



Republic of the Philippines  
**SORSOGON STATE UNIVERSITY**  
Bulan Campus  
Bulan, Sorsogon

IT312: Systems Integration and Architecture 1  
BSIT III-3A

### **Module 6**

## **SIA. Acquisition and Sourcing**

### **Introduction**

The purpose of acquisition and sourcing is to analyze the appropriateness of a decision to buy or build a software package or a hardware component in terms of in-source or out-source IT services in a given situation. Furthermore, evaluate a given set of criteria, test, and benchmark an IT system or a component.

Topic:

- Build and buy
- In-sourcing and outsourcing
- System architecture: hardware, software and virtual testing, evaluation and benchmarking
- Contracts and Request for Proposal (RFPs)

### **Learning Objectives**

*Upon completion of this lesson, the students will be able to:*

1. Explain the e-Government Procurement systems.
2. Differentiate between build and buy in software and hardware acquisition.
3. Explain the advantages and drawbacks of building and buying in general.
4. Explain the advantages and drawbacks of in-sourcing and out-sourcing in general.
5. Explain the importance of testing, evaluation and benchmarking in any IT sourcing decision.
6. Explain the primary components in an RFP.
7. Explain the advantages and drawbacks of using RFPs in an IT sourcing decision.
8. Explain the elements in a well-structured contract.
9. Explain the importance of a well-structured contract in any IT sourcing decision.

## Procurement vs Sourcing

### What is procurement?

**Procurement.** Refers to the acquisition of goods, consulting services, and the contracting for infrastructure projects by the procuring entity. In case of projects involving mixed procurements, the nature of the procurement, i.e., goods, infrastructure projects, or consulting services, shall be determined based on the primary purpose of the contract. Procurement shall also include the lease of goods and real estate. With respect to real property, its procurement shall be governed by the provisions of R.A. 8974 and other applicable laws, rules and regulations.

**Procurement** is an end-to-end process that covers everything from planning purchases to negotiating pricing, making the purchases, to handling inventory control and storage.

**Procurement** is the process of placing purchase orders with each of the suppliers, getting order confirmation, following up with suppliers until materials are delivered, and then ensuring the materials are paid for.

**Procurement** starts overall supply chain because once the materials you need for manufacturing are in place, you can begin making the products you sell to others.

### What is Sourcing?

**Sourcing** is the stage that comes before any purchases are made and can be considered a subsection of the procurement department. Before you can procure materials from your suppliers, you must first find and vet those suppliers. When you have an effective strategic sourcing process in place, you'll find reliable, affordable, and quality suppliers to supply the goods you need. Good work here makes the procurement process more streamlined and efficient.

**Sourcing** is about finding the balance between the quality of raw materials and the affordability. The less you can spend on materials, the more profit your business can earn. But, if you are too cheap and buy shoddy materials, your resulting product is of lesser quality.

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*"Procurement is the process of getting the materials you need. Sourcing is finding and vetting the suppliers of those materials."*

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### What is Acquisition?

**Acquisition** covers the conceptualization, initiation, design, development, testing, contracting, production, deployment, logistics support, modification, and disposal of weapons and other systems, as well as supplies or services (including construction) to satisfy organizational needs intended for use in, or in support of.

**Acquisition** covers a much broader range of topics than procurement. **Acquisition** spans the whole life cycle of acquired systems.

The procurement unit manages the vendor selection process on the basis of requirements defined by the purchase requisition form.

*Methods for vendor selection include:*

- sole or single sourcing
- request for quotations
- sealed bidding process.

## **Sole or single sourcing**

**Sole or single sourcing** may be justifiable to speed up the procurement process. Sole or single sourcing must be clearly justified and documented for audit purposes.

### ***Definitions of sole and single sourcing***

**Sole source:** Sole sourcing exists when only *one* source is available (like a local water company in many cities and towns) or when only one source makes an item that the organization wants to buy.

**Single source:** Single sourcing exists when a buying organization actively selects one supplier although more than one is available.

