UNIVERSITY OF MARYLAND
University College

Learning Resource

Build, Buy, or Outsource

When an organization has determined that an IT solution is needed, there are a few questions it should answer:

- Is there a system we currently use that could be modified to address the requirements we have identified? For example, if a new capability is needed, but it is closely related to a current system's function, then modifying that system would likely be the appropriate approach.
- If modifying a current system seems appropriate, does the system we are using really need to be upgraded (to a new operating system, etc.) or does it use old technology and need to be replaced as we add the new functionality?
- If there is no existing system or if a major upgrade is required, should we build a new system or acquire one that is already built?

Build or Buy

The decision to build or buy a system has been hotly discussed for many years. Now there are many options available for building, buying, or a combination of the two.

This is a complex decision, and using a structured approach can help relieve the uncertainty and risk involved. According to Leeden (n.d.) and others, the organization must consider the following:

- The mission and core competencies of the organization.
- Whether the process under consideration itself provides a competitive advantage, or whether it is a standard business process or generally used by the industry. For example, an organization would probably never consider developing its own word processing software. To take that a step further, most organizations would not want to expend the resources needed to develop their own accounting system, especially if accounting is not their core competency.
- The technology currently in use at the organization.

- The organization's IT strategy and direction for the future. Is the organization planning to rely more on outsourced IT solutions or does it prefer to rely on in-house development and maintenance capabilities?
- How much of the system (software, hardware, network, etc.) could or should be outsourced?
- The availability and capabilities of off-the-shelf software and services.
- The total cost of ownership—considering all the costs associated with building, implementing, and maintaining the system over time.

Benefits and Risks of Building a System or Application

If an organization determines that it will build an application or an entire system, it can either do it with in-house resources or it can outsource any or all of the components of the system: design, development, implementation, operation, and maintenance—to include hardware, software and/or communications.

Benefits of in-house development include:

- The flexibility of designing it to do exactly what is required
- The ability to make changes as and when they are needed
- The ability to ensure interoperability with other applications or databases in use
- The ability to ensure compliance with the organization's enterprise IT architecture

Risks associated with in-house development include:

- The time it takes to design, develop, and test an application or system may far exceed the time when it is needed.
- The costs of designing, developing, implementing, testing, and maintaining the system may significantly exceed the costs of buying the system.
- Because of the investment of time and cost, the organization incurs a long-term commitment to an application or system.
- As technology changes, the organization has to bear all the costs of upgrading hardware, software and communications.

Benefits and Risks of Buying a System or Application

Acquiring a pre-built Commercial Off-the-Shelf (COTS) solution for an application or an entire system can provide several benefits and risks to an organization.

Benefits of acquiring a COTS solution include:

- The system is already built and can be tested to see if it functions as needed.
- The system should have security built into it during its development; this is an area to be explored during the evaluation and selection process.
- It is ready to implement immediately. How quickly the system will be usable is determined by the extent of any configuration or customization required.
- The total cost of ownership (TCO) of the system is shared with other customers, so it could be significantly less than the cost of building and maintaining a system in-house.

Risks associated with acquiring a COTS solution include:

- The system may require changes to the business process that are unacceptable to the users.
- Some requirements may not be met, in which case a determination must be made as to whether or not the system will be implemented and what can/will be done to accommodate the unmet requirements.
- There may be an excessive number of capabilities in the system that are not needed by the organization, but which add to the cost and complexity of the system.
- The vendor may go out of business, requiring the organization to find another solution in a short timeframe.

Each time an organization determines that a technology solution is needed to improve productivity, efficiency, or their strategic advantage, a build or buy decision is made. Unless the organization has previously determined that it will use only one approach (build or buy), a structured approach to making the decision will need to be undertaken and can yield significant benefits.

Outsourcing IT

Outsourcing of IT refers to the use of external service providers to deliver IT services. There is a wide spectrum of services available, from outsourcing the entire IT function to simply acquiring a system built by a vendor. The most commonly outsourced IT functions are:

- **Software development**—to include design, programming, testing and installation
- **System operation and maintenance**—the hardware, system software, and network used by the organization

- **System support**—such functions as operating the in-house network or providing help desk functions
- Combinations of any or all of the above

Outsourcing some or all of the IT functions brings similar benefits and risks as identified above for buying a system.

The major considerations whether to outsource and which IT functions to outsource include:

- The organization's IT strategy and direction;
- The capabilities and availability of the organization's IT staff;
- The capability and availability of vendors;
- The ability for a vendor to meet the organization's requirements, especially if they are very unique;
- The extent to which the organization would be "locked in" to the vendor or has the ability to move the system in-house or to another vendor if necessary; and
- The total cost of ownership (TCO) of the alternatives for the IT functions under consideration.

Benefits of outsourcing various IT functions include:

- Organization's focus on its core competencies;
- Access to state-of-the-art technology;
- Access to highly skilled IT specialists;
- Cost savings;
- Improved security—vendor has the ability to employ high levels of security, sharing the costs among all its customers;
- Flexibility—vendor staff may have a wider range of ability than internal staff; vendor staff can be employed for a specific task and do not need to be retained afterward;
- Competitiveness with larger, more sophisticated competitors (Landefeld, 2017); and
- Freedom of internal IT staff to focus on key internal functions.

Risks of outsourcing IT functions include:

- The cost of switching vendors may be high;
- Loss of control over priorities and timing of fixes and enhancements;
- Organizational data may be under vendor control;

- Vendor may go out of business causing the organization to make rapid, unexpected accommodations;
- Morale problems among internal IT employees; and
- Difficulty extracting organizational data from a vendor's system at the end of the contract period.

You will note that some of the benefits also present risks, such as data security. The vendor may be able to provide a higher level of system security, but the organization's data is stored on the vendor's system.

To determine whether any or all IT functions should be outsourced, the organization must consider its objectives, and evaluate the benefits and risks using a structured approach. Whether it outsources functions or not, the organization is ultimately responsible for the products and services it provides to its customers.

References

Landefeld, C. (2017, July 12). Outsourcing IT vs. in-house IT: The pros and cons of each. Retrieved from https://www.godaddy.com/garage/outsourcing-it-vs-in-house-it-the-pros-and-cons-of-each/

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