

# MANAGEMENT AUDITS OF PROJECTS AND PROGRAMMES – HOW TO IMPROVE PROJECT MANAGEMENT AND PROGRAMME MANAGEMENT QUALITY

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## ABSTRACT

Starting with an introduction to the Project-orientation (PO) Maturity Model of the Vienna University of Economics and Business Administration the paper concentrates on management auditing of a project or programme as one specific dimension in project-oriented organization. Management auditing of a project or programme is an independent investigation to check if the management processes (project management or programme management) are performed according to the specified standards of the project-oriented organization. Auditing can be perceived as an instrument for improving the management processes of projects and programmes. Auditing provides a learning chance and contributes to project and programme success. The paper shows how a systematic auditing process could look like and describes auditing instruments such as documentation analysis, interviews and observations. The paper closes with recommendations how auditing can serve as a learning instrument.

## THE PROJECT-ORIENTED ORGANIZATION

The project-oriented organization as an organization which defines “Management by Projects” as an organizational strategy, applies temporary organizations for the performance of complex processes, manages a project portfolio of different internal and external project types, has specific permanent organizations to provide integrative functions, applies a “New Management Paradigm”, has an explicit project-management culture perceives itself as being project-oriented. (Gareis 2004). The project-oriented organization can analysed with the project-orientation (PO) maturity model and visualized in the “PO spider-net”(Gareis 2004, Gareis and Huemann 2004) as shown in figure 1.

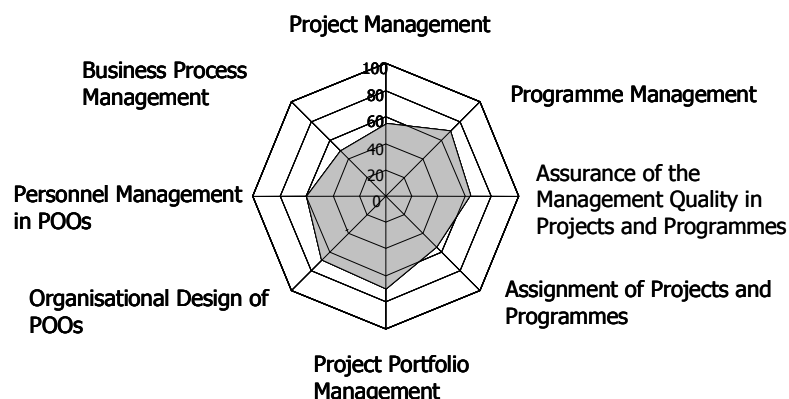


Figure1: The PO Maturity Model

The dimensions of the PO maturity model are based on ROLAND GAREIS *Project and Programme Management®* (Gareis, 2003) and are described here briefly:

- A project is a temporary organization for the performance of a relatively unique, short to medium term, strategically important business process of medium or large scope. The process consists of the sub-processes project start, project co-ordination, project controlling, resolving a project discontinuity and the project close-down.
- A programme is a temporary organization for the fulfilment of a unique business process with a large scope. Programme management has the sub-processes programme start, programme co-ordination, programme controlling, eventually the resolution of a programme discontinuity and the programme close-down.
- To assurance the management quality of projects and programmes management consulting and management auditing are performed.
- In the process of assigning, the decision of whether or not a project or programme is to be performed is taken.
- In the project portfolio co-ordination the decision is made whether projects will be started or abandoned, priorities between projects are set, and a co-ordination of the internal and external resources is made.
- Networking between projects is performed to in order to resolve a common problem or use a common opportunity. Criteria, which might relate projects in a network are for instance a common technology or a common client. The construction of a network of projects is done at a certain point in time,
- Personnel management in project-oriented organizations includes the recruiting, disposition and (continuous) development of project personnel like project or programme owner, project or programme manager, project team member, etc.
- The dimension organizational design in project-oriented organizations dimension includes the establishment of a Project Management Office, a Project Portfolio Group and Expert Pools, the development of project and programme procedures and standard project plans.
- Business process management is one of the prerequisites of a project-oriented organization. A business process is a clearly defined sequence of tasks in which several roles of one or more organizations are involved. Primary processes, secondary processes and tertiary processes can be differentiated. Only organizations that understand their business processes can utilise the strategy management by projects and consider which (parts of) the business processes should be organized in projects or programmes.

