

Using Microsoft Dynamics in the Supply Chain Management Curriculum

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Abstract: Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) are popular topics for business majors. The purpose of this paper is to discuss how to integrate Microsoft Dynamics into supply chain management curriculum. An example will be used to show how to use Dynamics GP and CRM in an SCM course.

INTRODUCTION

Supply Chain Management (SCM) and Enterprise Resource Planning Systems (ERP) have been popular topics for curriculum design for business majors. An example will be use SAP R/3 to teach ERP concept. However, a school has to pay \$8,000 to SAP Inc. in order to acquire a SAP system. Secondly, the user interface of SAP is not as user-friendly as common PC-based software packages. Hence, an alternative software that can be useful for teaching ERP is Microsoft Dynamics GP. Microsoft Dynamics has been used in accounting (Yacht, Crosson, and Segovia, 2009) and business process management. Furthermore, it can be used in a supply chain management curriculum (Remington, 2010). Therefore the purpose of this paper is to discuss how to integrate Microsoft Dynamics into the Supply Chain Management Curriculum.

SUPPLY CHAIN MANAGEMENT CURRICULUM

The study of Supply Chain Management (SCM) has become a popular major in the last ten to fifteen years. Supply chain management can be defined as the management of the supply chain from customers to suppliers to make sure that it meets the mission of the company (Lee et al., 2006). Innovation in SCM is related to the advancement of information technology. Figure 1 shows a picture of major components of the supply chain management information systems.

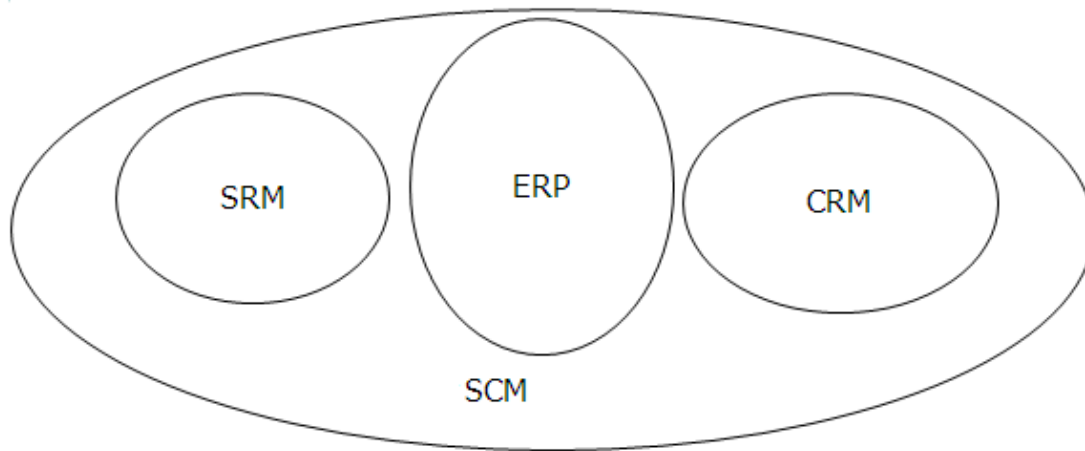


Figure 1: The major component of SCM systems

Academically, supply chain management draws a mix of tools from traditional Production/Operations Management course, Logistics, and Customer Relationship Management. For example, an AACSB school in the Midwest offers the following courses for the SCM graduate certificate:

1. Supply Chain Management
2. IT in Supply Chain Management
3. Logistics
4. Quality Management
5. Customer Relationship Management
6. Operations Planning and Control in Supply Chain
7. Purchasing

In response to the change in theory and practice, many professional organizations have included supply chain management as a major component. For example, APICS – the association for Operations Management, has added a new certificate exam, Certificate of Supply Chain Professional (CSCP), to their professional society program (APICS, 2010). The CSCP includes the following components:

1. Foundation of Supply Management.
2. Operations Planning and Control in Supply Chain.
3. Customer Relationship Management or Suppliers Relationship Management.
4. It in Supply Chain Management.

The following session uses an example to show how to use Microsoft Dynamics in a SCM course.

AN EXAMPLE OF USING MICROSOFT DYNAMICS FOR A SUPPLY CHAIN MANAGEMENT COURSE

A graduate course, called IT for Supply Chain Management, is offered by a AACSB school in the Midwest. The catalog description for this course is:

The purpose of this course is to discuss knowledge and skills in information technology for supply chain management. Major topics include enterprise resource planning (ERP), B2B e-commerce, networks and telecommunication infrastructure for SCM, and data warehouse applications in SCM. Hands-on exercises in an ERP system may be included in this course.

