

TRENDY V ORGANIZOVÁNÍ INFORMATIKY

Prof. Ing. Stanislav Adamec, DrSc.
Fakulta informatiky a statistiky, Katedra systémové analýzy
Vysoká škola ekonomická v Praze
adamecs@vse.cz

INTRODUCTION

An **organization** is a formal group of people with one or more shared goals. According to the current trends in IT organization there is a need to take in account and construct the whole „model stack“ consisting of the IT Business Model, Operating Model, Service Delivery Model, and Organizational Architecture (Gartner, 2005).

The **IT Business Model** is determined by how the business views the value of IT. This calls for the IT organization to adopt one of the three dominant IT business models: *utility-oriented* (“IT supports the business”), *enablement-oriented* (“IT enables the business”), or *transformation-oriented* (“IT drives the company”). None of these are “better” or “worse” than others; they merely reflect the expectations of the business from its IT organization. Of course, these expectations are not static; in fact, according to Gartner sampling of large IT shops, most businesses are now in the process of migrating from the “utility view” to the “enabling view.”

The next layer of the “model cake” is the **IT Operating Model**. From the operational point of view, an IT shop can be *centralized* (“one CIO”), *decentralized* (“multiple independent CIOs, one for each business unit), or *hybrid* (“a federated approach, where multiple business unit-aligned IT organizations are managed in a coordinated way, usually with some shared functions”). The right choice of IT Operational Model depends on the business culture, and whether the accountability pattern is more heavily weighted toward the enterprise as a whole or the individual business units that comprise it.

The third model dimension is the **IT Service Delivery Model**, which reflects how the IT organization chooses to address its service delivery functions. It could be *siloes* (separate according to applications), *process-based* (output of processes), organized around *shared services*, “Internal Service Company” (**ISCO**), or *profit-based*. The goal here is to pick the model that is most efficient and best aligned with the business objectives.

Finally, at the very bottom level of the “model stack” is the actual **Organizational Architecture**, which includes IT *organizational structure*, *sourcing decisions*, *process automation*, *governance*, and *human capital management*. These are essentially the “implementation details” that emerge almost organically from the more deliberate decisions around the models described above.

Thus, each type of model includes a range of choices, with the “best” choice being greatly influenced by earlier combination decisions.

The traditional organizational structures covers next models:

- Hierarchy-Orientated Organization
- Project-Oriented Organization
- Matrix-Oriented Organization

During last few years a new model evolved:

- Process-Oriented Organization.

Process is a naturally occurring or designed sequence of changes (functions) of properties or attributes of an object or system. Process-oriented organization allows the organizations to manage their processes as any other assets. It enables flexible reaction on customers requirements. Chief Process Officer (Process Owner) is usually responsible for the process improvement/reengineering. The main impact is on sequence on changes, not on the people's responsibility. Next Figure is taken from ITIL V3 and declares the process approach to IT Service Management.

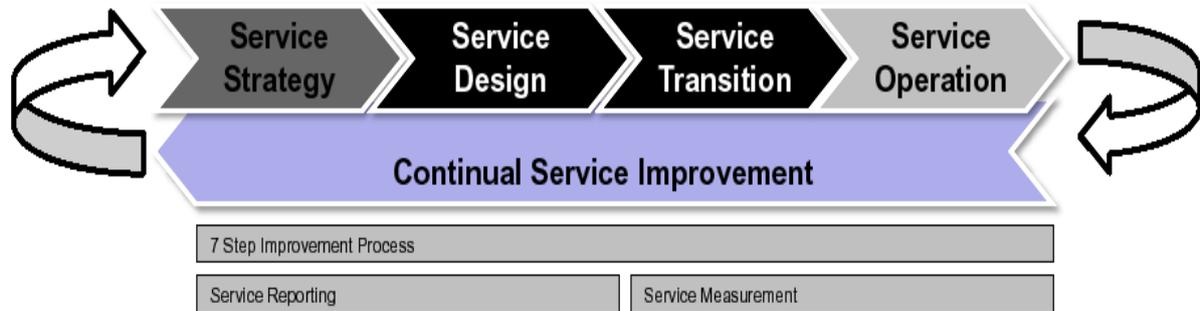


Figure 1: ITIL V3 – IT Service Management Model

APPLICATION OF ORGANIZATIONAL MODELS IN IT

HIERARCHY-ORIENTED ORGANIZATION IN IT

This model of IT organization is important for medium and mainly large size corporations. In this case it is not possible to centralize all IS/IT related responsibilities into one organizational unit (department) and the responsibilities must be spread around the whole corporation. This situation has two main consequences:

1. there exist more than one management IS/IT roles,
2. there exist a wide range of combinations, how these roles relate each others.