In this paper I will concentrate on one particular dimension of the project-oriented organization, namely the assurance of management quality in projects and programmes.

## **MANAGEMENT AUDITING FOR LEARNING**

### **Traditional approaches to quality management**

In project-oriented organizations that apply modern quality management based on Total Quality Management and Continuous Improvement, different quality management methods—often in combination—are applied (Seaver, 2003). These include the following: certification, accreditation, excellence model, benchmarking, audit and review, evaluation, coaching and consulting (Huemann 2004).

But still traditional quality management approaches for projects and programs, says PMBoK® (PMI, 2000), concentrate more on the product quality as such and on quality control by statistical means like inspections, control charts, pareto diagrams, sta-

tistical sampling, etc. This perception is rather short sighted as projects need more than manufacturing quality management approaches.

Quality assurance by using audits becomes more important in projects and programmes (Huemann and Hayes 2003). The processes need to be checked rather early to ensure the quality of the project deliverables, as only sound processes lead to good products and solutions. This paper offers management audits of projects and programmes as one learning instrument for the single project or programme as well as for the project-oriented organization.

### **Objectives and scope of management auditing of projects and programmes**

A project audit is a systematic and independent investigation to check if the project is performing correctly with respect to project and or project management standards. A project review is defined as a formal examination of the project by persons with authority in order to see whether improvement or correction is needed. (Wateridge, 2000). A special form of the project review is the peer review: Here the review is carried out by experienced peer project managers to give feedback and advice to the project.

Management audit and reviews of projects and programmes assess the management competencies of the projects or programme, namely, the organizational, team, and individual competencies to perform the management processes. Thus, the project or programme management processes and their results are reviewed. Results of the project start process could be, for instance, that adequate project plans exist and the project team has been established.

### **Benefits of management auditing of projects and programmes**

The benefits of management audits and reviews of projects are on the one hand to provide a learning opportunity to the single project to improve its project management quality. On the other hand, by evaluating the results of several management audits, patterns can be found. For instance, if a lot of the projects have a low-quality cost plan or do not apply a stakeholder analysis, this shows that these issues are general subjects for improvement in the project-oriented organization (Huemann and Hayes, 2003).

### **The management audit criteria depend on the project management approach**

The management audit criteria depend on the project management approach used for the auditing. In project-oriented project management guidelines and standards of can serve as a baseline. The learning is limited by audit criteria. If the project management audit is based on a traditional project management approach like PMBok (PMI, 2000), the audit criteria are limited to the traditional project management methods regarding scope, schedule, and costs. Additional project management objects of consideration like the project organization, the project culture, and the project context become only project management audit criteria, as, for example, if PRINCE2 (OGC, 2002) is used. If project management is considered as a business process consisting of the sub processes project start, project controlling, project coordination, management of project discontinuities, and project close down, the design of the project management process becomes audit criteria. The auditing example shown later in this paper are based on *ROLAND GAREIS Project and Programme Management®*. The project management approach used in an audit has to be agreed on before the audit.

## Timing of management auditing of projects and programmes

Project management auditing can be done randomly, regularly, or because of a specific reason. They are still very often carried out if somebody in the line organization has a bad feeling about the project. Then the method is used for problem identification and controlling, not so much for learning purposes and quality assurance. Nevertheless, the ideal point in time to do a project management audit is in a relatively early phase of the project - for instance, after the project or programme start has been accomplished. That gives the project the chance to further develop its management competence. Further audits later in the project are possible to give further feedback but also to verify if the recommendations agreed on in earlier PM audits were taken care of by the project.

