

APICS-IE "Navigating thru Volatility" Webinar Series

Weathering the COVID-19 Pandemic's Impact on Global Supply Chains



Alan G. Dunn... President GDI Consulting & Training Company



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3

About the Manufacturing Executive Institute (MEI)

The Manufacturing Executive Institute (MEI) is a training & publishing organization dedicated to bringing relevant knowledge to individuals who are interested in making dramatic performance improvements in their manufacturing & distribution companies.

MEI delivers knowledge to these communities in FOUR distinct ways:

- 1. Live Training Programs (In-Company & Public).
- 2. E-Learning Programs, Produced by "Radio MEI."
- 3. Publications, MEI Book Store & Other Resources
- 4. Focused-research projects within the manufacturing & distribution industries.

 MANUFACTURING EXECUTIVE INSTITUTE







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About MEI's "BIG-Issues Series" FREE E-Learning Programs

4

LIVE e-learning programs address the BIG manufacturing and distribution industry issues of the day. Past programs have included:

- **How Cap & Trade Will Impact Manufacturing Companies**
- How the Manufacturing Industry Can Save the North American Economy
- **■** Petroleum's Impact on Global Logistics Costs
- **■** How Manufacturing Creates So Many Secondary Jobs
- Innovations in Global Supply Chain Management
- Weathering the COVID-19 Pandemic's Impact on Global Supply Chains

These FREE e-learning programs often include guest presenters who are recognized industry leaders.



Won't you set aside some of your time to attend these periodically scheduled FREE "BIG-Issues Series" e-learning programs?

Introducing Your MEI Program Leader... Alan G. Dunn

- President, GDI Consulting & Training Company & Founder, Manufacturing Executive Institute (MEI).
- Executive workshop instructor for >34 years at the California Institute of Technology (Caltech) Center for Technology & Management Education (CTME).
- 46 years of progressive manufacturing & distribution industry experience with >175 projects in >110 companies, across 22 countries.
- **Current Board of Directorships:**
 - Idaho Asphalt Supply... private manufacturer... Independent Director, Chair of the Audit & Compensation Committees.
 - Western Emulsions... private manufacturer... Independent Director.
 - Natural Alternatives International... public-traded manufacturer, (NASDAQ: NAII)... Independent Director, Member of the Audit & Human Resources Committees.
 - Association for Supply Chain Management (ASCM) ... world's largest not-for-profit professional association for supply chain professionals (previously known as APICS)... Past Chair of the Board 2015, Chair Elect 2014, Board Member 2012 thru 2013. Also served in the Orange County ASCM Chapter as President in 1983 & 1984.
- Actively engaged professional member of ASCM, the Society for Human Resource Management (SHRM), the Society of Cost Management (SCM) & the National Council of Corporate Directors (NACD). Recipient of NACD's "2007 Board Member of the Year" Award.



Program Background

It seems like the world is on-fire!

The COVID-19 pandemic has surely wrought havoc on commerce, society, economic systems, global supply chains... and practically every person on earth. Every job in the global supply chain has been significantly impacted, as has the flow of global commerce. Indeed, this pandemic coupled with other major global contributors has left the global supply chain in a weakened and vulnerable state.

There is no "rule book" to assist global supply chain professionals to address the problems and uncertainties unleashed by this pandemic. What there is however, is a critical need for manufacturing and distribution industry leaders to shift their mindsets from planning and execution, to prioritization... at least in the short-term.

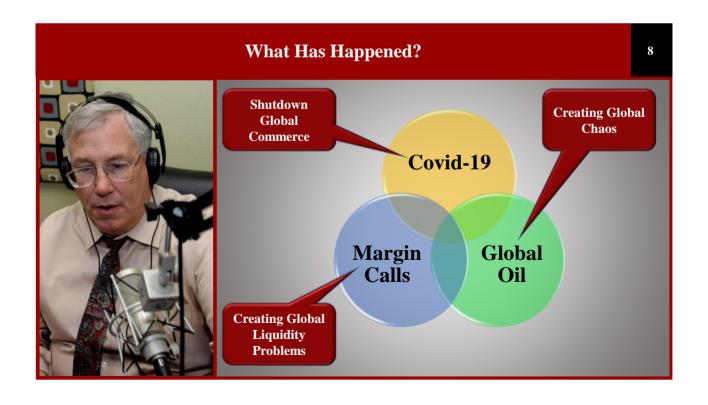
This presentation addresses the pandemic itself, its true causes, and the situation the world finds itself consumed by. But more importantly, this presentation identifies EIGHT specific priorities that industry leaders should focus their attentions. Each priority is further explained and tangible actions are suggested. It is our hope that participants will find a smoother path in economic recovery with the actions presented.