### **Request for quotations or sealed bids**

- The requirement for quotes or sealed bids will be determined by the bidding Procurement Policy.
- The procurement unit should prepare and issue a request for quotation (RFQ) for the goods and services required.
- The procurement unit should coordinate the analysis of bids and selection of vendors.
- Processes for the review of bids (for example bid committees) should be streamlined for the period of the emergency.

### ***Vendor screening***

When selected as the preferred supplier, vendors must be screened before confirms an order or contract with them. Vendors should be pre-selected and screened during the process.

## Philippines Procurement (PhilGEPS)

Refer to REVISED IMPLEMENTING RULES AND REGULATIONS OF REPUBLIC ACT NO. 9184, OTHERWISE KNOWN AS THE GOVERNMENT PROCUREMENT REFORM ACT

### PROCUREMENT BY ELECTRONIC MEANS

Section 8. Procurement by Electronic Means and the Philippine Government Electronic Procurement System (PhilGEPS)

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*8.1. **The PhilGEPS.** To promote transparency and efficiency, information and communications technology shall be utilized in the conduct of procurement procedures. Accordingly, there shall be a single portal that shall serve as the primary source of information on all government procurement.*

***The PhilGEPS** shall serve as the primary and definitive source of information on government procurement. For this purpose, the Electronic Procurement System (EPS) established in accordance with Executive Order No. 322, series of 2000, and Executive Order No. 40, series of 2001 (E.O. 40), shall continue to be managed by the PS-DBM under the supervision of the GPPB, as the PhilGEPS, in accordance with this IRR.*

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## Build vs Buy Approach

To **build** or **buy** software, is a question that any growing or evolving business cannot escape when it comes to upgrading their IT infrastructure; particularly as employees are creating and consuming more and more content by the day.

To make that decision, you need to fully understand what “to **build** or to **buy**” means in order to weigh up the advantages (and disadvantages) of a build vs buy software analysis.

### Build vs Buy Framework

1. **The Problem.** The first thing to consider is the problem you are attempting to solve.

*Is this a common occurrence in your industry? Is it being adequately addressed to meet your unique needs?*

2. **The Budget.** The next concern is budget. Most companies do not have a big budget for building enterprise-level software. This is why it can often be easier to justify a monthly recurring payment or even an annual expense for a third party product.

*Do you have the necessary funds to see this project through to completion? Even if it goes over budget?*

3. **The Timeline.** The next consideration is the time horizon. Is your problem a threat to the very livelihood of your company or just a nagging annoyance that could be improved? You must consider whether or not the problem will compromise the health of the business.

*If this problem is not solved soon will it adversely impact the health of your business?*

### Risks of Building Custom Software Internally

1. **Lack of Focus.** Companies that build out of their circle of competence risk building inferior products compared to companies dedicated to solving the problem.
2. **Accumulation of Technical Debt.** Long term costs associated with building and maintaining software internally can lead to expensive issues down the road.
3. **Negative Economies of Scale.** Depending on your company size will this project contribute enough to the bottom line to justify the costs of operations?
4. **Opportunity Cost.** The resources otherwise spent on solving core business problems could outweigh efforts to build this solution and be more impactful to the bottom line.

### Risk of Buying

1. **Forfeiture of Data.** If data oversight and business intelligence are important competitive advantages an external purchase might disrupt this analysis.

The important than ever to ask:

- a) how will this third party use your proprietary data?
- b) Does this mean you lose access and oversight to important customer data and other business insights?

2. **Security Risks.** Blind faith in the security practices of a third-party software developer can result in data breaches and subsequent backlash.

The important than ever to ask:

- a) Can this third party be trusted?
- b) Are they using cybersecurity best practices?

3. **Not a Thorough Solution.** A tool built for the general market might not be enough to solve every unique edge case.

Another risk of buying software from an external supplier is whether or not their solution adequately solves your company's problem. Some companies may be open to customer feedback about future features but if your problem is limited to your niche, it's unlikely the company will see your problem as a worthy addition.

