHODOLOGY USING MS DYNAMICS CRM

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**Abstract:** Proactive IT audit as a component of a prototype systems development lifecycle (SDLC) methodology using Microsoft Dynamics CRM. Review of a prescriptive training process that builds CRM customization and configuration skills. Review of the Applying IT Control and Audit Group Project that includes creation of a business case with 'proactive' IT audit along with the development of a prototype CRM solution. Group project objectives were generally met with some challenges associated with IT audit principles and controls. Lessons learned include technical issues relating to CRM availability for students and the realization that understanding CRM customization and configuration skills and concepts are not exclusive realm of the IT professional.

## INTRODUCTION

This curriculum presentation examines the use of a proactive information technology (IT) audit strategy as an element of a prototype (systems development life cycle) SDLC incorporating Microsoft Dynamics CRM. The presentation will cover background, MS Dynamics CRM Customization and Configuration Training, Applying IT Control and Audit Group Project, Results and Lessons Learned.

## BACKGROUND

Information Technology Audit is a growing and essential field for the contemporary enterprise. The IT Auditor must possess diverse IT and business skills and experiences to protect enterprise value (Senft, Gallegos, & Davis, 2013). The University of Wisconsin-Stout introduces IT Audit to its student by means of the senior level course, IT Policy and Audit (ICT 401/601).

IT Policy and Audit (ICT 401/601) was developed in response to the Enron Scandal of 2001 (Enron Scandal, 2013). The course description reads "...information technology policy, regulatory and audit issues, international standards, and internal security strategies" (ICT-401 / 601 Information Technology Policy and Audit, 2012). Through the years, ICT 401 / 601 has been focused primary on the concepts associated with IT Policy and Audit. Recent revisions to ICT 401 / 601 curriculum has incorporated the application of IT Audit processes as a part of systems development and the application of applicable policy and control on a prototype enterprise information system. In this instance, the curriculum uses MS Dynamics CRM as the prototype enterprise information system.

IT Policy and Audit (ICT 401/601) is the second of three core courses used in a number of ICT, Enterprise Technology and MS Dynamics offerings at the University of Wisconsin-Stout. The offerings include Bachelor of Science Degree in Information and Communication Technologies (B.S. Degree in Information and Communication Technologies, 2012), Master of Science Degree in Information and Communication Technologies (M.S. Degree in Information and Communication Technologies, 2012), Minor in Enterprise Technology (Academic Minor in Enterprise Technology, 2012), Business Administration emphasis in Enterprise Technology (Business Administration Emphasis Areas, 2012) and Microsoft Dynamics Student Certificate (Microsoft Dynamics Student Certificate Program, 2013).

The level of skill and concept development in IT Policy and Audit (ICT 401/601) is focused on CRM Customization and Configuration (Microsoft Dynamics CRM 2011 Customization and Configuration, 2013).

## **MS DYNAMICS CRM CUSTOMIZATION AND CONFIGURATION TRAINING**

Since IT Policy and Audit (ICT 401/601) is the second of three core courses used in a number of ICT, Enterprise Technology and MS Dynamics offerings at the University of Wisconsin-Stout, the focus of skill development advances to CRM Customization and Configuration. The nature of the training is very prescriptive as there is no expectation that students will have previously used the customization and configuration functions of MS Dynamics CRM.

The students use 80294BC - Microsoft Dynamics® CRM 2011 Customization and Configuration training materials (Course 80294B: Microsoft Dynamics CRM 2011 Customization and Configuration, 2014) that covers: Business Units and Security Roles, Configuring Users and Teams, Customizing Fields, Customizing Entities, Customizing Relationships and Mappings, Customizing Forms, Views, and Charts, Configuring Field Security, Configuring Auditing and Configuring Solutions. In addition, training for Workflow and Dialog Processes in Microsoft Dynamics® CRM 2011 is also utilized.

One-half (four modules) of the course is used for basic customization and configuration training. Students are required to complete 2 to 4 scenario-based application labs per module in a live CRM to demonstrate their proficiency. Assessment is based on PASS / FAIL with opportunity for revisions to improve. Assessment feedback comes in the form of a MS Word form checklist with audio feedback. The drop box of the course's learning management system is used to management assessment feedback and grades. Concepts associated with customization and configurations are assessed through the use of quizzes in the course's learning management system.

