

عنوان البحث

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الفرقة / المستوي	: الأولى
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Abstract

Software is essential for any business application system. Although most software used to be written in-house by a company's own systems analysts and programmers, this approach is certainly not the case today. In today's software industry, you can purchase software for just about any business situation you could imagine. Yet, every business has something special, and no existing software can fit a given firm and its needs completely. So, how could you find the software for the purpose you want?

Introduction

There are many sources of software available. As our life now is moving faster the focus is on how to get things done faster. In-house development is no longer our priority. Instead, the focus will be on where to obtain the many pieces and components that you will combine into the application system you have been asked to create. The main goal of this research is to introduce you to the various sources of software for organizations including Outsourcing, in which all or part of an organization's information systems, their development, and their maintenance are given over to another organization, information technology services firms, packaged software providers, vendors of enterprise solutions software, cloud computing, open-source software, and the organization itself when it develops software in-house. You will also learn how you can evaluate the software from these different sources before purchasing.

Sources of Software











We can group organizations that produce software into six major categories:

1. Information technology services firms.
2. Packaged software providers.
3. Vendors of enterprise solutions software.
4. Cloud computing.
5. Open source software.
6. In-house development.

Information Technology Services Firms:

If a company wants an information system but doesn't have the expertise and can't find an off the shelf system, the company will likely consult an information technology (IT) services firm. They will help companies develop custom information systems for internal use. They develop, host and run applications for customers, or they provide other services. Table (1) shows a list of the top ten software companies. These companies employ people with experience in the development of information systems.

Table (1) The top 10 companies in terms of market capitalization in the 2019 Forbes list for the "Software & Programming" industry.

Rank ↕	Organization ↕	Sales (B\$) ↕	FY ↕	Market cap (B\$) ↕	Headquarters ↕
1	 Microsoft	118.2	2019	946.5	Redmond, WA, US
2	 Oracle	39.6	2019	186.3	Redwood City, CA, US
3	 SAP	29.1	2019	134.9	Walldorf, Germany
4	 Adobe Inc.	9.5	2019	132	San Jose, CA, US
5	 Salesforce	13.3	2019	120.9	San Francisco, CA, US
6	 VMware	9.0	2019	77.2	Palo Alto, CA, US
7	 Intuit	6.4	2019	66.8	Palo Alto, CA, US
8	 ServiceNow	2.6	2019	42.9	Santa Clara, CA, US
9	 Workday	2.8	2019	41.7	Pleasanton, CA, US
10	 Dassault Systèmes	4.1	2019	39.2	Vélizy-Villacoublay, France

Packaged Software Producers:

The progress of the software industry has been great since its beginnings in the mid-1960s. Now, some of the largest computer companies in the world, as measured by software magazine, are companies that produce software. Software companies develop something called prepackaged or off-the-shelf systems. Popular examples of such software are Microsoft's Project and Intuit's Quicken, Quick Pay, and QuickBooks. The packaged software development industry serves numerous market segments. Software companies develop software to run on different platforms, from microcomputers to large ones. Software companies communicate with system users after the trial software design has been completed and after an early version of the system has been built. The systems are then tested in actual organizations to discover any problems or determine any features that can be made. Until testing is finished, the system is not available for sale. A reasonable estimate is that off the-shelf software can at best meet 70% of an organization's needs. Thus, even in the best case, 30% of the software systems used don't ideally meet the organization's requirements.

Enterprise Solutions Software:

As mentioned earlier, more and more organizations are choosing complete software solutions, called enterprise solutions or enterprise resource planning (ERP) systems, to support their operations and business processes. These ERP software solutions consist of a series of integrated modules. Each module supports an individual traditional business function, such as accounting distribution, manufacturing, and human resources. The difference between the modules and traditional approaches is that the modules are integrated to focus on business processes rather than on business functional areas. For example, a series of modules will support the entire order entry process, from receiving an order to adjusting inventory to shipping to billing to after-the-sale service. Using ERP systems, a firm can integrate all parts of a business process in a unified information

system. All aspects of a single transaction occur seamlessly within a single information system, rather than in a series of disjointed, separate systems focused on business functional areas. The benefits of the enterprise solutions approach include a single repository of data for all aspects of a business process and the flexibility of the modules. A single repository ensures more consistent and accurate data as well as less maintenance. The modules are flexible because additional modules can be added as needed once the basic system is in place. Added modules are immediately integrated into the existing system

Enterprise solutions software also involves some disadvantages. The systems are complex, so implementation can take a long time to complete. Organizations typically do not have the necessary expertise in-house to implement the systems, so they must rely on consultants or employees of the software vendor, which can be expensive. In some cases, organizations must change how they do business in order to benefit from a shift toward enterprise solutions.

