



Technologies

There are many benefits to purchasing software as opposed to having it custom built, however, there are many drawbacks as well. From a project manager's perspective, what are some of these benefits and drawbacks? Remember to consider the project manager's role in system implementation and explain your comparisons as they relate to a project manager's responsibilities.

Edward Jackson

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Make the right decision

When choosing software, companies can either acquire software from a 3rd party vendor (external source) or create the software themselves (in-house development). There are advantages and disadvantages to both, and each pose problems when it comes to project management. For example, several advantages of developing software in-house would be: there are [perceived] savings; there is 100% control over the features; the business can build the software around corporate strategy (and not the other way around); the software can be developed to fit current systems; and finally, interfaces can be created for ease of use (Clydebuilt, 2012). The disadvantages of developing in-house are: sometimes creating software from scratch means building things that already exist (which can require a lot of [wasted] time); problems can arise in development that cause the development time to drag on forever; the software could be potentially error-prone, and may not be very scalable; cost of the software could easily escalate; and finally, the software team may not have the skills to deliver exactly what the company is looking for (Clydebuilt, 2012).

Both of these approaches present interesting issues for project managers. For instance, when developing in-house, project managers will need to clearly define variables in the project. If project variables are not properly defined, operational and technical problems can arise further into the project, or worse, during go-live. Because newly created software is prone to be buggy (meaning, issues will need to be fixed that pop up throughout the software life cycle), the project manager will have to account for debugging time in the project timeline (Business Bee, n.d.). Likewise, because the software is being created in-house, the project itself could take much longer to complete; the project manager will need to tightly manage timelines, and to include project constraints that may affect project deliverables and project scope.

When it comes to an off-the-shelf solution, project managers still have to deal with multiple project concerns. For example, even though the 3rd party software may be tried and tested, there could be many features or modules that would be unnecessary for the project at hand (Business Bee, n.d.). Consequently, these "extra" features could prove costly. Additionally, the software could have integration issues and require expensive support and maintenance costs. The project manager will be responsible for keeping the costs within budget, understanding how the software will integrate into current company systems, and managing timelines accordingly. In some cases, an off-the-shelf solution is a better choice—mainly because it does reduce implementation time, offers an immediate solution, and usually provides real-world, working examples of how the software works. Also, there is the added benefit of sales and technical support to help with issues as they arise, which could be highly important to a project's timeline. In contrast, in-house development will provide a project with the element of customization...but it will have to be properly managed by the project manager, or project scope and costs could be negatively impacted.



I believe the best strategy should be to hold a meeting discussing time, costs, and TCO of both software approaches; however, being a developer myself, I like engineering solutions for the company, and lean towards in-house development.

References

- Brown, C. V., Dehayes, D. W., Hoffer, J. A., Wainright, M. E., & Perkins, W. C. (2012). *Managing information technology* (7th edition). Upper Saddle River: Prentice Hall.
- Business Bee. (n.d.). The pros and cons of developing your own software versus outsourcing. Retrieved from <http://www.businessbee.com/resources/technology/software/the-pros-and-cons-of-developing-your-own-software-versus-outsourcing/>
- Clydebuilt. (2012/5). Developing in-house vs. off the shelf. Retrieved from <http://www.clydebuiltsolutions.com/wp-content/uploads/2012/05/Inhouse-VS-Off-the-Shelf-May.pdf>

Unit 4 11/29/2014 3:58 PM (Edward Jackson)
Journal
Entry



This week's journal entry highlights the methodologies for custom software development and for purchased software packages. In chapter 10, the methodologies such as the systems development life cycle (SDLC), prototyping, rapid application development (RAD), and agile development are discussed and real-world examples are given. In chapter 11, purchasing methodologies are covered—they include definition, construction, and implementation phases. The definition phase includes a proper feasibility analysis, along with gathering requirements and establishing business criteria; the construction phase includes system testing, making changes to existing systems (if necessary), and developing new processes; finally, the implementation phase encompasses installation, operations, and maintenance.