4. **Exposure to Partner's Market Risk.** Companies face a number of external threats to their well-being. If the company goes out of business or sunsets the product, what happens then?

## Build or Buy... or Both?

There is an alternative to the build or buy dilemma, although very subjective: do both.

The decision to build or buy must be viewed through the lens of systems thinking. Consider the pros and cons:

## Reasons to Build

1. **Fully Customized.** Build to your exact specifications and directly address your company's issue. If your business has unique edge case uses you can build to solve those problems.
2. **Data and Security.** You continue to have complete control over the data your company collects and limit security threats from any lack of third-party security measures.

## Reasons Not to Build

1. **Lack of Focus.** A third-party is dedicated to solving this problem and therefore more likely to achieve quality. If this build is not a priority it might lack in sufficient quality.
2. **Opportunity Cost.** If this project interferes with more meaningful work, ask yourself if this problem is worth delaying important business goals.

## Reasons to Buy

1. **Narrow Time Horizon.** Use a product that already exists if the problem is question is life-threatening to the business.
2. **Economies of Scale.** Companies typically receive a price advantage for buying resources in large quantities which is why it could cost less in the long-term to use an external product.

## Reasons Not to Buy

1. **Exposure to Partner's Risk.** Using software from an external company exposes you to the market risk of their success. If the company goes out of business, what happens to the product?
2. **Inadequate Solution.** If the external product does not adequately solve the problem faced by your business, it might be necessary to build internally.

## Build, Buy, or Both

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*In some cases, the right path is a combination of both. Buy in the short term to relieve the pain point while building a thorough and customized product for the long term.*

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## Build or Buy Software Approach: A Cloud-Based SaaS Solutions

SaaS companies can offer businesses the best of both onsite and cloud worlds by integrating a company's adapted systems - with all its unique brand benefits and features, and boosting them with the power of the cloud.

1. **Easy access:** As a cloud -based solution that works online and offline, allows employees to easily create on-brand work wherever they need to, whether it's in the office, commuting or working remotely. This means no VPNs, no need to download applications to your computer and no physical hardware. Employees can access document templates from anywhere at any time.
2. **Security:** Hosted on different cloud hosting companies like Microsoft's Azure cloud service, Google cloud service, Amazon cloud service and many more. Regularly and rigorously tested to ensure best-in-class data application security and compliance.
3. **Employees work accessibility:** provides direct access to business document and applications.
4. **Instant updates:** easily updated.

## In-sourcing and outsourcing

### What is Insourcing?

**Insourcing** is a business practice performed within the operational infrastructure of the organization.

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*Insourcing (In house) is a technique of hiring staff on behalf of the company and rendering tasks or functions to work internally instead of providing the work to the outside of the company.*

*In simple it can be defined as, bringing a foreign employee into an organization at lower wages to see their work done.*

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**Insourcing** assigns a project to a person or department within the company instead of hiring an outside person or company. It utilizes developed resources within the organization to perform tasks or to achieve a goal. For example, an organization might insource technical support for a new product because the company already has existing technical support for another product within the organization.

Further, **insourcing** generally places new operations and processes on-site within the organization. For that reason, insourcing can be more expensive for a company because it often involves the implementation of new processes to start a different division within the organization.

### **What is Outsourcing?**

**Outsourcing** is the process of hiring an outside organization that is not affiliated with the company to complete specific tasks.

**Outsourcing** uses the developed workforce of an outside organization to perform tasks and also the resources of an outside organization for services and manufacturing products. Saving money on costs is typically the motivation for outsourcing work to another company. Industries such as telecommunications, travel, transport, media, and retail often rely on outsourcing to complete important projects or tasks.