The major content for this fifteen-week course includes many modules with practice examples in sales and distribution, customer relationship, production planning, production process, purchasing, and business intelligence. It also includes other conceptual contents such as e-business and supply chain management, network and security issues, RFID. Table 1 shows an integration of Microsoft Dynamics into this course.

Section	TOPIC	Microsoft Dynamics Assignment
1	Discussion of Course Syllabus Introduction to SCM Information Technology and Supply Chain Management Basic for ERP	
2	Introduction to SCM Information Technology and Supply Chain Management Basic for ERP Web technology, E-commerce and Supply Chain Management	Introduction to Microsoft Dynamics
3	Introduction to Microsoft Dynamics GP Sales and Distribution Foundation Sales and Distribution Process Customer Relationship Management	Dynamics GP Sales Order Processing Dynamics CRM
4	Test 1 Production Planning Foundation Materials Management Foundation Purchasing Process	Dynamics GP MRP Dynamics GP warehousing
5	APS E-commerce and Supply Chain Management	e-purchasing
6	Production Planning Process APS software	Dynamics GP MRP
7	Financial Accounting foundation APS software	Dynamics GP Accounting Payable Accounting Receivable
8	Data Warehouse in Supply Chain Management	Dynamics NAV
9	Test 2 E-commerce and Supply Chain Management	E-Purchasing
10	SQL Server 2005/2008 Business Intelligence/Data Mining for Supply Chain Management SCM for small businesses – Microsoft Dynamics GP	SQL Server 2008 Dynamics GP Reporting
11	SQL Server 2008 Business Intelligence/Data Mining for Supply Chain Management Other ERP software	SQL Server 2008 Business Intelligence Development Studio

12	Network Infrastructure for SCM; Mobile computing for SCM	
13	Network Infrastructure for SCM; VPN, RFID; Review Final Presentation	Handouts
14	Network Infrastructure for SCM; VPN; Review Final; Presentation; Project Due	Handouts
15	Final Exam	

Table 1: The course content for IT for Supply Chain Management

Purchasing is a key activity for supply chain management. We can use an exercise to show how to use Dynamics GP to generate a purchase order. Figure 2 shows a screen shot for using a Dynamics GP for generating a purchase order.