After the CRM Customization and Configuration training is completed by the students, the Applying IT Control and Audit group project is introduced.

## **APPLYING IT CONTROL AND AUDIT GROUP PROJECT**

The Applying IT Control and Audit group project gives students the opportunity to use a Prototype systems design lifecycle (SDLC) methodology that incorporates IT audit principles within a systems development project. The objectives of the Applying IT Control and Audit group project are: Design, develop and implement a prototype enterprise information system based upon a business case, Apply principles of IT Audit proactively as a part of a system design life cycle (SDLC), Develop IT audit policy and controls respective of accepted IT Governance standards and Apply IT controls and IT Audit processes to a prototype enterprise information system.

Groups begin by creating a CRM focused business case mirroring the example of a real CRM business case and SDLC methodology. The CRM business case and SDLC methodology were provided by SVA Consulting (one of UW-Stout's MS Dynamics Alliance partners). Elements of the CRM business case include: Revision History, Executive Summary, CRM Project Team, CRM Vision, CRM Goals and Objectives, Functional Requirements, Data Requirements, Audit Requirements and Glossary of Terms. Audit Requirements was the final (new) element added to the CRM business case format.

Audit Requirements are a unique part of the above CRM business case format. The major premise being IT Audit can be most beneficial to an enterprise that plans for IT Audit proactively, versus reactively i.e. after an information system is implemented and in use.

The project groups were asked to consider key audit principles for their CRM prototype development using the Control Objectives for Information and Related Technology framework (COBIT) by ISACA (COBIT 5: A Business Framework for the Governance and Management of Enterprise IT, 2014). Based on the four major COBIT domains, specific CRM policy, process or control were proposed and ultimately implemented in the CRM prototype by the student project groups).

Groups had the opportunity of either using a real enterprise or a pseudo-enterprise to base their CRM business cases. Once an enterprise had been selected, the development of the CRM business case occurred over the 2<sup>nd</sup> half of the course.

Development of the CRM prototype occurred simultaneously with the development of the CRM business case. Groups were encouraged to focus on only a single phase of a comprehensive systems development project.

Assessment for the group project was formative, summative and contractual. Five phases of loosely prescribed progress goals were provided. Formative assessment for the first four project phases was largely based upon progress from prior phases using PASS / FAIL scoring. Methods supporting the formative assessment included video review of both CRM business case and CRM prototype. Skype conferences with the project groups were also

used to give further clarification. Summative assessment (phase 5) was given on a total points basis reflecting the objectives of the group project. The main method for the summative assessment was a video review of the CRM business case and the final group provided tour of the CRM prototype. Contractual assessment focused on the agreed upon performance of individuals within the group. The final project grade for the individual was determined through the contractual assessment.

## RESULTS

The MS Dynamics CRM Customization and Configuration Training was rigorous but effective. One half of the course or eight weeks was devoted to development of skills and concepts that allowed the students to effectively customize a CRM. Particularly effective was the assessment process that allowed for improvement. The students performed much better when given an opportunity for improvement following a detailed feedback process.

The results of the Applying IT Control and Audit Group Project were generally positive. All groups demonstrated proficiency in the creation of the CRM business case. It was clear that the small-scale nature of the prototype systems development lifecycle was understood philosophically and in practice.

The prototype CRM's the project groups implemented showed evidence of systematic thought related to the particular enterprise mission and goals. Creativity was also evident in the implemented solutions.

The Audit Requirements element of the business case was an area that was generally understood by the project groups but difficult to apply. The Control Objectives for Information and Related Technology framework (COBIT) by ISACA seemed to be rather challenging for the groups. In all fairness, COBIT is a very complex. An entire semester could easily be filled with the minutia of this framework. Without over emphasizing the struggles with COBIT, the Apply principles of IT Audit proactively as a part of a system design life cycle (SDLC) project objective was reasonably fulfilled.