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*Companies can use outsourcing to better focus on the core aspects of the business. That is, outsourcing non-core activities can improve efficiency and productivity. At the same time, outsourcing can affect jobs ranging from customer support to manufacturing, as well as technology and the back office.*

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*The organization's control over operations and decisions will differ when using outsourcing and insourcing. Organizations that use outsourcing for a particular service or manufacturing process have minimal managerial control over the methods of the outside organization that was hired for the project. For instance, an organization that is known for friendly customer service does not have the ability to enforce or manage how an outside support center interacts with customers.*

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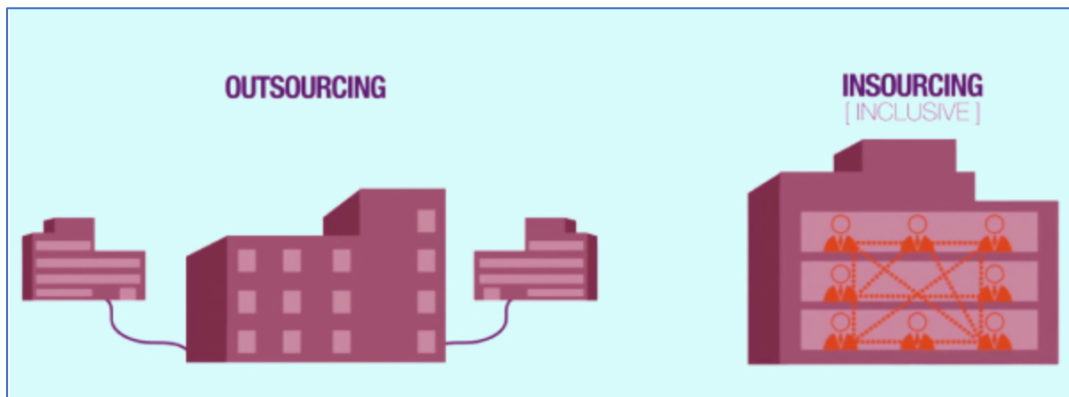
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*The main difference between outsourcing and insourcing is the methods in which work, projects, or tasks are divided between various companies and departments for strategic purposes.*

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## What are the Major Differences Between Insourcing and Outsourcing?

There are some traits like resource management, time management and control over a project which depict the pros and cons of insourcing vs outsourcing, authorizing companies to make profitable management decisions.



Here are a few significant differences between insourcing and outsourcing.

1. **Quality Control Capabilities:** Insourcing gives an opportunity to track the development process and lets you keep control over the quality of the work, enabling a peak in productivity and helps in reaching your desired outputs. You can implement, test and fix the alterations in the project quickly, if necessary. It also grants you to have cordial relationships with key staff members of the project, allowing you to discover their strengths

and weaknesses so that, you can assign the work to the right employee in the future as per the skillset of the staff.

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*Typically, with insourcing, companies get better control over their decision-making and the ability to attend to their tasks promptly and precisely.*

*In the case of outsourcing, you're far off the staff working for you, making it inconvenient to trace the quality of the work.*

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2. **Command Over Intellectual Property (IP):** You can glance at the significant difference between insourcing and outsourcing here. You are fortunate to not a qualm about such things in insourcing. Here you possess greater command over employees, resources, and power to control the privacy of your intellectual property. There is no reason to contact any third-party vendor to look after the secrets of your internal business.

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*You will face very minimal risk in insourcing as you can supervise completely over intellectual property.*

*In outsourcing, the complete project is in the hands of the third party. You neither have control over the resources and employees nor the ability to control or supervise the intellectual property of the project.*

*Businesses that have concerns regarding their security, culture, compliance, or client demands, will find it best to insource their project.*

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3. **Innovation Adaptability:** Insourcing advantages to run hand in hand with your development squad, you get to glance at every move in your business, finding problems and resolving them, during which sometimes you tend to produce better things or innovations.

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*With your innovative abilities, the products and services of your business, you will pace your brand in the market and revamp. While in outsourcing, you lack to track when the problem arises and how it's resolved.*

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4. **Reduction in Costs:** Insourcing escapes 'outsourcing cost' or 'middlemen' costs like unnecessary fees and commissions as like in outsourcing business.