The IS/IT management roles range across three organizational entities/levels:

1. Board of Directors level:
 - *Board of Directors*: ensure management has put in place an effective strategic planning process and assess senior management's performance on IT strategies in operation
 - *IT Strategy Committee*: provide strategy direction and the alignment of IT and the business and verify strategy compliance, i.e., achievement of strategic objectives. Review the measurement of IT.
2. Executive management level:
 - *CEO*: align and integrate IT strategy with business goals. Obtain assurance of the performance, control and risks if IT and work with the CIO on developing an IT balanced scorecard ensuring it is properly linked to business goals.
 - *Business Executives*: drive a definition of business requirements and own them. Act as a sponsor for major IT projects and monitor service levels.
 - *CIO*: position of the CIO was mandated especially for government agencies in the Clinger-Cohen Act of 1996. Former information resources manager position was

renamed and elevated to executive-level CIOs that report directly to the organization's head and have information management as a primary function.

CIO is responsible for not only the range of information management activities (IM planning, budgeting, organizing, controlling, and training and ensuring that there is no duplication in IT systems), but also for more strategic IT functions such as developing architectures, managing portfolios, and measuring performance of IT investments.

Within large organization (e.g. with several business divisions in different countries) CIO represents the part of functional management structure (head of IS/IT in each business division who corresponds to his/her business unit head).

3. Committees supporting the executives and the CIO, usually coordinated by the CIO projects office, chief architect, chief technology officer, etc.:

- *IT Steering Committee*: define project priorities and follow progress on major IT projects. Ensure all costs are identified and provide cost/benefit analysis.
- *Technology Council*: provide technology guidelines and verify compliance with technology standards and guidelines
- *IT Architecture Review Board*: provide architecture guidelines and direct IT architecture design

PROJECT-ORIENTED ORGANIZATION IN IT

This type of organizational model is very important in the area of IT as the great majority of IS/IT related changes (both improvements of legacy systems and development or implementation of new technology) are supported by this type of organization. Project organizational model usually accompanies the other organizational models (hierarchical and matrix).

The head of this organization can be

- special department which is the part of traditional hierarchical structure (in case the projects are very important and they need maximum support),
- staff subdivision (in case the projects need coordination support),
- project committee (in case of flexible and effective IT project support within small and medium sized organizations).

Example of first two models can be a central office to manage projects across an organization. It can be called Program Office, Program Management Office, Project Office, Project Management Office, Project Control Center, Project and several other variations. People have their own interpretation for each but in the end, their role is to make projects more efficient.

MATRIX-ORIENTED ORGANIZATION IN IT

Matrix-oriented organization is based on two dimensions and a person working within this framework has two types of responsibilities. In IS/IT environment there exist three models (combinations of different dimension):

- functions and projects,
- functions and processes,
- functions/projects and skills,
- functions, projects and processes.

In IT functions/projects matrix organization one dimension is based on IT functions, e.g. system programming, application programming, infrastructure services, and-user support, IT procurement, project management. The second dimension represents separate IT projects. Thus the project member has two types of responsibilities: one within functional entity s/he belongs to and the second within a specific project.

In IT function/process matrix organization there is the second dimension based on business or IT processes. The IT specialist is then partly member of IT specific function and in the same time he/she plays role in a specific process (financial management, human capital management, procurement and logistic execution etc.).

The third model combines functions/projects with IT skills (programming in specific language, analyst, developer, tester, project manager, DB administrator etc.). Organizational entities based on IT skills are called Centers of excellence.

Some project oriented organizations are facing problem of combination three models of organization: project-oriented, hierarchy-oriented, and process-oriented.