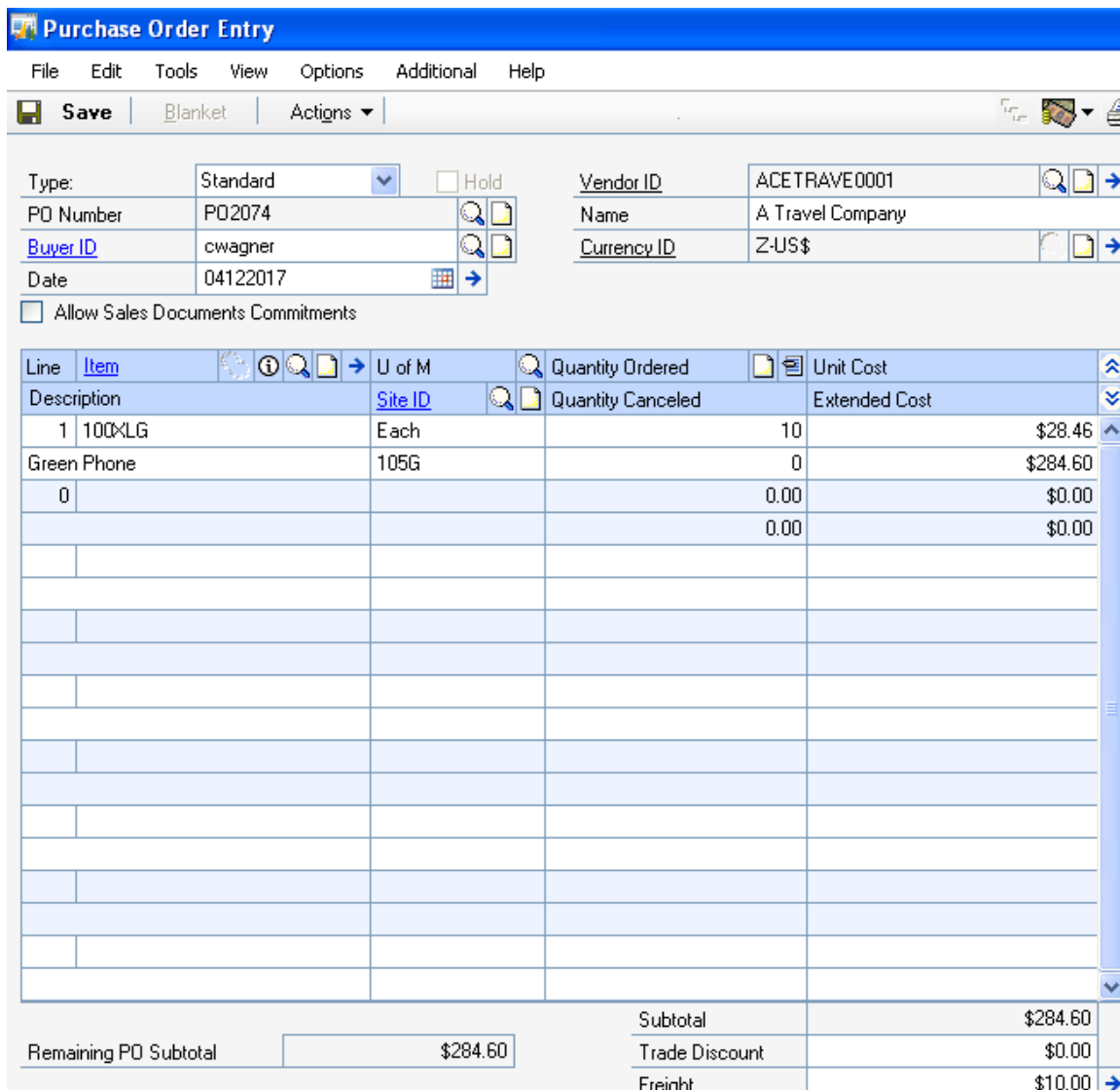


Figure 2: Generating a purchase order in Microsoft Dynamics GP 10.0

Purchasing functions are important but it may have been discussed in accounting courses. Microsoft Dynamics GP also provides certain production functions which are unique to supply chain professionals. These functions include Material Requirements Planning (MRP), Capacity Requirement Planning (CRP), and Bill of Materials (BOM). Figure 3 shows a blank form of MRP view. Figure 4 shows a blank table for CRP. The table can show both labor and machine workload and utilization rates.

