# Establish Business Processes for Your GIS Applications Deployment and Adoption

GIS and technology leadership usually have a generalized understanding of how their GIS functions within their organization. Many times, they have an informal method of aggregating business requirements and processing requests for geospatial products. For a small organization with a few stakeholders, this can work. For larger more complex organizations, this approach limits the scalability of GIS within the organization.

There are a few main reasons why documenting the process for GIS:

1. Having a documented process is the first step to establish governance and effective data stewardship
2. Communication and training for GIS Applications that are deployed
3. Reducing duplicate workflows
4. Strategically aligning GIS Applications
5. Executive level tracking of GIS adoption across the organization

Based on change management consultations, below are some common phases and steps:
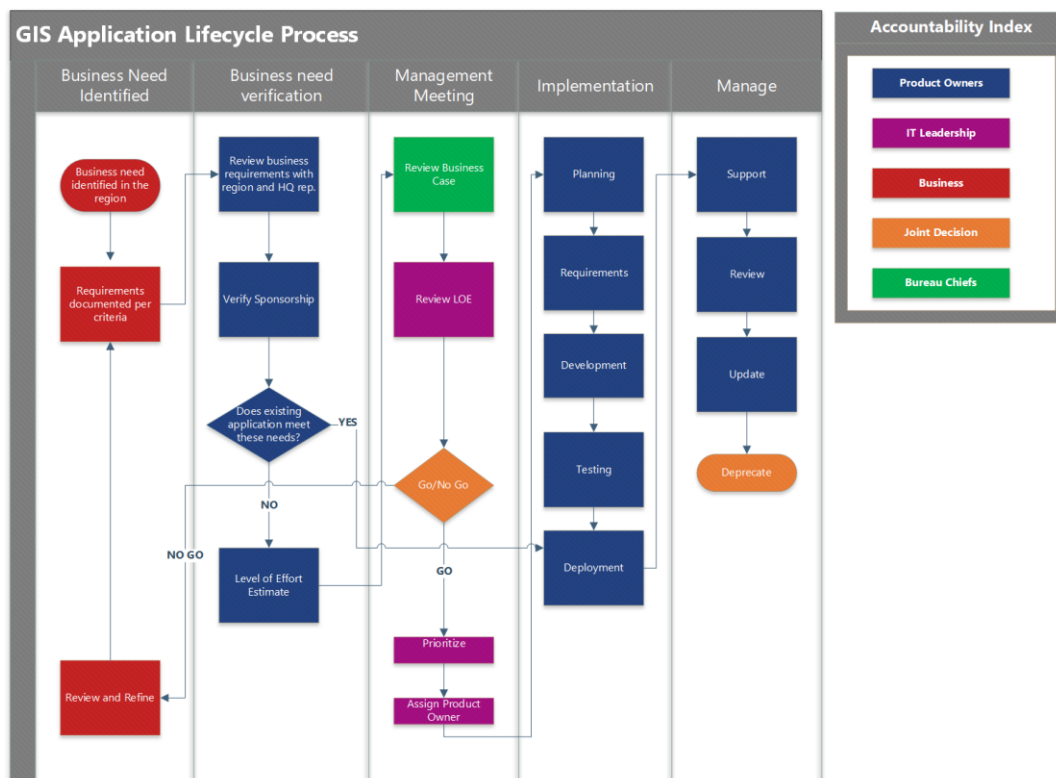
1. Business Needs Identification
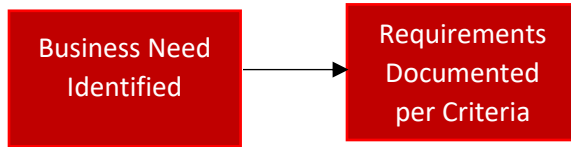
GIS and technology leadership commonly say they have an ad-hoc process for responding to requests for GIS products. The lack of documented process undermines the effectiveness and efficiency of responding to GIS requests due to insufficient information being provided to the GIS Professionals. To build trust, credibility, and effectiveness; having a formalized criterion for collecting business needs is essential. This can be done via a form, online submission, or even an e-mail template.   The questions prompted to the submitter to request information in terms of:

- **People**: the people that will be end users, training requirements, resource allocation of human capital, etc.
- **Process**: success criteria, internal approvals, security protocols, PII considerations, accessibility, etc.
- **Technology**: system architecture requirements, bandwidth considerations, licensing, etc.
- **Data**: data requirements, fit for use, format, etc.

This methodology is proven to be an industry best practice. McKinsey and Co. identifies the following characteristics of agile organizations: *(Source: [The five trademarks of agile organizations](#), Aghina Et al. January 2018)*

Collecting business requirements according to these categories is one way to execute on embracing this methodology.

Another important point is to ensure that the collection criteria meets the criteria that you are going to utilize when determining the level of effort. This ensures that sufficient information is provided to your team when scoping the requirements to fulfill the request.

Sometimes shifting to a focus on business value requires a cultural shift from "we can build it, so we will" to "we can build it and we should". In other words, just because you can deploy a GIS application, doesn't mean you should. Make sure the business value is well established.