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*Insourcing also drives to point other cost exponentials such as incorporating and utilizing third-party vendors who offer value-based or "cost-plus" pricing.*

*In outsourcing, it reduces cost in labor package, and you do not have to worry about resources and management. However, cost-saving doesn't always mean victory.*

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5. **Business Communications:** Outsourcing faces a threat in the communication process. In this, there are chances of miscommunication as the outsourcer and outsource vendor are in distinct places.
6. **Building Up Reputational/Brand Value:** Typically, people would prefer to buy products or services from the brand that is in the vicinity. Insourcing companies create jobs for local people, which in turn sentimentally connects to the local people. It helps in acquiring a better customer database.

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*Outsourced products or services seem foreign things for the people, and it might induce ostracizing factors in the audience mind.*

*Insourcing has the advantage of fixing customer issues faster than outsourced companies, which actively builds positive brand value.*

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7. **Developing Leaders on the Bench:** If you're consecutively insourcing projects for years, you will get access to cultivate talent. In such a case of insourcing, you'd have hired employees and been working with them for years. In the period, you have had access to the talents of all your employees.

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*In outsourcing, you get nothing but just the product even after shaking hands with the third party for several years.*

*Outsourcing might get you access to a global pool of talent. However, you will get benefits from them until your contract period only.*

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8. **Time Zone and Cultural Factors:** In that case, you have a responsibility to make them correctly understand your requirements and keep a check often if it's going right. You might as well face communication problems due to the different time zones. You are free of time-zone and cultural problems in insourcing.

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*Outsourcing your project overseas might face a few issues due to the different time zone and cultural factors. Varying physical outsources, a vendor might have various techniques, design, and engineering.*

*In insourcing, your team will easily decipher your requirements, design, and engineer to produce a product as per your nativity.*

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## Advantages of Insourcing Over Outsourcing

Numerous factors affect insourcing and outsourcing. Keeping them in mind, you ought to choose the right type of sourcing to get the quality product at a modest cost.

*However, outsourcing may seem cheap, but it has the following limitations to be considered:*

1. You will lose the power of controlling capacities.
2. The possibility of opting for unfit clients is very high.
3. Long delivery times. It consumes four times as much as insourcing.
4. It may be quite riskier; since you may lose on some potential 'core activities' to be developed.
5. Loss of local jobs, i.e. 'hollowing out.'
6. Language and cultural barriers leading to poor communication.
7. Risk of losing intellectual property.
8. It is costlier

## Benefits of insourcing versus outsourcing

Insourcing might seem heftier but the advantages it renders over outsourcing will help in numerous ways as below:

1. Insourcing saves time as it delivers fast, whereas it is multiplied by four times in outsourcing.
2. You have access to use your internal talent to your best extent.
3. Employees gain opportune to learn new things and can hone their skill sets.
4. Employees usually perceive the project clearly, due to close presence.
5. The project owner has a high capability to handle the functions of the project.
6. Insourcing allows a company to find the best talents while setting up a business.

## Definition of Terms:

**BAC.** Refers to the Bids and Awards Committee established in accordance with Rule.

**Bid.** Refers to a signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the Bidding Documents.

**Bidder.** Refers to an eligible contractor, manufacturer, supplier, distributor and/or consultant competing for the award of a contract in any procurement by the GOP. A contractor, manufacturer, supplier, distributor or consultant is said to be eligible if it meets all the eligibility requirements issued by the procuring entity.

**Bidding Documents.** Refer to the documents issued by the procuring entity as the basis for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the infrastructure projects, goods and/or consulting services required by the procuring entity.

**Common-Use Supplies.** Refer to those goods, materials and equipment that are used in the day-to-day operations of Procuring Entities in the performance of their functions. For the purpose of this IRR, common-use supplies shall be those included in the Electronic Catalogue of the PhilGEPS.