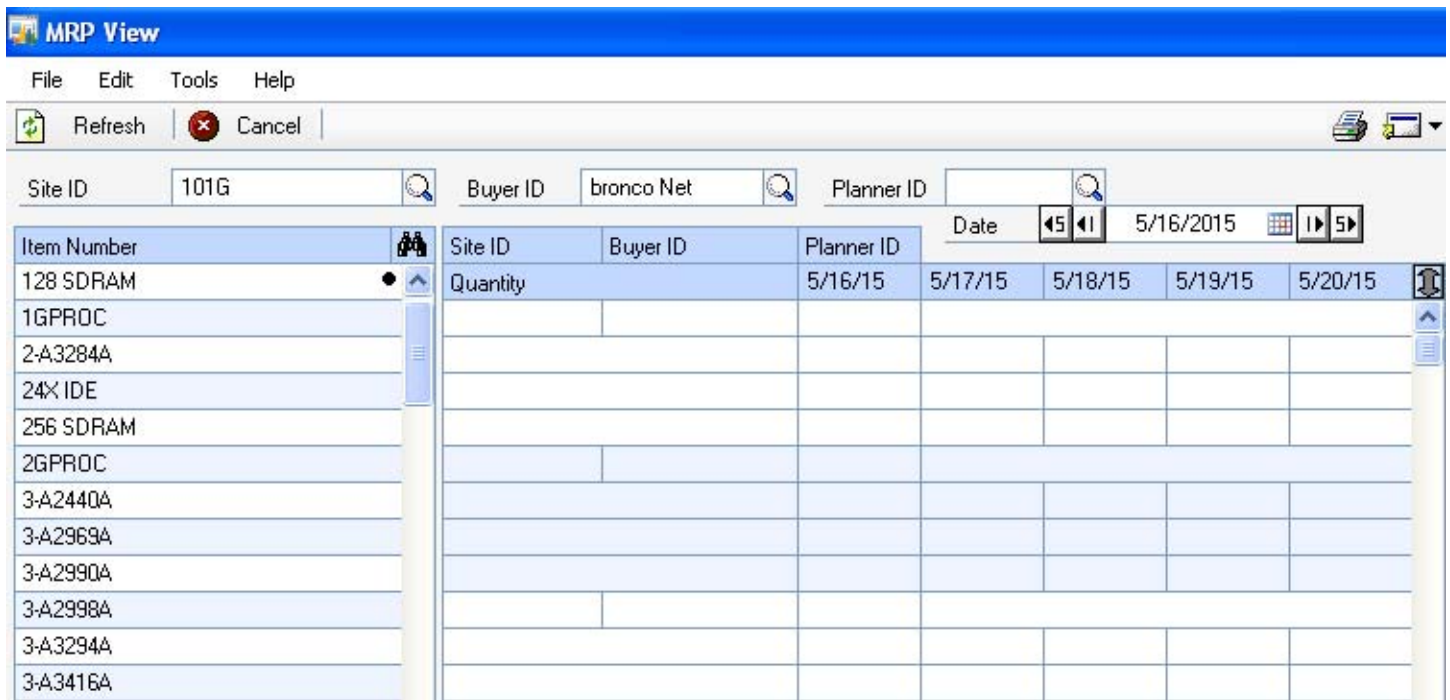


Figure 3: A blank form of MRP View

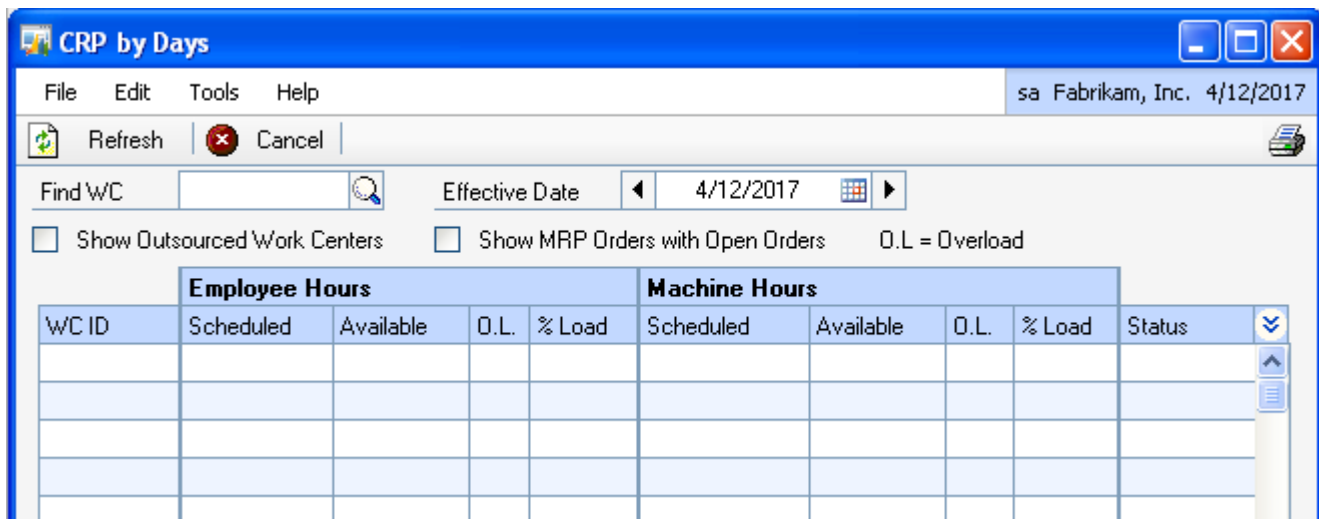


Figure 4: A blank table for capacity requirements planning

CONCLUSIONS

A brief survey shows that students prefer to use MS Dynamics GP than SAP. Other benefits include (1) the output can be quickly transferred to Microsoft Excel, and (2) the output of Dynamics is more aesthetic than that of SAP (See Figure 5). We have been conducting independent studies to see the initial impact on students. So far this software operates without problems for a PC in a non-Networking environment with Windows XP. Although operating Microsoft Dynamics with SQL server in a network environment becomes more complex, this leaves room for future improvements and research.

Fabrikam, Inc.
4277 West Oak Parkway
Chicago IL 60601-4277

Purchase Order	
Purchase Order No.	PO2074
Date	4/12/2017

Vendor:

A Travel Company 123 Riley Street Sydney NSW 2086

Ship To:

10810 Harmon Dr Omaha NE 68154

Contract Number:
^ Changed Since the Previous Revision

Shipping Method	Payment Terms	Confirm With	Rate				
	Net 30		1				
LIN	Item Number	Description	Req. Date	U/M	Ordered	Unit Price	Est Price
Shipping Method	Reference Number	FOB					
1	100XLG	Green Phone	4/12/2017	Each	10	\$28.46	\$284.60
OVERNIGHT	100XLG	None					

Figure 5: The printout of a generated purchase order

REFERENCES

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