2. Business Verification

Review Business Requirements	→	Verify Sponsorship and Ownership	→	Confirm Existing App. Doesn't Exist	→	Estimate Level of Effort (LOE)
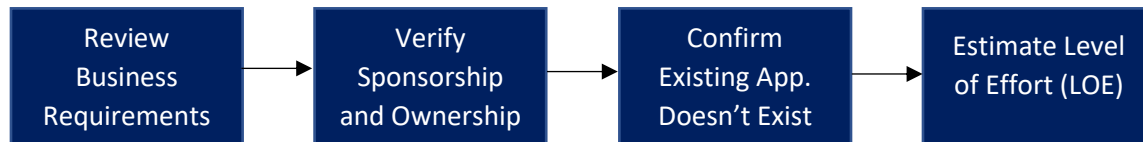
Receiving requests from across the organization will naturally require your GIS team to prioritize activities. The Business Verification steps generally include:

1. **Reviewing the business requirements**: Reviewing business requirements is primarily focused on what is being accomplished by the request. Essentially, this is where a level of value is determined. It is a best-practice to align the application with the strategy during this step. This alignment will be very important for the communicating the business value should this application become operational.
2. **Verify that sponsorship and ownership** will be shared with the business area submitting request is important to confirm that shared ownership will occur. Many times, this falls strictly on the GIS team, thus creating overwhelming workflow, under-utilization, and siloed adoption.
3. **Confirm that an existing application doesn't exist** that could be used or repurposed to fulfill the request(s). This step seeks to reduce or eliminate duplicating work. Many times, an application that is already deployed may be repurposed to meet the business requirements of the request.
4. **Estimate the level of effort** (LOE) for implementing and managing the GIS Application that is being considered. The LOE looks at the various barriers and considerations for implementation. This is extremely important to set appropriate expectations, allocation of resources, and make informed decisions. In the change management plan, the Level of Effort considerations will contribute to the training, resistance management, and sponsor roadmaps. Note that when considering the level of effort, there may be a negotiation of delivering a 75-80% solution. Sometimes the level of effort for 100% solution is excessive, but if a 75% solution will fulfill most of the business requirements, then there is room for compromise.

3. Management Meeting

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│   Review    │ ──▶ │  Review LOE │ ──▶ Go/No Go ──▶ │  Prioritize │ ──▶ │ Assign Owner│
│Business Case│     │             │      ◇          │             │     │             │
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The Management Meeting may be a group of managers and/or a GIS Committee. The purpose is to have a decision-making body that is going to approve and prioritize GIS application deployments.

1. **Review Business Case** involves looking at the impact the GIS application will have on the organization.   Since this is a management step, managers should determine broader utilization within the organization.   This can help to increase the value the business value of the application.
2. **Review LOE** is where the findings from the Level of Effort are evaluated. For the sake of simplicity, a ranking system (i.e.1-3) is an efficient way to convey the overall level of effort needed to implement the GIS application.
3. **Make a Go/No Go Decision** is where the level of effort and level of value are weighed against each other. Based on this, the leadership will decide to go or no-go.
4. **Prioritize** is where leadership provides guidance on which applications should be given the highest priority. This is where the step of providing a level of effort and value pays off. The ones that are high value and low effort can provide quick-wins to establish momentum.
5. **Assign Ownership** to a qualified individual who will see this through the implementation process. Note that existing workload on perspective owners must be considered during this step.
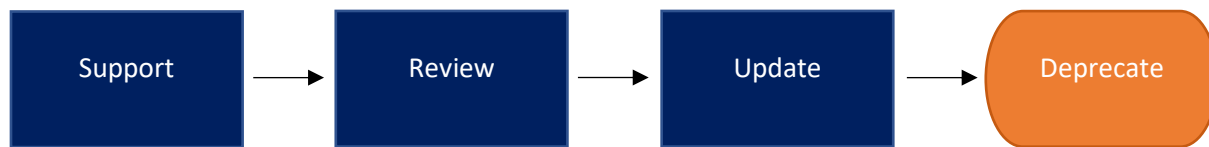
4. Implementation

Planning	→	Requirements	→	Development	→	Testing	→	Testing

Implementation steps may vary based on the standard operating procedure (SOP) of the organization. The follow steps are of a typical implementation process:

1. **Planning** is where the formalized implementation plan is established. Investing the time to have a plan ensures that the appropriate considerations are addressed.   If you are going to be deploying several applications, you can have a template plan to streamline this process.
2. **Requirements** for Implementation need to be identified early. Notice how this is called out as a separate step from Planning. The reason is the need for a strong focus on this consideration. The more effective analysis of requirements, the likelihood of unpleasant surprises decreases. Requirements discussion should be a partnership between IT and the business unit(s).
3. **Development** is where the work is completed to fulfill the requirement be developing a solution. A COTS first approach reduces the maintenance and development costs.
4. **Testing** is required to ensure that the application performs to meet the requirements identified. During the testing phase, the training part of the change management plan should be executed to ensure that users have the required skills when the application is deployed.
5. **Deployment** is where the adoption and utilization of the application occurs. In the change management plan, this is where communications and coaching plans are executed to ensure stakeholders are aware that the new application is available for use.

5. Manage

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│   Support   │ ───▶ │   Review    │ ───▶ │   Update    │ ───▶ │  Deprecate  │
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Lifecycle management of the application is extremely important to ensure continued utilization.

1. **Support** for the GIS applications should be spread across the organization to ensure efficient response to inquiries, issues, etc. Support should include having quick and easy access to address operational issues that arise from lack of skills.
2. **Review** on a regularly scheduled (i.e. quarterly, semi-annual) the GIS applications to ensure that there is still a business purpose/need for the application(s) that are being maintained and supported.
3. **Update** the applications that do still have a business purpose. When updates occur, utilize communication plan in the change management framework to ensure that stakeholders are receiving the timely information.
4. **Deprecate** the applications that have become obsolete. This maintains the integrity of the overall GIS and is important to managing costs in the long-term.

In conclusion, having a documented process for your GIS is a great starting point whether you are modernizing, expanding, and/or establishing a programmatic approach.   Having input from the stakeholder groups that are in the process is the key to making the process credible and actionable. This is essential for conducting change management to facilitate the adoption and utilization of your GIS.