

STICKLEY OR IKEA? CONTRASTING ERP ACADEMIC ALLIANCE PHILOSOPHIES

J. Christopher Zimmer Ph.D.¹

Assistant Professor

Department of Computer Information & Decision Management

2403 Russel Long Blvd

West Texas A&M University

Canyon, TX, 79016

806.651.4004

czimmer@wtamu.edu

Dr. Neil Terry, Dean

ERP track

Denise Philpot Ph.D.

Clinical Assistant Professor

Advanced Data Analytics

Toulouse Graduate School

University of North Texas

1155 Union Circle #305459

Denton, TX, 76203-5459

214.460.9627

Denise.philpot@unt.edu

Dr. Victor Prybutok, Dean

ERP Track

¹ Corresponding Author

ABSTRACT

SAP and Microsoft both offer academic alliances to support professors in teaching their ERP offerings. However, each company subscribes to very different philosophies and strategies in administering their respective alliances. This paper discusses those differences and what that means for faculty tasked with teaching ERP courses or courses that have an ERP component.

Delivering the software to students is quite simple with the SAP alliance. It is more challenging to deliver Microsoft Dynamics to students, but that is slowly changing. Curriculum for SAP is extensive and comprehensive. Curriculum for Dynamics is largely developed by the professor teaching the course, though Microsoft now offers access to their training portal which offers some slight help to professors in terms of Dynamics curriculum.

INTRODUCTION

When teaching technical classes, there is no substitute for hands on learning (Rienzo & Han, 2011). One learns to program by writing code. One learns a complex system by using complex systems. While we need to be vigilant about courses devolving into mere training sessions, learning by doing has its place in technical courses, and it is no different in an ERP course. This paper discusses the differences between two ERP vendors' academic alliances. It will also address the biggest issue professors struggle with one of these alliances.

If ERP academic alliances were furniture companies, SAP would be Stickley and Microsoft would be Ikea. SAP has built a global academic alliance consisting of over 3,000 colleges and universities in over 100 different countries. Everything about the SAP academic alliance has been designed to make everything easy. In North America, SAP is hosted in three locations. Member schools are assigned to a hosting location. Faculty request various SAP clients to meet their course objectives. Being a member of the alliance affords professors access to hundreds of predesigned SAP curriculum that can be used in their classes. It is a fully functioning and well-established ecosystem. Much like a fine piece of Stickley furniture, the SAP alliance is designed to make things as straightforward for faculty as it can possibly be. Also, like a piece of Stickley furniture, membership in the SAP alliance is not inexpensive, and costs \$8,000 per year.

Microsoft also offers an academic alliance for its Dynamics family product line. This alliance boasts over 1,300-member schools worldwide. Membership schools are on their own to get Dynamics set up for their students and this presents quite a challenge for faculty. On top of figuring out how to acquire hosting for Dynamics, faculty are also on their own to develop curriculum for their classes as well. Recently, Microsoft opened its Dynamics Learning Portal (DLP) up to students, however Microsoft explicitly states that "Currently, DLP does not offer any workshops or events targeting students." Much like a piece of Ikea furniture, the Microsoft alliance is an exercise in doing it yourself. Also, like Ikea and in sharp contrast to the SAP alliance, the cost to

be a member of the Microsoft Dynamics Academic Alliance is quite attractive—it is free. The only requirement is an annual survey which takes about 5 minutes to complete.

SAP & MICROSOFT ERP OFFERINGS

SAP is synonymous with ERP. For over 40 years, SAP has been focused on being an ERP provider. SAP has always focused on large-scale organizations. Due to the complexity and expense of these systems, only large organizations with deep financial resources could afford ERP systems. SAP has been serving these types of companies since the release of R/3 in the early 1990s, and is the undisputed market leader, with Panorama Consulting Solutions reporting that SAP commands 20% of the ERP marketplace (Panoramic Consulting Group, 2017).

Microsoft took a very different route to get into the ERP space. In 2001, Microsoft acquired Great Plains Software. This acquisition netted Microsoft Great Plains and Solomon IV for Windows. In 2002, Microsoft acquired Navision A/S. This acquisition netted Microsoft the ERPs Navision and Axapta. After these acquisitions, Microsoft had four different ERP products all aimed at different market tiers. Deciding to keep all four products, they were renamed as Microsoft Dynamics SL, GP, NAV, and AX. Microsoft is in the process of consolidating all of these offerings under the Dynamics 365 umbrella in order to highlight how well Dynamics integrates with its Office line of productivity software. Microsoft has become a serious player in the ERP space. Earlier in 2017, Dynamics overtook Oracle's NetSuite in market share and is now second to SAP with 16% share of the ERP marketplace (Panoramic Consulting Group, 2017).

Student access to SAP & Dynamics

Accessing the software couldn't be more different. SAP has three main hosting sites in North America where the database server and application server are maintained by a staff of fully trained experts. Member schools then install the client on campus (students are also allowed to install the SAP client on their own computers while enrolled). Faculty then contact their assigned hosting center and request the various clients and resources needed. The hosting center creates all the student accounts and the professor assigns students to these accounts. Faculty can then use hundreds of different SAP Alliance approved pieces of curriculum in their class, or the professor can make their own.