In the discussion board, the pros and cons of in-house development versus 3rd party software are researched and related to a project manager's responsibilities. The main focus of the discussion board is to learn more about software, and how companies can benefit from custom and off-the-shelf software packages.



Reference

Brown, C. V., Dehayes, D. W., Hoffer, J. A., Wainright, M. E., & Perkins, W. C. (2012). *Managing information technology* (7th edition). Upper Saddle River: Prentice Hall.

Edward Jackson

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RE: Unit 4 Discussion Question

Your assessment of why companies choose to develop software in-house are correct. Businesses want to be able to control all the variables, input and output, that go into the design of an application. It has also been in my experience that companies want to be able to add/modify the application easily later on as well. For example, I was developing a software process for "automating" a computer upgrading from XP to Windows 7. Many things were supposed to happen, such as running inventory on the XP machine, backing up data (2 separate ways), installing Windows 7, installing previous applications, and then restoring data (just to name a few). I developed several mini-applications to aid in this process. The interesting part was, as "extra" features were required, I would make the modifications in real-time, so that people upgrading their machines could benefit immediately. The company I worked for wanted complete control over the Windows setup, so that they could continue making updates to the process...even while it was in production.

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You made excellent points on the two aspects of acquiring software. You are right about why companies choose purchasing software over developing software in-house. I am an advocate of custom software, as I think companies never know exactly what they need, and it's always nice to be able to *update* or *modify* software to meet company requirements. The company I work for brought me in to specifically create custom solutions, scripts, and software packages; automation is my forte. So, I'm a little biased when it comes to choosing custom versus purchased software.

My Notes

The first section of the unit will provide an introduction to systems concepts in general, as well as some specific methods and techniques for developing and maintaining information systems.

The latter part of this unit examines how project management is now recognized as a critical organization capability, and why a project management course is now often found in IS management and business management curricula.



This unit may have served as a review for those of you who have worked in an organization during the time a new information system was being implemented. Some of you may be keenly aware of the business process and other organizational issues that need to be addressed. As graduate students, you may also have been previously exposed to systems thinking and organizational learning concepts from previous courses taken in the Masters of Science in Information Technology program.

It is important to understand the themes which dominate this unit. First, the unit introduces a systems view of an organization and some systems terminology (e.g., inputs, outputs, and components). The systems analysis principle of “logical before physical” is emphasized. This point may be a surprise to those of you who have developed new spreadsheets or databases in a more exploratory way, with little upfront analysis and design. The link between systems thinking and business process redesign is then briefly provided, along with some core principles and “classic” examples. Following this, the unit describes processes and techniques for delivering information systems. An overview of some common procedural-oriented and object-oriented techniques is provided, with an emphasis on some graphical tools commonly used for communicating system requirements between IS specialists and business users with project team roles. Understanding these processes and notations can be essential for ensuring that the right system is being built or purchased.

This unit also examines ways that organizations can acquire application systems. In this unit, you focus on two common approaches to developing customized applications: a traditional systems development life cycle approach (SDLC) and an evolutionary prototyping approach. Although the methodology descriptions assume that the software is being developed for in-house use, similar approaches are used by outside contractors and software houses. The key difference, of course, is that the roles played by internal users in an SDLC or prototyping process will need to be played to some extent by actual or potential customers of the firm in the software industry.

The unit material concludes with a disciplined approach for purchasing large packaged software and the advantages and potential pitfalls associated with purchased systems and leased versus customized applications (i.e., make-or-buy issues).

Purchasing packaged software has become a standard approach for acquiring new applications for not only smaller organizations, but also for mid-size and large organizations. Investing in enterprise system packages with integrated modules



became a major trend by the late 1990s, and the unit includes a section on implementing enterprise system packages (with ERP systems defined as the “first wave” of enterprise systems) at the end of the chapter.

