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The Scope of a Manufacturing Systems Implementation

By
Alan Dunn, President, GDI Consulting & Training Company, 2014

Everywhere you look, manufacturing systems implementation projects are failing and management is upset. Why is this?

We believe the answer is a simple one. Manufacturing system implementation projects are failing because companies do not have high caliber people trained to implement the "*system*" within their organizations. **Also**, executives who sponsor these implementation projects often do not understand what the complexities and all-encompassing implications of these new "*systems*." Most companies buy a sophisticated and complex software and consider these alone to be the "*new*" system. In actuality, the "*system*" that most project teams are attempting to implement is really a combination of SEVEN significant elements:

1. **New formal policies** designed and written by users and management. These policies are becoming the "*rules of the game"* for new company operations. They define not how the company operated in the past, but how management agrees it will operate in the future. Failing to dream a bit about new policies early in an implementation effort will doom even the best intentions.

2. **Formally written and approved procedures** describing how functions and entities within the organization will interact… in terms of communications and information sharing. Again, these procedures go far beyond the requirements of the new software tool. They define, in some detail, how the company will operate and how people will behave. Properly developed and written, these procedures become the "*training curriculum*" for future ongoing training programs.

3. **Formally developed interactive guides** that combine policy and procedure at the computer level. Interactive guides are the metaphoric equivalent of desk-top reference manuals describing how users interact with the system and what the user is permitted to do (or not do). Interactive guides define not only how data is used, but also who is responsible for its integrity and systematic review. These guides provide the rules for data input, data management and information extraction.

4. **Systems software.** This is the actual set of integrated programs, usually purchased as a "*package*" from a third party supplier. Many companies do not perform a proper evaluation of software tools, and as a result, purchase the wrong software package for the wrong applications. Just as many companies choose

inadequate software tools, modify them heavily, and forever lock themselves into expensive and difficult system updating requirements.

5. **Systems hardware.** This includes printers, plotters, servers, terminals, drives, backup drives, cloud processing, memory configurations, modems, multiplexers, line conditioners, environment conditioners, surge suppressors, scanners, data entry devices, etc. Often, companies that do not assess the systems requirements prior to purchasing new software and hardware, will choose the wrong equipment or utilize the wrong peripheral devices. It seems there is no end to the list of companies that implemented new systems and had no money left for important user peripherals (scanners, printers, displays etc.) Again, this is almost always a failure to understand total system requirements BEFORE implementation.

6. **Education & training.** Companies often do not understand the need to educate employees in concepts related to working with automated and complex information systems. As a result, users are often befuddled by the new terms and conditions in their jobs. They are lost and inefficient in all their daily activities. They get mad and frustrated.

   Worse, these users cannot be effectively trained in how to interact with the new system unless they understand the principles of operations AND integrated systems. This means that users must not just understand the specificity of interaction with the system… they must understand the **logic** of what they are doing. Once logical understanding is achieved, training for a specific application use on a specific device will become a natural reality. Training all users in the new policies, procedures and interactive guides is what takes them from frustrated to productive.

7. **Systems implementation often requires a look at the organization.** Many companies simply do not have the organization structure in place that will permit an integrated system to be successfully implemented. This is usually because built-in conflicts exist within the organization. Also, many organizations have goals for particular departments that prohibit the successful implementation of a particular system within that department, simply because department goals are often contrary to the project manager's goals.

Systems implementation of modern integrated manufacturing and financial systems cannot be successfully accomplished unless all of these issues are addressed. A system is not a set of software applications and computer equipment. A system is an integrated way of running a business from the top of the business to the very bottom of the business… from the Boardroom to the Storeroom! Companies that do not take a holistic approach, looking at the issues noted above, are almost always doomed to an implementation failure, or doomed to a very long and unrewarding implementation effort.

Do not be in such a hurry to implement a system just for the sake of implementing a new system. Evaluate your company in regards to these issues and then define the effort through a systematic business and project planning effort. After all, your company has probably operated for many years without the new system. In the end, stretching out the implementation in an effort to do it right (*18 months or less is usually sufficient*) will more than likely not be noticed.

About the Author

Alan G. Dunn is currently President of GDI Consulting & Training Company and founder of the Manufacturing Executive Institute (MEI). He is also the creator and lead-instructor of the 18-month Next Generation Global Supply Chain Leadership Development Program at the California Institute of Technology's (Caltech) Center for Technology & Management Education (CTME), where he has taught since 1984. Mr. Dunn also serves on the University of California at Riverside's (UCR) Advisory Board for Transformative Leadership in Disruptive Times.

Mr. Dunn specializes in supply chain management, strategic planning, manufacturing management, operations management, leadership development, cost management and business finance.

Previously, Mr. Dunn was a Vice President at Gemini Management Consulting and a Partner at Coopers & Lybrand. In both positions, he led large technical manufacturing teams through innovative productivity enhancement projects. Mr. Dunn has participated in >188 significant manufacturing and distribution projects inside >118 companies. He has worked in 24 countries and across most manufacturing sectors.

Over his 40-year career in global supply chain consulting, Mr. Dunn has served on the Boards of Directors of numerous public, private and non-profit companies. He is the recipient of the National Association of Corporate Directors (NACD) prestigious *"Director of the Year"* award in 2007.

Alan is a career Association of Supply Chain Management (ASCM) volunteer, having served as the President of the Orange County Chapter in 1984 and Chairman of ASCM in 2015. He was inducted into the *"ASCM New England Supply Chain Conference Hall of Fame"* in 2022.

Mr. Dunn has a degree in business management from California State University, Fullerton.

Contact Information

Alan Dunn, President
GDI Consulting & Training Company
P.O. Box 205
Temecula, California 92593 USA
951-587-2003
agdunn@gdiconsult.com
www.gdiconsult.com