In contrast to that fully supported model, Microsoft makes the install files for NAV, GP, CRM, and others available for download. These are typically limited versions of the full software. For example, only 2 companies can be created, or there is a 90-day limit on the functionality of CRM. The alliance is very helpful in renewing limits, but it is another thing for faculty to handle. While making install files available is very generous, it means the system needs to be set up. Since faculty are not typically allowed carte blanche access to university network resources to configure the database server, applications server, and client server, this means the most common approach alliance members use to get Dynamics to their students is to create a stand-alone virtual machine

with Dynamics installed on it. Students then run that virtual machine on their own computers, or these virtual machines can be deployed to university lab computers. Since an ERP uses three-tier architecture, these virtual machines contain all three tiers on the same virtual machine.

The minimum requirements for some of the Dynamics products can be onerous. For example, for the Dynamics AX application server, Microsoft recommends the server have 8 GB (minimum) or 14GB (recommended) of RAM and 2 CPU cores (minimum) or 8 CPU cores (recommended). Recalling that the typical way to deliver AX is via virtual machine, that means the host computer has to have enough RAM and CPU cores to power both itself and the virtual machine. Not many students have the hardware that meets the minimum requirements to run a virtualized stand-alone install of Dynamics AX. The minimum requirements for Dynamics NAV are not as onerous as Dynamics AX, but for NAV to perform in an acceptable manner, the student should have hardware with at least 8GB of RAM and 4 CPU cores. Celeron, atom, and older AMD CPU chips don't have the power to run NAV at an acceptable level. It is even a challenge for an i3 CPU to run NAV in an acceptable manner in a virtualized environment.

Delivering Microsoft Dynamics to students

However, being a member of the Dynamics Academic Alliance does not have to be so stressful in terms of finding hosting. Most universities have the wherewithal to install and host Dynamics for themselves without incurring too much in the way of additional expense. This allows faculty to no longer worry about hosting, which frees them up to develop curriculum. The rest of the paper details how one medium sized university installed Dynamics NAV and set it up so online students can securely access the system. NAV was selected because it is on an annual update cycle from Microsoft, so there is little danger of support being terminated for that product.

NAV is an ERP system designed for midsized organizations. It offers functionality for manufacturing, distribution, retail, supply chain, human resources, multiple and international sites, business intelligence, and more. It is known for being highly customizable. Since the goal of providing hands on ERP access to students is not to train them to be experts in any one particular ERP system, but rather to teach generalized ERP concepts, NAV is an excellent solution. It offers enough complexity to showcase the power of an ERP, but is also easy enough for professors and university IT professionals, neither of whom have installed ERP systems in the past, to install and configure for student use.

It was decided that NAV was to be set up and configured in such a way that the limiting factor for the end user experience was not the student's particular piece of hardware. This means all three tiers—client, application, and database—are hosted on university hardware. The student then connects to the client and the limiting factor becomes the student's internet connection.

Working in conjunction with the university network administrators, three separate servers were configured. All three servers were set up with 32GB of RAM and 8 CPU cores to handle the load

placed upon it by an entire class of students. All servers were running Windows Server 2012R2. The NAV Windows client was installed on one server. The NAV server on the second server, and the SQL Server database was installed on the third server.

One of the drawbacks to SAP is all students share the same data. This means everyone can see everyone else's data. For example, when creating a new product, once one student completes that, any other student can copy it instead of going through the steps of creating the product on their own. With NAV, this can be prevented. Rather than all students sharing a common database, each student is given their own database on the database server. This also means that global settings can be configured at the database level as part of an assignment. Each student can configure those settings on their own database as opposed to just the first student to do the assignment. This allows students to do custom report creation and altering database tables as part of the learning experience. Accomplishing this is rather simple. Each student database is given a different port so while the database server has the same IP address, each student logs into it through a different port.

CONCLUSION

Each alliance has their own set of strengths and weaknesses. SAP is the full-service alliance where all the technical details and student curriculum is handled for the professor. However, this does not come cheap. A university that is going to use SAP across large portions of their curriculum can easily justify the cost relative to the number of students that will be using the system. A university that might use SAP in an Intro to MIS and an overview ERP course would have a harder time justifying the cost.

On the other hand, the Dynamics alliance is the self-service alliance, where the professor is thrust into the ERP wilderness with access to the installer ISO files, but the price to join the alliance brings a smile to many administrator's faces. It is ideal for universities that are only going to be using an ERP in a limited number of courses, and professors that want to embrace the challenge of developing their own curriculum to support the classes they are teaching.

Students can benefit from either alliance. They can learn valuable ERP concepts from SAP or Dynamics. That isn't the issue here. The issue is the two different philosophies each alliance uses to provide their particular ERP solution to member schools. Plenty of universities belong to both. The goal here is to highlight the differences between the two alliances, and to show that the biggest hurdle for one of them—hosting the ERP system—can be accomplished relatively easily using resources most universities either already have or can easily attain.

REFERENCES

Panorama Consulting Group (2017). Clash of the titans 2017: An independent comparison of SAP, Oracle, Microsoft Dynamics and Infor. Accessed October 20, 2017 from <https://www.panorama-consulting.com/wp-content/uploads/2017/10/White-Paper-Clash-of-the-Titans-2017.pdf>.

Rienzo, Thomas & Han, Bernard (2011). Does ERP hands-on experience help students learning business process concepts? **Decision Sciences Journal of Innovative Education** 9(2), 177-207.