Another major objective of this unit is to expose you to relevant concepts and “best practices” for managing IT projects. A major assumption of this unit is that good IT project managers have not only good general project management skills, but also special IT-related knowledge and skills, including familiarity with the methodologies described for custom-developed and purchased systems in the preceding chapters.

Many industry studies continue to point to less than optimal “success rates” for IT projects based on the traditional measures of on-time and within budget projects, and a quality deliverable that meets the agreed upon requirements. This chapter suggests that failures could be due to many factors: deficient project leaders, champions, or sponsors; poor project processes; or inadequate risk management or change management practices.

Many IT projects involve technologies new to the organization, as well as emerging technologies for which there may be minimal consultant or vendor expertise available for hire. Good management of these types of projects, therefore, requires a manager who is able to identify early and appropriately control the risks of a particular IT project with tactics that match the organization’s strategic objectives. This unit, therefore, provides a section on managing project risks.

Complex IT projects, such as enterprise system implementations, also often require the assignment of business unit employees to the project full-time, with perhaps multi-year commitments. For this type of IT project, it is, therefore, especially important to have project managers with well-honed team management skills as well as a good understanding of managing business change. Some generic models for managing change are, therefore, provided in this unit.

This unit also presents some guidelines for managing virtual project teams — including some topics that could be included in workshops to prepare IS professionals and managers to work on virtual teams with personnel from different cultures.

Materials relating to the support of IT users are also covered in this unit. Employers today expect all new graduates to already be proficient users of word processing, spreadsheet, and other types of personal productivity software. In pursuing a graduate-level degree, you are exposed to other analytical software for individual, departmental, or even corporate reporting and decision making, as well as some Web technologies. Understanding the opportunities and pitfalls associated with



these types of activities, in which the user may develop a new software application with little or no involvement by IS specialists, is more important than ever.

The purpose of this unit is, therefore, twofold: 1) to discuss user application development issues (i.e., how to manage application development activities by non-IS specialists), and 2) to present strategies and tactics for the management and support of user computing in general. Today's increased focus on technologies for "road warriors" and other telecommuters has also led to new support roles that go beyond so-called "desktop support" roles within the physical walls of an organization.

Outcomes

After completing this unit, you should be able to:

- Evaluate the best business practice to make-or-buy, and defend your choice.
- Assess ERP technologies for today's organizations.
- Evaluate the legal ramifications of open source technology.
- Assess SAP's strategic value to an organization.

Course outcome(s) practiced in this unit:

IT560-2: Analyze emerging technologies as solutions to real-world business problems.

IT560-4: Evaluate IT technologies to determine most efficient solution.

IT560-5: Apply decision-making skills and best practices.

What do you have to do in this unit?

- Complete the assigned Reading.
- Participate in the Discussion Board.
- Participate in Seminar or complete alternative assignment.
- Complete unit Assignment.
- Complete Journal.
- **Reading Summary or Overview**



- Read Chapters 10–11 in your textbook.
- The primary objective of Chapter 10 is to understand how to use a disciplined approach for purchasing large packaged software, and the advantages and potential pitfalls associated with purchased systems and leased versus customized applications (i.e., make-or-buy issues).
- The overall objective of Chapter 11 is to expose you to relevant concepts and “best practices” for managing IT projects. Project management is now recognized as a critical capability for not only IT projects, but business projects in general. A major assumption of this chapter is that good IT project managers have not only good general project management skills, but also specific IT-related knowledge and skills, including familiarity with the methodologies and techniques described for custom-developed and purchased systems in the earlier chapters in Part II of this textbook.

Information Systems: Collection of information technology, procedures, and people responsible for the capture, movement, management, and distribution of data and information.

System Boundary: Delineates what is inside and what is outside a system.

Systems Analysis and Design: A major process and set of procedures used in developing a new information system.

Systems Development Life Cycle (SDLC): Traditional life cycle process for developing customized applications.

Prototyping: An evolutionary development process mainly used with smaller types of information system development projects.

