

Revisiting types of relationships between a program's component projects

By Alan Stretton

ABSTRACT

In a previous paper I identified some twenty different types of relationships that can occur between a program's interdependent component projects, derived from the literature. These were then classified into three main groups, based broadly on a classification of ways in which a program's projects can be organized, proposed by Maylor et al 2006.

However, this particular way of classifying inter-project relationships did not appear to be particularly useful when I began to think about the management of such relationships. In addition, I wasn't happy with some of my decisions about which group to put certain relationships into, which had a somewhat arbitrary element. I therefore looked for another way of grouping these relationships which might be more useful.

This paper develops a simple two-type classification of inter-project interdependencies, which I have termed transactional, and change-related. The management of transactional interdependencies covers the normal vicissitudes which invariably occur in the quite complicated environment of programs and their interdependent component projects. At a different level, change-related interdependencies include the management of significant changes in the program, and dealing with consequent escalated issues among the projects that comprise the program, including those which are often the subject of risk management activities.

Hopefully this simple two-type classification may be useful to those who may be interested in developing more detailed materials on the management of inter-project interdependencies.

INTRODUCTION

In a paper in *PM World Today* (Stretton 2012c), entitled *Program management: Types of relationships between a program's component projects*, I began by noting that there is widespread agreement in the literature that a primary component of the program management task is the coordinated management of its related component projects. I then derived some twenty different types of relationships between component projects from four primary sources. These were then grouped into three categories (following a classification suggested by Maylor et al 2006) into predominantly independent projects, partially inter-dependent projects, and substantially inter-dependent projects.

However, in looking into these more closely in the course of trying to identify and classify elements which are unique to programs and their management, I became increasingly unhappy about the potential usefulness of the original three categories, and of how the twenty relationship types were allocated into these groups.

Eventually, I came round to the following rather straightforward way of looking at the relationships between a program's component projects, which proposes two main categories of relationships. But, we first look briefly at why this may be relevant in the broader context of program/project management.

WHY BE CONCERNED ABOUT TYPES OF INTER-PROJECT RELATIONSHIPS?

A program is a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually. (PMI 2008b:5)

There is surprisingly little material in the literature about the various ways in which a program's component projects are related, and even less on the implications of such differences for their coordinated management. As Artto et al 2009 point out,

...inter-project coordination does not appear as a separate issue in the program and project articles.

For some time I have been interested in trying to isolate those attributes which are unique to programs and their management, rather than being shared with project management or strategic portfolio management. It appears to me that the management of interdependencies between component projects is not shared with project management, and (by most definitions) is also not shared with strategic portfolio management (see Stretton 2012g for more discussion on the latter). Therefore, this seems a good starting point for investigating unique program management attributes.

Further, identification and classification of the various types of interdependencies would appear to be a natural step towards a better understanding of what is involved in their management.

COMPONENTS OF INTER-PROJECT INTERDEPENDENCY MANAGEMENT

The Standard for Program Management (PMI 2008b:8) summarizes what is involved in the management of the interdependencies between the component projects of a program as follows.

Program managers coordinate efforts between the projects but do not manage them. Essential program management responsibilities include [my bullet points]

- the identification, monitoring and control of the interdependencies between projects;

- dealing with the escalated issues among the projects that comprise the program;
 and
- tracking the contribution of each project and the non-project work to the consolidated program benefits.

There are some writers who have a broader perspective on the nature of essential program management responsibilities. However, for the time being we will stick with PMI 2008b.

Earlier, PMI 2008b:6 says that

In programs, it is important to integrate, monitor, and control the interdependencies among the components. Program management focuses on these *project interdependencies and helps to determine the optimal approach for managing them.*

PMI 2008b:6 goes on to list actions related to these interdependencies. In the following table I have located these actions opposite the three bullet points above (from PMI 2008b:8), and have given each grouping a title [to be discussed shortly].

