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The project vita: A dynamic knowledge management tool☆

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ABSTRACT

A project vita is a comprehensive index of factual information about a project's activities and achievements. Like an individual's professional curriculum vita or resume, it serves as evidence of past performance and capacity for future endeavors. This article situates the project vita as a knowledge management tool for use by large-scale research and development projects or coalitions. In such complex endeavors, the variety and scope of the knowledge generated can quickly outpace project staff attempts to collect, classify, disseminate, and support the effective use of the constant stream of information being produced. We describe how to develop a project vita and utilize it to support several essential project functions, including communication, evaluation, management, and as a portal to products.

1. The problem

The federal government funds large-scale research projects in the form of collaborative centers, research coalitions, and multi-site investigations. Managing these projects, charting their progress, and evaluating their effectiveness require monitoring a large amount of information produced by these projects (Quinlan, Kane, & Trochim, 2008; Trochim, Marcus, Masse, Moser, & Weld, 2008). Over time, even smaller scale, multi-year research and development (R&D) projects tend to become complex intersections of work encompassing interconnected components devoted to basic, applied, and policy research, program and product evaluation, materials development, consultation, and the provision of training and technical assistance. The professional staff working in these varied projects are "knowledge workers," with "high degrees of expertise, education, or experience, and [for whom] the primary purpose of their jobs involves the creation, distribution, or application of knowledge" (Davenport, 2005, p. 10, as cited in Compton, 2009, p. 21). A basic problem for all variations of this scientific and R&D work, then, is how to manage the knowledge produced by these complex efforts. The variety and scope of the knowledge generated can quickly outpace project staff attempts to collect, classify, disseminate, and support the effective use of the constant stream of information being produced.

Designers of management information systems have long recognized the necessity for distinguishing among the information collection process, information quality, and information use. Being clear about the purpose to which the information is to be put, and by whom, is critical; whether the information is for accountability, to inform decision making, to control agency behavior (Cohen, Noah, & Pauley, 1979), or to improve professional practice (Backer et al., 1980). With the incorporation of management information systems in human service agencies, for example, it quickly became clear that simply providing knowledge did not necessarily result in knowledge use, specific conditions and actions were required (Pauley, Choban, & Yarbrough, 1982).

Morell (1991) provides an important distinction between scientific and technological research perspectives when considering the design of information systems in large projects. While the purpose of scientific efforts is to generate generalizable knowledge, technological efforts are more directed toward the solution of practical, applied problems. Modern R&D projects often seek to make contributions in both regards by conducting more basic research, the results of which might have both policy and practical applications. This is especially true of R&D in education and the social sciences in which more immediate application of the results of research is expected by both the funder and the public. Such projects are expected to produce both scientific and technological knowledge of use to diverse audiences, thus requiring a complex, multi-user-focused knowledge management system for the effective dissemination and use of the knowledge produced.

Tyndale (2002) summarizes five different knowledge management

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models and describes 19 activities under such major functions as creation, organization, distribution, and application. He identifies 17 different types of technologies that can be incorporated into knowledge management systems such as intranets, web portals, information retrieval engines, and push technologies. Several of these technologies are incorporated in the project vita system described below. Tyndale emphasizes that knowledge-focused organizations need to maximize knowledge, not just manage data, and must closely understand how their knowledge users communicate, collaborate, share knowledge, and build on each other's ideas.

Historically, narrowly focused scientific projects have relied on passive distribution of the knowledge produced through the use of "known-to-the-audience" outlets such as scientific journals and document depositories. Increasingly, however, funders, the public, and the knowledge producers themselves seek more than simple distribution of information. Recognizing that available access does not necessarily result in adoption and application, knowledge workers have sought in a variety of ways to enhance knowledge use. Examples include dissemination strategies (Lawrenz, Gullickson, & Toal, 2007), large-scale databases (Penuel & Means, 2011), data dashboards (Smith, 2013), and increasing knowledge credibility (Yusa, Hynie, & Mitchell, 2016).

Knowledge management thinking has evolved from simply making knowledge available, to active dissemination to known audiences, to "push" technologies to share information with audiences who may not yet know of the existence and utility of the knowledge being provided. The knowledge management problem is even more complex in projects that simultaneously produce a diversity of knowledge (e.g., basic, policy, and applied information) for a variety of audiences (e.g., researchers, policymakers, practitioners, and the public). Multiple strategies are required.