Open Source Software: Goes beyond freeware, which can be downloaded from various sites. With open source, you obtain the source code and the right to modify it.

Project: A temporary endeavor undertaken to create a unique product or service.

Project Management: Is the application of knowledge, skills, tools, and techniques to a broad range of activities.

IT Portfolio Management: A committee of senior business leaders and IT leaders who approve and prioritize IT project requests for an entire organization.

Project Sponsor: Typically a business manager who “owns” the project (i.e., the person who “writes the check” for the project).

Project Champion: A business manager, usually with high credibility among the business users most affected by the new solution or system, who will prepare workers for the process of change the new system will require.

Change Management: The ability to successfully introduce change to individuals and organizational units.



Seminar

Attending live Seminars is important to your academic success, and attendance is highly recommended. The Seminar allows you to review the important concepts presented in each unit, discuss work issues in your lives that pertain to these concepts, ask your instructor questions, and allows you to come together in real time with your fellow classmates. There will be a graded Seminar in Units 1 through 5 in this course. You must either attend the live Seminar or you must complete the Seminar alternative assignment in order to earn points for this part of the class.

Option 1: Information Resource Planning

This Seminar will describe and discuss the five basic steps in information resource planning, and some ways that business managers might participate in each step.

Option 2: Alternative Assignment:

Option A:

Watch the Seminar. Write a 2 page summary explaining the topics discussed.

Option B:

You will benefit most from attending the graded Seminar as an active participant. However, if you are unable to attend you have the opportunity to make up the points by completing the alternative assignment.

Write a 2-page paper describing and discussing the five basic steps in information resource planning, and some ways that business managers might participate in each step.

Your paper should be in APA format and cite all references used. Submit to the Seminar Dropbox.

FLA Requirements	points possible completion	Points earned student
1. Correctly identifies and describes two concepts discussed in the Seminar archive.	0-10	



2. Writing is professional, appropriate for business communications, and free of grammatical, spelling, and word-usage errors.	0-5
3. A minimum of two credible sources are cited and referenced per APA guidelines.	0-5
Total (Sum of all points)	0-20
Less points deducted for spelling, grammar, and APA errors.	
Total points	

Unit 4 Assignment

Outcomes addressed in this activity:

- Evaluate the best business practice to make-or-buy, and defend your choice.
- Assess ERP technologies for today's organizations.
- Evaluate the legal ramifications of open source technology.
- Assess SAP's strategic value to an organization.

Course outcome

IT560-4: Evaluate IT technologies to determine most efficient solution.

Instructions

After reading your recommendations regarding the new system implementation for TBWI, the CEO determines that at this point an off the shelf system would be the more appropriate choice for the company. Begin by researching several (at least 2) available off the shelf systems based on your project for Unit 3 (in other words, if you discussed customer relationship management systems in Unit 3, research customer relationship management systems for this paper). Give a basic comparison of the systems you reviewed and recommend the one you feel is best suited for TBWI. Explain how this system will meet the needs of TBWI and explain in detail how the project manager will facilitate each step of the implementation process. Remember to explain based on the implementation process you recommended in Unit 3.

Your response should be at least 1200 words, written in proper APA format using 1 inch margins, Times New Roman 12 point font, double spaced, a title page, headers, headings (where appropriate), in-text citations and a reference page. Please make sure



that you include a minimum of three references, at least one of which is a primary source.

Student identifies their Unit 3 project and at least two off the shelf software packages
Student identifies off the shelf product
Student identifies off the shelf product 2

Student compares the two software programs and gives a recommendation
Student explains why first recommendation is appropriate for TBWI

Student explains why second recommendation is appropriate for TBWI

Student recommends product 4

Student gives an in depth explanation of why the particular software was recommended
*This should include the purchasing steps as identified in Chapter 10

Student thoroughly explains the implementation process as it relates to TBWI and their recommended software
*This should consider the management steps discussed in Chapter 11