

The nature of the organization. Organization: as a system

Nafisa Norboyeva
nafissne@gmail.com

Ra'no Parpiyeva
r.parpieva@tsue.uz

Tashkent State University of Economics

Abstract: This paper is based on the main impacts of nature organization systems. Whether you do GIS work for a large corporation, a government agency, a private consulting firm, or yourself, your approach to project management will be strongly influenced by your organization and its approach to business.

Keyword: GIS, program manager, software technology, functional, project, matrix, GIS program, technology

INTRODUCTION

Nearly all organizations that use GIS share some common program and project management concerns and practices, but there are differences of mission, mandate, and structure among public, private, and non-profit organizations that affect how they use and manage GIS. An effective manager should acquire a solid understanding of the workings and structure of his or her organization and the external organizations with which it may interact in providing GIS products and services. This is important because a GIS project or program manager has a responsibility to support the organization's mission and work within the established laws and policies. It is also likely, if not certain, that a GIS manager will need to coordinate with external organizations in the sharing of data or project coordination. Public-sector governmental agencies at the local, regional, state, and national level have been focal points of GIS implementation because their missions require the collection and use of maps and geographically referenced information. Croswell and Fries (2004) explain the prominence of GIS in the public sector. Private sector organizations using GIS technology include private utility companies, resource and land development firms, surveying and engineering services companies, geographic data providers, commercial and retail businesses, and many other types of private companies. They are profit-driven and use GIS to support their lines of business to develop, integrate, and deliver products and services to customers.

Mission statement

How do you get to know what an organization is about? Stephen Covey, author of *The Seven Habits of Highly Effective People*, would suggest you look at their mission statement. A mission statement describes the overall purpose of an

organization. What purpose does it serve? A good mission statement should reflect the organization's business and values. In short, it is a concise description of the organization's reason for existing and the basis for the work that it does. Most organizations have formal mission statements and often a set of high-level strategic goals. Consider the mission statement and strategic goals, below, for the City of Rio Rancho, NM (a medium size City implementing an enterprise GIS program).

Major City goals are described in the City's Strategic Plan, and these address the topic areas of:

- maintenance, expansion, and improvement of transportation and utility infrastructure,
- support for and sound, efficient management of land and economic development,
- maintaining sound fiscal health,
- continued effective public safety and improve City's ability to respond to emergency events,
- providing effective government services to City residents and businesses, and
- maintaining and improving an overall high quality of life.

One can see how GIS technology can play an important role in helping this organization respond to its mission and to accomplish its strategic goals.

Take a look at the excerpt from the City of Rio Rancho Enterprise GIS Needs Assessment project Report-especially the subsections. This report specifically articulates how GIS responds to the organization's mission, strategic goals, and the business needs of individual Departments. As Yogi Berra said, "You've got to be careful if you don't know where you are going because you might not get there." Establishing a clear strategic foundation for any GIS project will make it much easier to plan and achieve desired results.

Organizational structure

If the mission statement is a concise characterization of an organization's purpose, the organizational structure is its foundation for accomplishing work that accomplishes the mission. An organizational structure is the most obvious indication of how an organization approaches business in general and projects in particular. The focus here is roles and responsibilities. This structure is generally laid out in great detail in the organizational chart and establishes communication and authority relationships among organizational units. Organizational structures can be classified into three general types:

- Functional
- Project
- Matrix

In a functional structure, GIS analysts may report to an Information Technology manager or vice president, who would report to the Chief Information Officer (CIO) or Chief Executive Officer (CEO). In a project structure, GIS analysts may report to the GIS program manager or project manager, who reports to the CIO or CEO. In a matrix structure, GIS analysts may report to both an IT manager and a GIS program manager, depending on his or her roles and responsibilities. Of course, depending on the hierarchical structure of the organization, there may be several additional levels of management. Each of these structures has different advantages and disadvantages. Check out the hyperlink under "Site Visit" below for discussion of these organizational structures from a project manager's viewpoint.

Although the functional structure will greatly influence how projects are managed, organizations have other frames from which they can be viewed. The needs of the organization should be in harmony with the needs of the people. GIS specialists with fast digitizing skills may make an organization a steady profit, but the individual may desire professional challenge and quit. A strong undercurrent in any organization is politics, which has great potential to dictate the success or failure of projects. Finally, organizations, like people, have values that are reflected in its symbols. These symbols can range from the size or location of an office to an organization's dress code, be it very formal or casual. As these symbols are reflections of values, they can offer important insights that are independent of the mission statement into what is valued within an organization.

Organizational program areas and business requirements

GIS programs and projects succeed when they are aligned with an organization's mission and business. Given that many of the activities of the private and public sectors are in some way associated with the location of people, material and products, facilities, services, and events, the diversity and extent of geographically related business activities or programs are without bounds. Examples of GIS-related program areas in government and utility organizations that rely heavily on GIS data and technology include: a) Economic Development and Investment, b) Land Use Planning and Management, c) Public Health Planning and Services, d) Public Safety and Emergency Management, e) Defense and Intelligence, f) Natural Resource and Environmental Management, g) Property and Taxation, h) Transportation Planning and Management, i) Road and Utility Facility Asset/Work Management, j) Solid Waste Management, k) Permitting and Inspections, j) geointelligence for strategic or tactical planning (military and security operations), and others. Implementation and use of GIS technology should be focused on delivering benefits to these program areas and their users, including:

- 1) improving efficiency and reducing the cost of services;
- 2) increasing revenue;
- 3) improving overall service quality and response to customers or citizens;

- 4) reducing redundancy in information capture and management;
- 5) enhancing environmental quality and livability;
- 6) protecting life and property by supporting emergency/disaster planning and emergency response;
- 7) supporting effective planning and decision-making for major land and infrastructure development;
- 8) encouraging interdepartmental collaboration and sharing of resources; and
- 9) improving data integrity and quality.

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