Finally, some R&D projects seek to maintain two-way, ongoing information flow relationships with various audiences. That is, information is not simply shared for use by different audiences, but is actively sought from audience members and is then subsequently incorporated into the knowledge management system for redistribution and use by project staff and external groups. Audience members, themselves, thus become part of the knowledge production work and the knowledge management system must move from production to distribution to use to "knowledge engagement." As described below, modern technologies such as user blogs, participant webinars, and social media are currently being used to build effective knowledge engagement systems interactively linking audience members with project staff in collaborative knowledge production and application.

Unfortunately, while complex, multi-layered knowledge management systems may serve internal project information needs (e.g., Ekboir, Canto, & Sette, 2017), they are expensive to maintain and, importantly, they lack an effective interface for external users. An overall framework is needed that is flexible, adaptive to changing knowledge management technologies, and easily understood and useable by diverse audiences.

2. Project vita background

Similar to an individual's professional vita or résumé, a project vita is a comprehensive index of factual information about a project's activities and achievements. It serves as evidence of past performance and capacity for future endeavors. We have maintained and used a project vita in the context of a large-scale evaluation support center for several years. We find it to be an extremely effective and efficient means for project documentation that serves communication, evaluation, and management purposes. Yet it is a fairly obscure and little-known knowledge management tool. The article in which the project vita concept was first introduced (Smith & Florini, 1993) has been cited only twice since it was published (by Moxley & Jacobs, 1995; Ravitz, 1997). A web search for "project vita" and the closely related term "project resume" yielded no additional writings on this topic.

With this article, we hope to spark new interest in using project vitas. Following a brief description of the context in which we are using a project vita, we describe its key components and how can it be used for project communication, evaluation, and management, as well as a portal to project deliverables, simultaneously serving the information needs of project users, funders, and staff. We conclude with lessons learned based on our experience in developing and using a project vita for EvaluATE, the evaluation support center for the Advanced Technological Education (ATE) program of the National Science Foundation (NSF).

Located within The Evaluation Center at Western Michigan University, EvaluATE provides evaluation capacity-building activities and resource materials for approximately 250 ATE projects and centers nationwide, plus a growing national and global audience outside of the ATE program. EvaluATE has been in operation since 2008 and has maintained a project vita since 2010. EvaluATE's vita has grown to include about 600 entries, representing distinct activities, products, and contributors. This volume of information would be difficult to manage and access without a tool such as the vita, which organizes the information both categorically and chronologically.

3. Project vita components

EvaluATE's initial development of its vita was based on the guidance provided by Smith and Florini (1993), who described organizing their first vita, for a research-and-development (R&D) project, around the categories of project activities, products, and participants. For a second, even larger R&D project, they used an expanded set of categories that included activities and events, participants, publications, presentations, technical assistance and resource materials, and communication materials. Twenty-six subcategories under these main headings were used to present information in a more detailed manner. EvaluATE personnel took these categories into consideration when developing the center's vita, to create a structure that aligned with the nature of its work. The main headers in EvaluATE's vita are purpose, funding, activities and products, and people. The overall structure and main content of EvaluATE's vita is depicted in Fig. 1, followed by a description of what is included in each category. EvaluATE's complete vita is available from http://www.evalu-ate.org/about/vita/.

3.1. Purpose

A project's purpose is efficiently communicated through statements about its mission, vision, values, and goals. Including such information in a vita provides contextual information for the document's contents. This information orients the reader to the nature of the project and provides a frame of reference for the information contained in the rest of the vita. A project's evaluator, advisory group, funding agency, or project officer can check alignment of the project's purpose with its documented accomplishments.

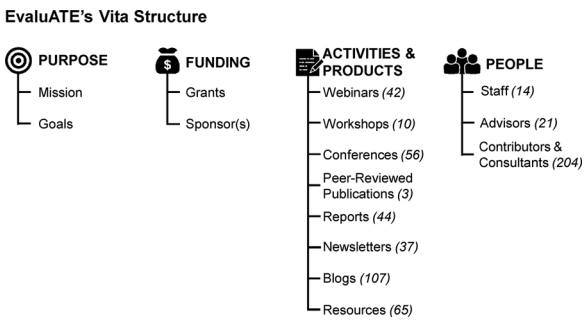

Fig. 1. Overview of EvaluATE's vita structure and content.