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From product specialist to management of production operations

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Editorial

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Working on a project with a small toolmaking company has reminded me that published research doesn't always lend itself to easy application in real companies. This small factory has no operations manager or systems designer, but many specialists in different aspects of tool design, manufacture and assembly. They need a lot of expertise, because each tool is different and every customer has specific technical requirements that must be satisfied. The tools they make are great, but in a competitive world the company needs to take out costs and reduce lead times while finding new ways to help the customer. Who is there to help redesign the way the business's operations work?

The volume of research being conducted across the world ought to have some messages for this company. They know they need to be lean, agile, competitive and part of an integrated supply chain, but how will they get there? They would like to be able to schedule n parts through m machines, but they are generally frustrated with literature and advice that doesn't address their problems. In this company, where every product is different, there are no reliable operation times or setting times, so any sort of planning or scheduling is impossible. The simple organisation of work is a form of forward scheduling – work is started as soon as possible, and chased through the factory with disruption and overtime when a customer deadline gets close. Most of the time the customer is satisfied – but not in the most efficient way and not in a way that allows the measurement of performance and the targeting of improvements.

As a way of putting some controls in place, a study has been initiated that will look at workflow and machine grouping, and estimated times have begun to be generated to allow some basis for improved scheduling. Problems will be encountered when people are asked to work in new ways, the strategy of the business will be questioned, and no doubt there will be disagreements that have to be handled. So in this company and millions of others like it, improvements in production planning and control will bring with them, and depend upon, difficult and demanding changes in the way the operations are managed. To handle these challenges, companies may find that besides being short of specialist planners and schedulers, they are also short of specialist strategy-makers, change managers and leaders who can make the changes happen. Who will tell them where to start?

For effective change and development in the systems of production planning and control, small companies and one-of-a-kind manufacturers need to be supplied with research that goes beyond the mathematical simulation and optimisation methods that specialists can apply in certain circumstances to fine-tune operations whose data is trusted. Case studies that draw attention to how to tackle the problem as a whole, and which point to useful general principles for doing the whole job from start to finish will be able to make a real difference to these (operationally) unstructured and unsophisticated businesses. *Production Planning & Control* is the ideal forum for the publication of research work and industrial experience that can help people understand how to extend their companies from expertise in their product to expertise in their production operations.

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