

Is Production Outside Management?

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PPI

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The Separation of Management from Production

- Pierson, 1959: The Education of American Businessmen, John Wiley, New York.
- Gordon & Howell, 1959: Higher Education for Business, Columbia University Press, New York.
- Behavioral sciences
- Economics
- Quantitative modeling

Consequences of the 1959 turn

- the connection of management to production, which earlier had been the conceptual starting point, was cut off. This was done by reconceptualising organizations around decision-making, and around the interplay between individual and organization.
- Management and organization science were seen as falling into social sciences, which meant:
 - Research was to be done by scientists external to the phenomena studied.
 - Research had to result in empirical generalizations about behaviour and excluded the generation of concepts, methods and tools.

From Koskela's 2011 "Wild Goose Chase", 19th annual conference of the Int'l. Group for Lean Construction.

Irrelevance for Practice

Criticism of the new conceptualization of management began to appear as early as 1972 and continues today. Example: Ackoff's 1979 critique of operations research—"The meetings and journals of the relevant professional societies, like classrooms, were filled with abstractions from an imagined reality. As a result OR came to be identified with the use of mathematical models and algorithms rather than the ability to formulate management problems, solve them, and implement and maintain their solutions in turbulent environments."

Irrelevance for Practice

- Cassidy's 1996 article in *The New Yorker*:
“...that a good deal of modern economic theory, even the kind that wins Nobel Prizes, simply doesn't matter much.”
- Flyvbjerg's 2001 book *Making Social Science Matter*, which calls for reconceiving social science, not on the model of natural science, but in line with Aristotle's *phronesis* (practical wisdom).

Impact on Production Management

Buffa (1980): “...looking at research in the field before and after the MS/OR revolution, it appears that we have learned a great deal about inventories, scheduling, aggregate planning, quality control, capacity planning, and so on, in the sense of models of those isolated subsystems. We have not learned very much about the relationship between these subsystems; we view the field as a collection of seemingly unrelated subsystems rather than as whole systems (there are exceptions).”

Counterattack by Researchers

- Argyris (1985) *Action Science*
- Johnson & Kaplan (1987) *The Rise and Fall of Management Accounting*
- Eisenhardt (1989) “Building theories from case study research”
- Daft & Lewin (1990) “Can organizational studies begin to break out of the normal science straitjacket?”
- Kasenen, et al (1993) “The constructive approach in management accounting research”
- Van Aken (2004) “Management research based on the paradigm of the design sciences”

Theoretical underpinnings of traditional project management

- Management as Planning
- Push vs Pull
- Thermostat model of Control

Managing as Planning

In conventional practice, management is all about planning, and plans can be perfectly realized—if it just weren't for the people! This assumption of perfect planning explains the dominance of sequential processing in all types of work, not only projects. It is assumed that coordination can be imposed on those doing the work, as opposed to achieved through their own actions. When things go wrong, that is blamed on 'human error'. It's people who are said to screw up perfect plans.

Push vs Pull

The mechanism for release of work is dispatching, which can be understood in terms of **Push vs Pull**:
Absence of a make-ready function in the model, coupled with the failure to address social factors and the distrust between planners and doers that results from conflicting commercial interests, results in pushing doers to perform scheduled tasks regardless of the readiness of the tasks to be performed.

Thermostat Model of Control

The **Thermostat model** is the model for control and consists of two functions:

- Plan: Set targets
- Control: Identify and correct variances from targets

Some features of this approach:

- Control starts with after-the-fact detection of variances
- There is no provision for making work ready, no explicit readiness requirement, and no specification of corrective action processes. This is clearly a mechanical process that could only work in a perfectly deterministic world, with no variation.

Conclusion

The Toyota Production System is a throwback to the old production-based conceptualization of management, and Lean Construction is its counterpart in project production systems. Central to both is management by means vs a myopic focus on results.

Thank you for your attention. I look forward to your comments and questions.