## Process of management auditing of projects and programmes

An audit needs a structured and transparent approach (Corbin et al., 2001). Before the audit an audit assignment is necessary to initialisation of the auditing, appoint the audit owner (which in most cases will be the project owner), appoint the auditors, provide first information about the auditing to the project. The result of the assignment is a project audit assignment that clearly points out for example the objectives, reason, scope, timing, methods used in the audit.

| <b>Management Auditing Assignment</b>  |   |
|--|---|
| <b>Project:</b> customer project:<br>Implementation of an ERP system   | <b>Start date of Auditing:</b> 23. February   |
| <b>Reason for Auditing:</b> <ul style="list-style-type: none"> <li>• routine</li> <li>• after project start</li> </ul>   | <b>End date of Auditing:</b> 05.March   |
| <b>Auditing Objectives :</b> <ul style="list-style-type: none"> <li>• Analysis of the project management quality after the project has been started</li> <li>• Analysis of the organisational, team and individual project management competencies in the project</li> <li>• Results are basis for an agreement between project owner and project team for further development of project management competences in the project</li> </ul> | <b>Non-Objectives:</b> <ul style="list-style-type: none"> <li>• Auditing the contents processes</li> <li>• Interviews with all relevant environments</li> </ul> |
| <b>Auditing Methods :</b> <ul style="list-style-type: none"> <li>• Documentation analysis</li> <li>• Interviews with representatives of the project and selected relevant environments</li> <li>• Self-Assessment of PM competences</li> <li>• Observation of a project team meeting</li> </ul>  | <b>Auditing Budget:</b> <ul style="list-style-type: none"> <li>• Auditor: 7 days</li> <li>• Representatives of the project: 6 days</li> </ul>                   |
| <b>Initiator Auditing:</b> PM-Office   | <b>Project Manager:</b> Mr. Z   |
| <b>Auditing-Owner:</b> Mr. M (Project owner)   | <b>Auditor:</b> Huemann   |

Figure 2: Management-Auditing Assignment for Project „Implementation ERP System“

An example for a project management audit assignment is shown in figure 2. Depending on the complexity of the project or programme and the objectives of the audit, one or more (normally not more than three) auditors are assigned. A project management audit process established in a project-oriented organization in accordance with the ISO 19,011 (ISO, 2002) includes the steps: situation analysis, planning of auditing, preparation of the auditing, performance of the analysis, generation

of the audit report, performance of the audit presentation, termination of the auditing (Huemann 2004).

The objectives of the situation analysis is to clarify the reason for and expectations towards the auditing. The auditors formulate first these about the situation the project is in and the quality of its project management process. In the planning of the auditing the auditors plan the macro design of the process and the meetings they will have with the audit owner and the project organisation., the analysis methods they will apply (like documentation analysis, interviews, observations, etc) and the presentation methods that will be used. The result of this step is the audit plan as shown in figure 3. The audit plan has to be agreed on by the audit owner as well as by the project manager representing the project to be audited. (Gareis, Huemann 2003)

