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Why doesn't operations management research deliver?

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Problem

The web site of EPSRC states: “Manufacturing operations management research is a key component for successful portfolio in Manufacturing Research; however, this area needs attention to ensure that it is delivering.” Indeed, problems regarding industrial relevance and theoretical progress of operations management have been widely observed.

Approach

This presentation endeavours to pinpoint the root cause for these problems, along with possible remedial action. The approach to the topic is historical. Looking at the evolution of production/operations management from 1900 onwards, two key phases stand out: conceptual inventions and ousting of management from management science.

Conceptual inventions

First, during the heyday of scientific management, three major conceptual inventions regarding production were made, and each led to a major template for production management (Figure 1). These inventions proposed, respectively, to see production as transformation, flow, and value generation. Over time, these led, respectively, to the mainstream production management, lean production, and total quality management.

Ousting of production from management science

A turning point occurred in 1959, when two influential reports (by Pierson and Gordon & Howell) on the future of business education in the US were published. While earlier, general management had evolved as an outgrowth of production management, now production management was subordinated to general management: simply, the task of production management was seen to apply insights from general management to production. From the three general areas of management proposed in the reports, namely behavioural science, economics

and quantitative modelling, the last was first adopted by production management researchers. Later, attention has turned into behavioural science and its empirical methods.

Analysis

The turn in 1959 meant that production management was defined as a vassal discipline to management. This implies that major conceptual and theoretical breakthroughs are awaited from the master discipline, to be applied by the vassal. However, production as a study topic was practically ousted from general management in that turn. In addition, management research itself has suffered from a wide relevance problem since 1959. Thus, it has not been able to provide major conceptual and theoretical breakthroughs. It is argued that this is the root cause for the current problems of operations management. In terms of the well known Technology Readiness Level model, the problem has been that since 1930's, there have not been any TRL 1 inventions, stimulating further advances on higher ladder levels.

Towards a solution

Drawing inspiration from the developments in the beginning of the 20th century, it is argued that operations management should focus on conceptual and theoretical breakthroughs in the understanding of production and related phenomena, that is, progress at the TRL 1 level. Also, this discipline should reject the vassal role and start confidently building up a production-centred conception of management.

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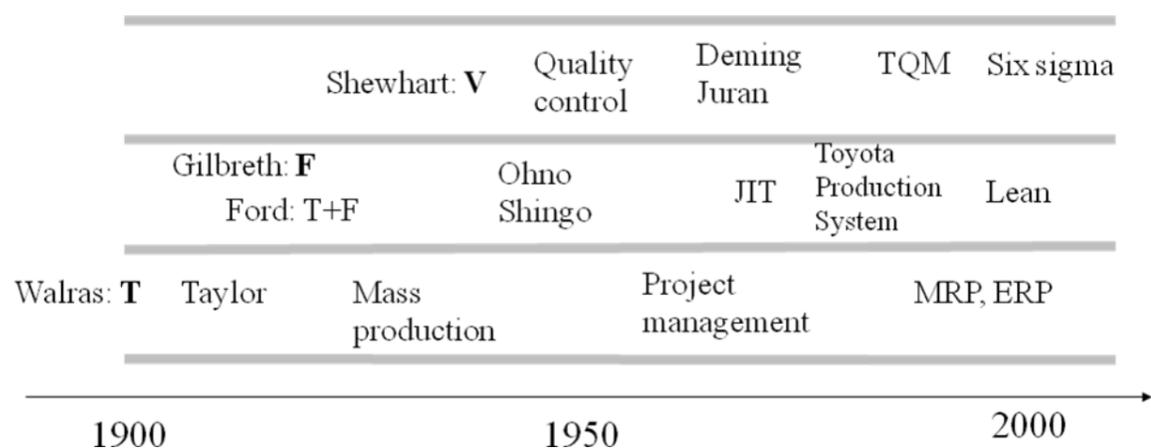


Figure 1. Three concepts of production, transformation (T), flow (F) and value generation (V) have catalyzed the evolution of production management in the 20th century and beyond; however, the developments triggered by each of them have progressed in their own track, largely in isolation from others. Also, the attention has turned away from the triggering concepts to the methods and templates they had generated.

