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From the front end of projects to the back end of operations: Managing projects for value creation throughout the system lifecycle

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Abstract

Morris (2013) calls for value creation for project stakeholders using project outcomes. This is an attempt to link the front end of the system lifecycle – the project phase – to the back end, i.e. the operations phase. Little is however known about how value creation occurs through developing project outcomes which have the capacity to continue value-creating activities even decades after a project is completed. We establish that projects are multi-organizational systems which transit from the project phase to the operations phase in system lifecycles, and we use the systems view to analyze value creation mechanisms within the system lifecycle. We carry out empirical research into the lifecycle of a shopping center. Four distinct value-enhancing integration mechanisms in the operations of this multi-organizational system are identified, and propositions for four new project management approaches that create value during the project and have long-term value-enhancing impacts in the operations phase are derived.

Keywords: Management of projects; Value creation; System lifecycle; Project phase; Operations phase; Integration

1. Introduction: value creation in project management that raises the use value of a system in the back end of its lifecycle

Morris (2013) calls for value creation for stakeholder organizations using project outcomes. These stakeholders – including sponsors, users, service providers, commercial firms and public organizations – use such project outcomes in the operations phase of the system lifecycle. The value-adding elements within a project link the front-end project management process to the back end of the system lifecycle, i.e. the operations phase. In this analysis, we adopt a system lifecycle view which assumes that a project creates outcomes which have the capacity to continue operations and additional value-creating activities even decades after the project phase has ended. The core element for creating value in project management is the integration of work among organizations within the project's multi-organizational system (Morris, 2013). Little is yet known about how value creation among multiple interdependent organizations occurs when creating project outcomes which have the capacity to continue value-creating activities in the operations phase of a system lifecycle.

The purpose of this paper is empirical research into the operations phase of the lifecycle of a shopping center to identify value-enhancing integration mechanisms and derive new project management approaches. These new project management approaches increase understanding of how a multi-organizational system can be developed which adds value during the project phase and also has the capacity to continue value-creating activities

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in the operations phase of the system lifecycle. We rely on the systems view (Cleland and King, 1968; Morris, 1983) when analyzing value creation mechanisms within the system lifecycle (Morris, 2013). We also draw on the value stream (Davies, 2004) concept to illustrate how the value creation process can continue throughout the system lifecycle.

The Big Apple shopping center was the subject of our empirical research (Big Apple is a direct translation of Iso Omena, the Finnish name). Big Apple is located 13 km to the west of downtown Helsinki and is located within the Helsinki Metropolitan Area. The project for developing and building Big Apple was launched in 1997 and operations at the shopping center began early in 2001. Since the center opened, 115 organizations including users, service providers, commercial firms and public organizations have been involved in its operations as an integrated network that has created value for all the organizations belonging to it. In our empirical study, we identify value-enhancing integration mechanisms and derive project management approaches that can be employed during a project to add value when developing this type of value-creating operational system. Our analysis looks at these integration mechanisms at a micro-level, i.e. we scrutinize concrete activities by individuals or teams and examine individual choices and intentions in order to identify value-enhancing integration mechanisms in the shopping center's multi-organizational system over its lifecycle. Four distinct integration mechanisms are identified. Four propositions are then derived for new project management approaches that add value by developing a value-creating operational system during the project phase which has the capacity to both initiate new and continue existing value-creating activities in the operations phase.

2. Prior literature

2.1. Value creation and system lifecycle

Morris (2013) suggests that project management should aim to add value by achieving the outcome desired by the project sponsor and other stakeholder organizations. If we accept the notion that the outcome of a value-adding project is a multi-organizational system capable of creating use value for involved stakeholders, we can then argue that value creation within the project takes place through project management's activity of creating this operational system – or network – of multiple organizations. Creating a well-functioning operational network of organizations is often a long and evolving process that requires integration through social interactions. We therefore argue that initiating and developing this value-creating operational network as early as possible, i.e. during the front-end phase of a project, yield substantial increases in the value created over the system lifetime.

To broaden our perspective from that of a project to an entire system lifecycle, we adopt a systems view (Cleland and King, 1968; Morris, 2013). The contemporary project management standard BS6079 (2010) also broadens the project lifecycle view to the lifecycle of an entire system by establishing the notion of an extended project lifecycle that covers operation and ends with withdrawal. The CADMID acquisition cycle used by the UK's MoD (Ministry of Defence) also provides a view of an entire system lifecycle, starting with the concept phase and ending with disposal (DSE, 2002). Based on these views, and for the purposes of the current study, we determine that the system lifecycle involves two major phases: the project phase and the operations phase. In connection with expanding the system lifecycle perspective from technical to organizational systems, Sayles and Chandler (1971) used the systems view to describe how organizations interact with technologies within a system, and how a development project interacts with operations in the organizational system's lifecycle. Morris (2013) links the foundations of the systems approach with the work of Ludwig von Bertalanffy (e.g. von Bertalanffy, 1950). In more recent research into integrated solutions, Davies (2004) has developed a value stream concept which describes the continuous value creation process among multiple organizations throughout the system lifecycle from project phase to operations phase. The interesting link between the project and operations phases includes the project's task of establishing an operational networked organization for the operations phase that will add value during operations. Moving from a value-adding project to full-scale operations requires that the multi-organizational network which will handle the operations phase is at least partly established during the project phase, and also that during the project phase, the network becomes a mature operational entity that is capable of running operations and simultaneously developing new ways of creating value.

Early work by Morris (1983) on project interfaces is relevant for understanding the aims of value creation within the system lifecycle, since it is suggested that value is cast forward from the project phase to future operations. Morris (1983) establishes that the project system's temporal lifecycle subsystem involves dynamic interfaces. If we accept the notion that this kind of dynamic link also exists in the project-to-operations interface in the entire system lifecycle, it is then natural that project management's key activity in terms of adding value is to establish a network of multiple organizations which evolves throughout the project and is finally transformed into a value-enhancing network in the operations phase.

Temporal integration across the system lifecycle is typically expected to take place as a result of plans that manage sequential interdependence (Morris, 1983, 2013), but when system complexity and dynamism are raised as results of multiple organizations participating in different phases, mutual adjustment and interaction among multiple organizations are then needed as integration devices to address the reciprocal interdependence between organizations (Morris, 1983; Sayles and Chandler, 1971). Morris (1983) further establishes that higher organizational levels are involved in the project-to-operations transformation in a system lifecycle, and therefore, because such interdependencies are both strategic and complex in nature, integration through planning is not necessarily effective — plans usually focus on a project's concrete outputs and may ignore the need to take account of desired outcomes which arise from the interdependencies between organizations. This observation related to a complex (and value-creating) organizational system as the actual outcome of a

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