| <b>Auditing Plan for Project “Implementation ERP System”</b>  |   |                                    |                  |
|---|---|------------------------------------|------------------|
| <b>Working Form</b>   | <b>Participants</b>   | <b>Date</b>                        | <b>Venue</b>     |
| <ul style="list-style-type: none"> <li>Meeting: Start of the Auditing</li> </ul>                      | <ul style="list-style-type: none"> <li>Audit owner</li> <li>Auditor</li> </ul>  | 23.02<br>Duration: 1 hour          | Room: 2.22       |
| <ul style="list-style-type: none"> <li>Meeting: Clarification of Auditing</li> </ul>                  | <ul style="list-style-type: none"> <li>Project manager</li> <li>Auditor</li> </ul>  | 25.02<br>Duration: 1,5-2 hours     | Room: 2.22       |
| <ul style="list-style-type: none"> <li>Self-Assessment: PM Competencies of Project Manager</li> </ul> | <ul style="list-style-type: none"> <li>Project manager</li> </ul>   | 27.02<br>Duration: 1 hour          |                  |
| <ul style="list-style-type: none"> <li>Self-Assessment: Team PM Competence of Project Team</li> </ul> | <ul style="list-style-type: none"> <li>Project team</li> </ul>  | 27.02<br>Duration: 3 hours         | Room: 2.22       |
| <ul style="list-style-type: none"> <li>Group Interview: Project Manager and Project Team</li> </ul>   | <ul style="list-style-type: none"> <li>Project manager</li> <li>Project team members</li> <li>Auditor</li> </ul>  | 01.03<br>Duration: 2 hours         | Room: 1.12       |
| <ul style="list-style-type: none"> <li>Interview with Project Owner</li> </ul>                        | <ul style="list-style-type: none"> <li>Project owner</li> <li>Auditor</li> </ul>  | 01.03<br>Duration: 1 hour          | Room: 1.12       |
| <ul style="list-style-type: none"> <li>Group Interview with Client Representatives</li> </ul>         | <ul style="list-style-type: none"> <li>Client „project manager“</li> <li>Further Client representatives</li> <li>Auditor</li> </ul>                           | 01.03.<br>Duration: 1,5 hours      | At client´s site |
| <ul style="list-style-type: none"> <li>Observation: Project Team Meeting</li> </ul>                   | <ul style="list-style-type: none"> <li>Project team</li> <li>Project manager</li> <li>Auditor</li> </ul>  | 02.03<br>Duration: about 1,5 hours | Room: 1.22       |
| <ul style="list-style-type: none"> <li>Presentation: Audit Results</li> </ul>                         | <ul style="list-style-type: none"> <li>Audit owner</li> <li>Project manager</li> <li>Project team</li> <li>Client representatives</li> <li>Auditor</li> </ul> | 03.03.<br>Duration: 2 hours        | Room: 1.10       |
| <ul style="list-style-type: none"> <li>Meeting: Termination of Audit</li> </ul>                       | <ul style="list-style-type: none"> <li>Auditor</li> <li>Audit owner</li> </ul>  | 05.03<br>Duration: 1 hour          | Room: 2.22       |

Figure 3: Auditing Plan for Project “Implementation ERP System”

### **Methods applied in management auditing of projects and programmes**

In the project management audit, a multi method approach is used. Documentation analysis, single and group interviews, observation of project team meetings, self-assessment of the individual project management competencies and the project management team competencies and site visit are used for the analysis. (Huemann 2004). Figure 4 shows some questions of a questionnaire used in the audit. Important to mention is, that the auditor does not stop with ticking boxes whether a certain

project management document is there or not, but the auditor also analyses the quality of the project management plan and provide feedback. Only then the audit can serve as a learning instrument. Criteria for the assessment of the quality are for example completeness, structure and visualization; also the constancy between the single project management documents. The quality criteria very much depend on the project management approach used as a basis for the audit. In case of a process-oriented project management approach, for instance I would always look for a process-oriented work break down structure.

| 1.1 Project planning methods in the project start   | Document | Quality |
|---|----------|---------|
| Project objectives plan   | 2        | 2       |
| Plan of objects of consideration  | 1        | -       |
| Project work break down structure   | 2        | 2       |
| Work package specifications (for selected WP)   | 2        | 3       |
| Gantt chart   | 2        | 3       |
| Project finance plan (Demand?)  | n.d.     | -       |
| Project cost plan   | 2        | 4       |
| Project risk analysis   | 2        | 3       |
| Project scenario analysis (Demand?)   | 1        | -       |
| <b>Document:</b> n.d.= no demand, 0=no document, 1= Information available, 2=document available<br><b>Quality:</b> 1=not adequate, 2=low quality, 3=average quality, 4=good quality 5=very good quality |          |         |

Figure 4: Auditing Questionnaire

For presenting the project management audit findings, reports, presentations and even workshops can be applied. Figure 4 shows the structure of a project management auditing report. For making an audit a learning experience I would recommend to at least present the results to the project manger, the project team and the audit owner. That leads to better understanding and more acceptance regarding the project management audit results and provides the chance to the project to become a learning organisation.

