

# ‘Stream of Training’ Approach in Project Management Training

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## INTRODUCTION

This article describes a training innovation that combines research on advances in information communication technologies (ICTs) and leading-edge training techniques. It also extends an evolution of traditional organizational change management (OCM) approaches and integrates technology more fully than current traditional change management practices. This new approach to training is based on concepts that have been utilized in artificial intelligence (AI) and machine learning. This approach merges traditional project communication and project training together to form a continuous ‘stream of training’ throughout the life cycle of the project. This technique is an advanced combination of both training and communication. Rather than utilizing a traditional linear training model, in this technique, training becomes a stream of learning incorporating pretraining communication (screen prints of new applications), ‘push’ training that can be electronically distributed through really simple syndication (RSS, also referred to as resource description framework, site summary, or rich site summary) to key stakeholders just-in-time (JIT) and electronic performance support systems (EPSS) that reinforce new process/technology changes. Some of the potential advantages of this approach are that it is less costly than providing separate communication and training functions and that utilizing an integrated or streaming approach to communication and training may lead to less conflict and confusion among key stakeholders about the current status of the project team. A discussion of the background and the benefits achieved by this approach are described in the following sections.

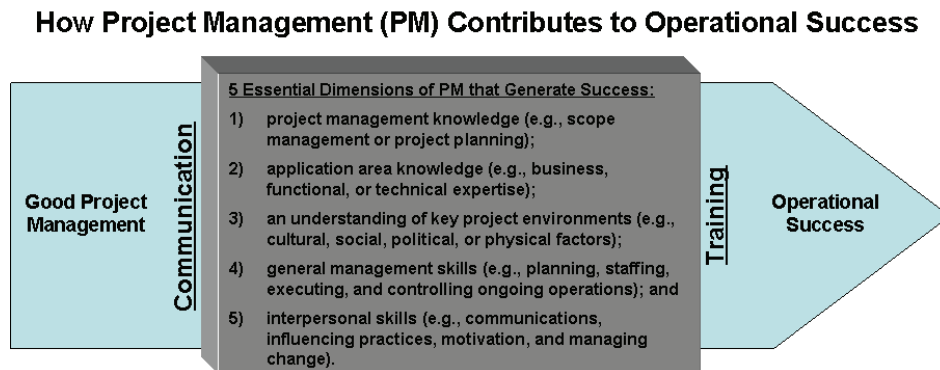
## BACKGROUND

The idea of a ‘stream of training’ data or information evolved from the literature on artificial intelligence (AI) and machine learning (see references in Atkeson, Moorey, & Schaalz, 1997; Rosario, 1992; Utgoff, 1989; Utgoff & Brodley, 1990). In this research literature, a ‘stream of training’ or a continuous flow of data/information into a program permits learning to occur from the relationships present in the stream. The programs used in this research usually rely upon very sophisticated algorithms or models (such as a variant of the Hopfield net) to interpret these relationships. This stream or flow of data/information is possible today because of the speed of the processors and the capacity of the neural network (approximately 14% of the number of nodes in the network according to Goertzel and Troianov, 2005).

In the project management ‘stream of training’ approach, both training and communication are merged together. Separately, both training and communication are critical aspects of an overall project management approach to successfully implementing new systems or structures. Utilizing this approach, the project team combines training and communication into a steady stream of data/information to all relevant stakeholders throughout the life of the project.

The importance of good project management (PM) in an implementation project is obvious. In order for a project to be carried out in a logical and rational way, good project management is critical. However, good project management may also be responsible for the strategic differentiation of the organization. In a recent enterprise resources planning (ERP) conference, Ritchie (2005) stated that “project management has become the critical linchpin between strategy and operations” (p. 13). Often, the bridge between the successful

Figure 1. Project management-operational success model



implementation (thanks to good project management) and successful operational excellence (a strategic differentiator) is the communication and training received during and after the project (particularly on processes and applications). In support of this, Ritchie (2005) suggests five essential dimensions of project management expertise that will generate results: (1) project management knowledge (e.g., scope management or project planning); (2) application area knowledge (e.g., business, functional, or technical expertise); (3) an understanding of key project environments (e.g., cultural, social, political, or physical factors); (4) general management skills (e.g., planning, staffing, executing, and controlling ongoing operations); and (5) interpersonal skills (e.g., communications, influencing practices, motivation, and managing change). All of these areas of knowledge can be communicated or trained in order to assist the stakeholders and customers of implementation projects (see Figure 1).

In his book on project management, Cleland (1994) focuses an entire chapter on project communications. This early chapter lists the types of information and methods of communication that he suggests are important to a project's success, such as:

- Plans
- Policies
- Procedures
- Objectives
- Goals
- Strategies
- Organizational structure
- Linear responsibility charts
- Leader and follower style

- Meetings
- Letters
- Telephone calls
- Small group interaction
- Example set by the project manager

Many of these separate pieces of information (and the methods by which they are communicated) are utilized by members of the project team in training the recipients of the project deliverables. For example, a person developing training on a new system would utilize project plans, objectives, and goals as well as the results of project meetings as input to content for course curriculum. Because many of these sources of information and methods are found in both project communication and training (see Figure 2), it is logical to view them as an integrated part of the overall project management process.

Some examples and short descriptions of types of communication and training that can be combined in an integrated approach throughout the life cycle of the project include (from Figure 2):

- **Project timeline:** Communication regarding the project timeline is distributed to all relevant stakeholders
- **Project team:** The background and experiences of the project team are communicated with all relevant stakeholders
- **Milestones:** Milestone achievement, prerequisites, and other relevant data are shared with all relevant stakeholders
- **Best practices/lessons learned:** These are developed into frequently asked questions (FAQs),

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