CENTRALIZATION VERSUS DECENTRALIZATION

When talking about centralization vs. decentralization in IS/IT, we must distinguish between IS/IT architecture itself and IS/IT management function. The evolution in these two areas differs.

The issue of IS/IT architecture decentralization had its origin in 1960, when the first minicomputers were designed. Until then activities and resources related to computing were highly centralized – usually one mainframe provided all needs of the organization. With minicomputers available, companies were able to distribute the processing and resources across several connected processors (called distributed computing).

One of the major moments in the process of decentralization was the introduction of personal computers (by IBM 1981) Continuous fall in process of PC and telecommunication devices (and a necessary development in software) enabled most of the companies to implement so called client/server (or two-tier) computing. Although in basic form the network consisted of clients (mostly PCs) connected to a server (mainframe), the main benefit was that resources could have been connected regardless of hardware platform or operating system. With this possibilities the process of IS decentralization and downsizing of applications drew a remarkable speed. Even more sophisticated model for decentralization was a three-tier model, in which the applications server was separated. Using these multi-tier computing structures the IS resources were being located closer to the users and their computing needs. When Internet technology has been introduced, the decentralization crossed the barriers of enterprises. Next important step towards IS decentralization is SOA architecture which is based on web services technology. Integration of different applications and platforms exploits special application units called business services and business process management tools. They together form composite applications which represent new way of flexible IS decentralization. So we can say, the IS architecture decentralization depends on the enterprise application integration (EAI) possibilities. The better EAI tools, the higher level of decentralization is available and acceptable for end-users (the availability of systems resources are intact).

As far as IS/IT management function, the evolution in the early years of computing copied the evolution of IS architecture. Centralized systems based on mainframes were accompanied by centralized IS/IT department and management. Early IS decentralization and downsizing

resulted in a huge decentralization of IS/IT management responsibilities. But this model approved to be inefficient. This fact together with the economic decline around 2003 (average decline in IT budgets) resulted in a bigger pressure on IS/IT savings. Now we are talking about “new wave” of centralization of IS/IT management responsibilities. The main stress is on the maximum usage of advantages of both centralized and decentralized models. One of the more effective solutions appears to be the hybrid (or federated) model that allows centralized production activities but maintains contact with the business through business-relationship managers, who make sure that business needs are heard.

Current centralization can be based on next approaches:

- **Centralization around business processes** (such as supply chain management, procurement, distribution). IS/IT worker is assigned to support one process for the enterprise as a whole (centralized service factories). This trend is called shared
- **Centralization around specific skill sets** (such as mainframe, applications development, solution delivery, servers). It follows the traditional Centers of Excellence model.
- **Federated organization:** you centralize those things that everybody would agree makes sense to centralize: infrastructure, networks, databases, common systems. The things you decentralize are the applications that are directly in support of meeting the business objectives. Then there's a whole bunch of stuff that people could debate about whether it makes sense to centralize or decentralize, like help desk and maintenance.
- **Shared IT services organization** means packaging lots of different technologies into a service which is offered to end-users. The organization of architecture and IT departments is influenced by this leading principle. This model moves towards functional convergence.
- **IS/IT consolidation** (e.g. six-server distributed environment moving to a two-server consolidated environment). Centralization cuts down on the complexity of environments with multiple servers and numerous network change request. As the price of LAN components escalates, purchasing authority is moving away from departmental managers to central IS management, which is familiar with a more centralized approach to dealing with HW and staff, and is looking for ways to reduce costs and improve service.

CONCLUSION

IS/IT management is a specific area of management. Its inherent part is IS/IT organization. There exist many traditional and more advanced models how to organize IS/IT within an organization. The choice of the best one is not an easy job being greatly influenced by earlier combination decisions which are done outside the IS/IT responsibility (e.g. management style, size of the company, production model, legal status, business processes, etc.). The other aspect the IS/IT organization complexity relates to the fact, that IS/IT management responsibilities penetrate the business ones. Thus the current “best practice” models of IS/IT organization are based on combination of several different models (process, functional, project) which results in the need of increased flexibility of all employees involved in.

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