| Structure: Project Management Auditing-Report |   |
|---|---|
| 1.  | Executive Summary   |
| 2.  | Situation Analysis, Context and Description of the Auditing Process of Project XY |
| 3.  | Brief Description of the Project XY   |
| 4.  | Analysis of Project Management of Project XY                                      |
| 4.1   | Analysis of the Project Start   |
| 4.2   | Analysis of the Project Coordination  |
| 4.3   | Analysis of the Project Controlling   |
| 5.  | Recommendations for the Further Development of Project Management of Project XY   |
| 6.  | Recommendations for the Further Development of Project Management in the Company  |
| 7.  | Enclosures  |

Figure 5: Structure of the Auditing Report

**Organization of management audits of projects and programmes**

In the auditing system is a temporary system in which the audit owner, the auditor(s), representatives of the project and representatives of relevant environments cooperate. One can differentiate between the initiator of the audit and the audit owner. Initiators of the audit can be for example the PM office, a representative of a profit centre or the client. In any case the project owner should be the project owner, whose interest is to assure the project management quality of the project, provide a learning

chance for the project and to make sure that the audit can be performed. The audit owner is responsibly for the assignment of the audit, agreements about scope, timing of the audit with representatives of the project and the auditor. Further the audit owner has to ensure the (project) resources for the audit.

Often the audit is performed by 2-3 auditors. Then one of the auditors takes over the role of the lead auditor. The auditors analyse the project management quality of the project and give recommendations regarding the further development of the project management of the project. The auditor needs a not only profound project management competences but also audit competences like designing the auditing process or performing an interview professionally. Thus social competence and emotional intelligence are important.

The role of the representative of the project is taken over by the project manager of the project that is audited. The objective of this role is to contribute information for the audit and to invest resources. Tasks of the project manager in an audit are for example to contribute to clarify the situation in the project, give feedback to the audit plan, to agree on scope and methods of the audit, provide documents for the documentation analysis, be a interview partner.

### **Rules, value and communication in management auditing**

The rules for auditing have to be agreed on in the auditing system. The communication policy should be agreed on between the auditor and project manager at the beginning of the Audit. To provide a learning opportunity to the project, the audit needs to be performed in a cooperative style. That would also mean that the representative of the project that is audited should be kept informed by the auditor. Circumstances that should lead to a cancellation of the audit and the consequences of a cancellation should also be agreed on at the start. The quality of the audit depends on the willingness of the project to cooperate and the time and resources available.

One major challenge is that the audit results are not perceived as a personal feedback to the single project manager who then will be blamed for mismanagement. This needs a certain culture of openness in the project-oriented organization.

### **CONCLUSIONS AND RECOMMENDATIONS**

The benefits of management auditing of projects and programmes are to provide a learning opportunity to the project or programme as well as to the project-oriented organization as such. The evaluation of the results of several project management audits may serve as basis for the further development of project management in the organization. But there are some challenges to make auditing a learning instrument as shown in this paper. Following I summarise some recommendations:

- A modern project management approach has to be the basis for the auditing. The basis for the auditing has to be agreed on with the project.
- The objectives, scope, consequences of the auditing have to be clear.
- Auditing should be done on a regular base for instance every project with a certain complexity should be audited after the project start. The PM office can provide auditing as a service to the projects and programmes.
- A sound and transparent auditing process is needed. This should be documented in auditing guidelines.

- It is not good enough to tick boxes whether a certain project management document exists or not, but it is necessary to go one step deeper and assess the quality and provide feedback.
- Also assess the individual and team project management competencies in the project. Self-assessments are a good instrument for that.
- Not the project manager is audited but the project. This has to be communicated!
- The audit should be performed in a cooperative style. An open communication policy has to be agreed on.
- A high level of project management culture and openness is needed in the project-oriented organisation.
- The auditors need to be experienced project managers, but also need to know the auditing process and methods. Auditing training is required

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