Cloud Computing:

Another method for organizations to obtain applications is to rent them or license them from third-party providers who run the applications at remote sites. Users have access to the applications through the Internet or through virtual private networks (VPNs). The application provider buys, installs, maintains, and upgrades the applications. Users pay on a per-use basis or they license the software, typically month to month. Although this practice has been known by many different names over the years, today it is called cloud computing. Cloud computing refers to the provision of applications over the Internet, where customers do not have to invest in the hardware and software resources needed to run and maintain the applications. A well-known example of cloud computing is Google Apps, which provides common personal productivity tools online, while the software runs on Google's servers. Cloud computing includes many areas of technology,

including software as a service (often referred to as SaaS), which includes Google Apps and Salesforce.com, and hardware as a service, which allows companies to order server capacity and storage on demand. The companies that are most likely to profit immediately are those that can quickly adjust their product lines to meet the needs of cloud computing. These include such well-known names as IBM, which has built several cloud computing centers worldwide: Microsoft, which in 2008 announced its Azure platform to support the development and operation of business applications and consumer services on its own servers and Amazon.com, which provides storage and capacity from its own servers to customers.

As these growth forecasts indicate, taking the cloud computing route has its advantages. The top three reasons for choosing to go with cloud computing, all of which result in benefits for the company, are:

1. Freeing internal IT staff.
2. Gaining access to applications faster than via internal development.
3. Achieving lower-cost access to corporate quality applications. Especially appealing is the ability to gain access to large and complex systems without having to go through the expensive and time-consuming process of implementing the systems themselves in-house.

Getting your computing through a cloud also makes it easier to walk away from an unsatisfactory systems solution. IT managers do have some concerns, however. The primary concern is reliability, but other concerns include security and compliance with government regulations such as Sarbanes-Oxley.

Open Source Software:

Open-Source software is different from the other sources mentioned earlier because it is freely available not just the final product, but the source code itself. It is also different because it is developed by a community of interest people instead of by employees of a particular company. Open- source software performs the same functions as commercial

software, such as operating systems, email, database systems. Web browsers, and so on. Some of the most well-known and popular open source software names are Linux (the operating system), MySQL (a database system), and Firefox (a Web browser). Open source is developed and maintained by communities of people. Without question, the open-source movement would not be having the success it enjoys without the availability of the Internet for providing access and organizing development activities. If the software is free, you might wonder how anybody makes any money by developing open-source software. Companies and individuals can make money with open source by providing:

1. Maintenance and other services.
2. One version of the software for free and selling a more fully featured version.

Some open-source solutions have more of an impact on the software industry than others. Firefox, for example, has been very successful in the Web browser market, where it is estimated to have 24 percent of the market share. Other open source software products, such as MySQL, have also been successful, and open source's share of the software industry seems destined to continue growing.

In-House Development:

We have talked about several different types of external organizations that serve as sources of software, but in-house development remains an option. Of course, in-house development does not require development of all the software that will compose the whole system. Hybrid solutions involving some purchased and some in-house software components are common.

Evaluating the software

There are many criteria that you should consider, and special ones may arise with each potential software purchase.

1. Cost
2. Functionality
3. Vendor support.
4. Viability of vendor
5. Flexibility
6. Documentation
7. Response time
8. Ease of installation

Cost involves comparing the cost of developing the same system in-house to the cost of purchasing or licensing the software package. Be sure to include a comparison of the cost of purchasing vendor upgrades or annual license fees with the costs you would.

Functionality refers to the tasks the software can perform mandatory, essential, and desired system features. Can the software package perform all, or just some of the tasks your users need? If some, can it perform the necessary core tasks?

vendor support refers to whether the vendor can provide support, and how much.

Support includes assistance to install the software, to train user and systems staff on the software, and to provide help as problems arise after installation.

vendor's viability is latter point that should not be minimized. The software industry is quite dynamic, and innovative application software is created by entrepreneurs working from home. Such organizations, even with outstanding software, often do not have the resources or business management ability to stay in business long. Additionally, competitive moves by big software companies can make the products of smaller firms outdated or incompatible with OS.

Flexibility means how easy it is for you, or the vendor, to customize the software. If the software is not sufficiently flexible, your users may have to adapt the way they work to

fit the software. Are they likely to adapt in this manner? Purchased software can be modified in several ways. Sometimes, the vendor will make custom changes for you if you can afford paying for the redesign and programming. Some vendors design the software for customization. For example, the software may include several different ways of processing data and, at installation time, the customer chooses which to initiate.

Documentation includes the user's manual as well as technical documentation. How understandable and up to date is the documentation? What is the cost for multiple copies, if required?

Response time refers to how long the software package takes to respond to the user's requests in an interactive session. Another calculation of time is how long it takes the software to complete running a task.

Ease of installation is a measure of the difficulty of loading the software and operate.

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