<p>PMI 2008b:8 Essential program management responsibilities include: [my bullet points and Titles]</p> <p>[Transactional]</p> <ul style="list-style-type: none"> • the identification, monitoring and control of the interdependencies between projects; <p>[Change-related]</p> <ul style="list-style-type: none"> • dealing with the escalated issues among the projects that comprise the program; <p>[Strategic]</p> <ul style="list-style-type: none"> • tracking the contribution of each project and the non-project work to the consolidated program benefits <p>[International].</p>	<p><i>PMI 2008b:6 Actions related to these interdependencies may include: [fourth and fifth bullet points transposed]</i></p> <ul style="list-style-type: none"> ○ <i>Coordinating the supply of components, work or phases as experienced in the construction of bridges, skyscrapers, or aircraft;</i> ○ <i>For internal programs, resolving resource constraints and/or conflicts that affect multiple projects within the program;</i> ○ <i>Mitigating risk activities that run across components, such as contingency planning;</i> ○ <i>Resolving issues and scope/cost/schedule/ quality changes within a shared governance structure</i> ○ <i>Aligning organisational/strategic direction that affects project and program goals and objectives;</i> ○ <i>Tailoring program management processes and interfaces across a global program to handle culture, language, time, and distance differences.</i>
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Transactional aspects of inter-project coordination

I have borrowed the descriptor “transactional” from Thiry 2010, who uses it to describe project management processes in the *PMBOK Guide* (PMI 2008a), which are not dissimilar to those applicable to certain elements of program management as discussed in PMI 2008b. The sense of “transactional aspects” is that they cover the management of the normal vicissitudes which invariably occur in the relatively complicated environment of programs and their interdependent component projects.

The types of interdependencies under this heading include both of the following, which are often intertwined.

- Task-related interdependencies, such as those requiring coordination of the supply of components, work or phases; or those involving actual physical interfaces; or change of responsibility interfaces.
- Sharing-related interdependencies, which not only include shared resources (people, materials, equipment or subcontractors), but also shared information or data, shared technology (engineering, hardware or software), common funding, or shared clients, customers or other stakeholders.

Change-related aspects of inter-project coordination

The sense of “change-related aspects” is that they include the management of significant changes in the program, and dealing with consequent escalated issues among the projects that comprise the program. Significant changes may include change to the program scope, either directly imposed from outside, or through internal operational problems, or other changes of substantial magnitude.

I have included program risk management in this category, primarily because risk management is typically concerned with the consequences of changes from either external or internal sources. Program risk management is one of the most extensively discussed topics in the program management literature, and there is quite substantial discussion of risk management in the context of interdependent projects.

Escalation issues that arise from changes are illustrated in the following quotation from the first edition of *The Standard for Program Management* (PMI 2006a:5), which said that a program may link projects in various ways, including

- Escalation points for issues, scope changes, quality, communications management, risks, or program interfaces/dependencies.

Whilst there is substantial material in the literature on risk management in the inter-project coordination context, discussions of changes in scope, cost, schedule, quality et al in this context vary from moderate to virtually nil.

Strategic and international aspects

Although the consequences of decisions in the strategic and international areas often flow back in the inter-project coordination domain, these aspects are essentially external, and are not directly relevant to the subject of this short paper.

CONCLUDING

This short paper has developed a two-type classification of inter-project interdependencies in a program, which have been termed transactional, and change-related. The management of transactional interdependencies covers the normal vicissitudes which inevitably occur in the relatively complicated environment of programs and their interdependent component projects, and include task-related and sharing-related interdependencies. Change-related interdependencies include the management of significant changes in the program, and dealing with consequent escalated issues among the projects that comprise the program, including those commonly associated with risk management activities. Hopefully this simple two-type classification may be useful for anyone interested in developing materials on the management of inter-project interdependencies in more detail.

REFERENCES

- ARTTO Karlos, Miia MARTINSUO, Hans Geog GEMUNDEN & Jarkko MURTOARO 2009. "Foundations of program management: A bibliometric view". *International Journal of Project Management*, 27 1-18
- MAYLOR Harvey, Tim BRADY, Terry COOKE-DAVIES, & Damien HODGSON, 2006. "From projectisation to programmification". *International Journal of Project Management*, Vol 24, Issue 8, pp 663-674.
- PMI (PROJECT MANAGEMENT INSTITUTE) 2008a. *A Guide to the Project Management Body of Knowledge*. 4th Edition, Newtown Square, PA; Project Management Institute
- PMI (PROJECT MANAGEMENT INSTITUTE) 2008b. *"The Standard for Program Management"*. 2nd Edition, Newtown Square, PA: Project Management Institute
- PMI (PROJECT MANAGEMENT INSTITUTE) 2006a. *"The Standard for Program Management"*. Newtown Square, PA: Project Management Institute
- STRETTON Alan 2012g. "'Portfolios' and the project management literature". *PM World Journal*, Vol I, Issue III, October.
- STRETTON Alan 2012c. "Program management: Types of relationships between component projects". *PM World Today*, Vol XIV, Issue II, February.
- THIRY, Michel 2010. *"Program Management"*. Surrey, England; Gower Publishing Company.

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