The combination of a rigorous and regimented training process along with the application of a prototype SDLC proved to work well. Observed student learning reflective of overall learning objectives seemed to correlate. It's reasonable to conclude that students who successfully completed the aforementioned training and group project grew in conceptual understanding and technical skills related to both CRM customization and configuration. A foundational understanding of IT audit was also gained.

## LESSONS LEARNED

A number of significant lessons were learned in this first iteration of CRM Customization and Configuration and the Applying IT Control and Audit group project. First, what technically can go wrong most likely will. As with our first course (ICT 305/505, Information Systems for Enterprise) that utilizes CRM application level concepts and skills, our initial model of providing CRM to our students had issues. There was an entire week during the semester in which no student could access the CRM. Also, there were unexplainable glitches that occurred on a regular basis that interfered with efficient use of the CRM.

The model used to provide CRM to this point has been through the use of our IT infrastructure professionals. However, with diverse demands being put on these individuals, the feasibility of continuing an on premise CRM is unclear at best. As we move forward, a more dependable serving of the CRM needs to be implemented. Ideas to provide a more dependable CRM may include student subsidized cloud solutions or arrangements with industry partners. This is a definite challenge for UW Stout and likely for most postsecondary institutions in these days of changing business models.

Audit is difficult. Audit is also seen as an inordinately negative happening. The idea of the good audit seems to be rather strange. Also, the word Audit seems to have a meaning much bigger than the letters that make up the word. Improvements for the objectives related to audit will include making the concept more palatable for individuals who have little to no experience with IT audit. It might be that the COBIT framework is too much for a single course that ultimately does not certify IT auditors.

The Customization and Configuration concepts and skills related to Microsoft Dynamics CRM are not impossible for non-IT types to learn. This is a positive realization when it is understood that the design and use of CRM is better when all members of an enterprise are involved. CRM is not expert only technology.

## REFERENCES

- Academic Minor in Enterprise Technology*. (2012). Retrieved from UWStout.edu:  
<http://www.uwstout.edu/programs/minors/et/index.cfm>
- B.S. Degree in Information and Communication Technologies*. (2012). Retrieved from UWStout.edu:  
<http://www.uwstout.edu/programs/bsict/index.cfm>
- Business Administration Emphasis Areas*. (2012). Retrieved from UWStout.edu:  
[http://www.uwstout.edu/programs/bsba/upload/bsba\\_ea.pdf](http://www.uwstout.edu/programs/bsba/upload/bsba_ea.pdf)
- COBIT 5: A Business Framework for the Governance and Management of Enterprise IT*. (2014). Retrieved from Information Systems Audit and Control Association (ISACA):  
<http://www.isaca.org/cobit/pages/default.aspx>
- Course 80294B: Microsoft Dynamics CRM 2011 Customization and Configuration*. (2014). Retrieved from Microsoft Learning: <http://www.microsoft.com/learning/en-us/course.aspx?id=80294b>
- Enron Scandal*. (2013, October 25). Retrieved from Wikipedia: [http://en.wikipedia.org/wiki/Enron\\_scandal](http://en.wikipedia.org/wiki/Enron_scandal)
- ICT-401 / 601 Information Technology Policy and Audit*. (2012). Retrieved from University of Wisconsin-Stout:  
<http://www.uwstout.edu/bulletins/course-listing.cfm?displaycourses=true&subject=Information%20and%20Communication%20Technologies#Information%20Technology%20Policy%20And%20Audit>
- M.S. Degree in Information and Communication Technologies*. (2012). Retrieved from UWStout.edu:  
<http://www.uwstout.edu/programs/msict/index.cfm>
- Microsoft Dynamics CRM 2011 Customization and Configuration*. (2013). Retrieved from Microsoft:  
<http://www.microsoft.com/learning/en-us/course.aspx?ID=80294B&Locale=en-us>
- Microsoft Dynamics Student Certificate Program*. (2013, August 21). Retrieved from Microsoft Faculty Connection:  
<https://www.microsoft.com/education/facultyconnection/articles/articledetails.aspx?cid=2499&c1=en-us&c2=0>
- Senft, S., Gallegos, F., & Davis, A. (2013). *Information Technology Control and Audit* (4th ed.). Boca Raton, FL: CRC Press.