

Impressed by Simplicity

By Joe Whitefield

Two trains are on the same track heading toward one another. Initially they are 75 miles apart. Train A is traveling east at 15 miles per hour and Train B is traveling west at 10 miles per hour. The trains are carrying 145 passengers between them. As the trains leave the station, a bee takes off from the windshield of Train A and flies east, at 21 miles per hour, until it reaches the windshield of Train B. Once reaching Train B the bee turns around and flies west until it reaches the windshield of Train A. The bee continues flying, at the same speed, from windshield to windshield of each train until they collide. The question is: What is the total distance the bee travels (presuming he was not smashed on a windshield)?

For many people, this kind of problem stirs up bad memories and sick feelings. After all, it involves moving objects, several unrealistic elements, many unknowns, and an impending collision. While each element of the problem is important, taken together they seem to complicate the situation and add to its overall complexity. And no one really wants to take the time to calculate the number of segments as well as the time and distance of each segment the bee travels from train to train anyway.

In many ways, the problem with the trains and the bee resembles the problems facilities managers frequently face. Practically all operations, systems, or processes we use and rely upon everyday contain some measure of complexity. Generally speaking, complexity is a condition that is difficult to understand or analyze because it involves many inter-related parts. Given the prevalence of it at work and in our daily lives, it might be

helpful if we look at both the nature and the impact of this condition.

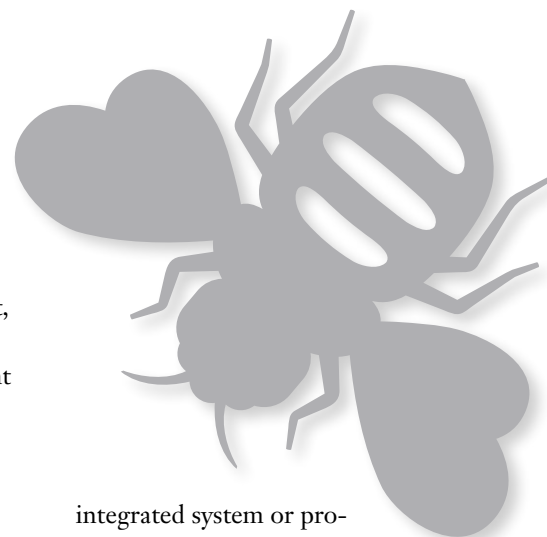
NATURE OF COMPLEXITY

Complexity is subtle. It is rarely our intent to complicate a situation. In fact, our intent is usually the opposite. In trying to be more effective and efficient we integrate and automate everything we can for the purpose of saving time and financial resources. Integration is the primary mechanism for efficiency. Of course, technology is a tremendous enabler, if not an outright driver, of this effort.

The negative aspects of complexity lie below the surface, and sometimes stem from our improvement efforts. The same integration strategies that produce efficiencies, can create dependencies that propagate failures and errors throughout the system as fluidly as the benefits. While operating a new system may require less thought when it's running smoothly, the same cannot always be said when problems arise and have to be diagnosed and corrected.

IMPACTS OF COMPLEXITY

There are costs associated with complexity. We are all aware of the initial costs of implementing the fully



integrated system or process—technology, personnel, training, etc. These costs serve as the basis of comparison with the quantified benefits producing some rate of return.

However, other costs of complexity are hidden. They may include:

- longer term operational and maintenance costs associated with the technology
- dependence on consultants and specialized service providers for support
- duplicate or backup systems that are required and sporadically used
- inefficiencies of all kinds, with both system and personnel, associated with intricate processes and product flow systems
- future renewal, replacement, and upgrade costs for equipment, hardware, software, etc.
- additional layers of management

These costs are the inefficiencies that are embedded in operations and administrative structures. Often, it is the dependencies established in the integration process that amplify the impacts and the costs associated with complex systems. A small problem in one phase snowballs as it rolls through the system.

C Completion
O Organization
I Innovation
N Being Nice

COMPLEXITY MANAGEMENT

Writer and strategy consultant Richard Koch opines that half of the value added costs in the average company are complexity-related, and half of that half offer opportunities for radical cost reduction. He says, “Waging war on complexity can lead simultaneously to stunning cost reductions and improvements in customer value.”¹ A quick look at the operations and systems within your facilities management organization should indicate if you are managing complexity or complexity is managing you.

This is not a call to unplug the technology and revert to older processes and systems. Instead, it is a call to re-examine their benefits and their costs. It could be profitable to adopt a simplification mindset that wrings out unnecessary steps that add to the complexity but do not add value. Ask questions such as:

A QUICK LOOK AT THE OPERATIONS AND SYSTEMS WITHIN YOUR FACILITIES MANAGEMENT ORGANIZATION SHOULD INDICATE IF YOU ARE MANAGING COMPLEXITY OR COMPLEXITY IS MANAGING YOU.

Is it necessary? Does it help? What are the true costs? Is it worth it? In short, keep it simple.

SO...HOW FAR DID OUR BEE TRAVEL?

In case you are wondering how far our bee has traveled, consider the following simple approach:

- Before you attempt the calculation, call Jack Bauer – the trains are going to collide

- The trains are converging on one another at a total rate of 25 miles per hour
- At 25 miles per hour, the trains will cover the 75-mile distance and collide in 3 hours
- A bee flying at 21 miles per hour will travel a total of 63 miles in 3 hours (no need to calculate the individual segments of the bees travel)

The problem is really not as difficult as it may have initially appeared—neither are many of the challenges we face every day. ☹

ENDNOTE

1. *50 Management Ideas You Really Need to Know*, Edward Russell-Walling

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