**Competitive Bidding.** Refers to a method of procurement which is open to participation by any interested party and which consists of the following processes: advertisement, pre-bid conference, eligibility screening of prospective bidders, receipt and opening of bids, evaluation of bids, post-qualification, and award of contract.

**Foreign Bid.** Refers to any offer of articles, materials or supplies not manufactured or not to be manufactured in the Philippines, substantially from articles, materials, or supplies of the growth, production, or manufacture, as the case may be, of the Philippines.

**Foreign Grants.** Refer to grants with no repayment obligations and are provided in monetary form, goods, works, and consultancy services, among others.

**Goods.** Refer to all items, supplies, materials and general support services, except consulting services and infrastructure projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services, such as, the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the procuring entity for such services.

## Contracts and Subcontracts

Typical types of contracts include the following:

- **Fixed Price:** In a fixed price contract the offer or proposes a single price for all products and services to implement the project. This single price is sometimes referred to as low bid or lump sum. A fixed price contract transfers the project risks to the supplier. When there is a cost overrun, the supplier absorbs it. If the supplier performs better than planned, their profit is higher. Since all risks are absorbed by the supplier, a fixed price bid may be higher to reflect this.
- **Cost-reimbursement:** In a cost-reimbursement contract the offeror provides a fixed fee, but also reimburses the contractor for labor, material, overhead, and administration costs. Cost-reimbursement type contracts are used when there is a high level of project risk and uncertainty. With this type of contract, the risks reside primarily with the offeror. The supplier gets reimbursed for all of its costs. Additional costs that arise due to changes or rework are covered by the offeror. This type of contract is often recommended for the system definition of hardware and software development when there is a risk of stakeholder changes to the system.
- **Subcontracts:** A subcontractor performs work for another company as part of a larger project. A subcontractor is hired by a general contractor (also known as a prime or main contractor) to perform a specific set of tasks as part of the overall project. The incentive to hire subcontractors is either to reduce costs or to mitigate project risks. The systems technical team is involved in establishing the technical contract requirements, technical selection criteria, acceptance requirements, and the technical monitoring and control processes.
- **Outsource contracts:** Outsourced contracts are used to obtain goods or services by contracting with an outside supplier. Outsourcing usually involves contracting a business function, such as software design and code development, to an external provider.
- **Exclusively Commercial Off-the-Shelf (COTS):** Exclusively COTS contracts are completely satisfied with commercial solutions that require no modification for use. COTS solutions are used in the environment without modifying the COTS system. They are integrated into an existing user's platform or integrated into an existing operational environment. The systems technical team is involved in establishing the technical contract requirements, technical acceptance, and technical selection criteria.
- **Integrated COTS:** Integrated COTS contracts use commercially available products and integrate them into existing user platforms or operational environments. In some cases, integrated COTS solutions modify the system's solution. The cost of integrating the commercial COTS product into the operational environment can exceed the cost of the COTS product itself. As a result, the systems engineering team is usually involved in establishing the technical outsourcing contract requirements, technical selection criteria, technical monitoring and control processes, and technical acceptance and integration processes.
- **COTS Modification:** COTS modification requires the most time and cost because of the additional work needed to modify the COTS product and integrate it into the system. Depending on how complex and critical the need is, the systems engineering team is usually involved in establishing the technical outsource contract requirements, technical

selection criteria, technical monitoring and control processes, and technical acceptance requirements.

- **IT services:** IT services provide capabilities that can enable an enterprise, application, or Web service solution. IT services can be provided by an outsourced service provider. Depending on how complex and critical the needs are, the systems technical team can be involved in establishing the technical outsourcing contract requirements, technical selection criteria, and technical acceptance process.

## Review Questions

1. Differentiate between in-sourcing and out-sourcing for the acquisition of IT services, including support.
2. Outsourcing Or Insourcing: Which is Better option?
3. Outsourcing vs. Insourcing: What's the Difference?
4. What is insourcing and its benefits?

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