5

6





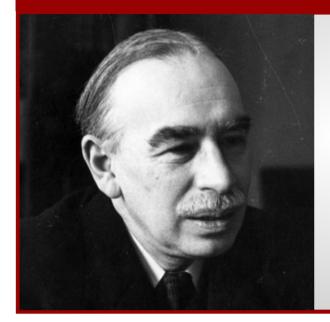
Some Additional Relevant-Today Thoughts

In 2008, an internal report by the World Bank estimated the impact of a "mild" flu pandemic at 0.7% of global GDP, a "moderate" pandemic at 2% and a "severe" outbreak at 4.8%. That would be the difference between a slowdown, a downturn, and a global recession as deep as the GDP declined during the financial crisis of 2008-09.



It is important to be realistic about the potential duration, not of the virus itself, but of the duration of the extraordinary new business cycle you are now thrust into. This is not a time for priorities to be driven by strategy and hope. Responsible supply chain leaders, while remaining optimistic, MUST assume a worse-case economic cycle. It is absolutely time to get real!

There is No Long-Term Without a Series of Successful Short-Terms!



Long run is a misleading guide to current affairs.
In the long run we are all dead.

John Maynard Keynes

How Covid-19 Has Changed Where Supply Chain Leaders Focus Planning C. Execution Priorities

13

EIGHT Supply Chain Leader's Pandemic Response Priorities



- 1. Human Safety
- 2. Realistic Assessment of Risks
- 3. Preservation of Capital
- 4. Continuity of Demand & Supply
- 5. Destruction of Business Models
- 6. Managing Regulatory Compliance Risks
- 7. Emergence of New Business Models & Opportunities
- 8. Enterprise Transformation

Not just a supply problem... also a demand problem

1. Human Safety

14

- **Fully Engaged HES & IT Organizations**
- **Changes in Work Locations**
- **Changes in Work Methods**
- **Extra Attention to Workplace Hygiene**
- Social Distancing at Work
- STOP "Presentism" Syndrome!
- Leadership Style Mandate: Firm but Fair!

REMEMBER: Companies compete for talent as much as they compete for customers! Take care of your employees.

. .

2. Realistic Assessment of Risks

15

	SSESSMENT MA		Negligible
Catastrophic (1)	Critical (2)	Marginal (3)	(4)
1000	High	Serious	Medium
	High	Serious	Medium
High		Madium	Low
High	Serious	Medium	
Serious	Medium	Medium	Low
	Medium	Medium	Low
Medium	mediani		We are
	(1) High High	Catastropine (2) High High High Serious Serious Medium	Catastrophic (2) (3) High High Serious High Serious Medium Serious Medium Medium Medium Medium

- Risk of Losing Necessary Talent
- **■** Risk of Losing Supply:
 - o Internal vs. External
- Risk of Losing Demand:
 - Customers
 - Channels
- Capital Risks
- **■** Compliance Risks

ACTION: Immediately perform a comprehensive risk analysis using FMEA methods, that results in tangible responses to each identified risk.

3. Preservation of Capital

16

- Liquidity... Liquidity!
- **Insure Leverage Capacity:**
 - o Borrow-Up Remaining Credit-Line Balance
 - Get Ahead on Lender Covenant Failures
- **Reprioritize ALL Non-Essential Cap-X Projects**
- Push Hard on Collections. Don't Be Afraid to Make Deals to Get Cash
- Protect Your Supplier's Liquidity as Much as Possible
- Take Advantage of EVERY Available Government Program
- **Renew Your Budget & Cut Expenses**

ACTION: Immediately assign a team to determine & access EVERY source of available capital, & to assign capital preservation responsibilities.

17

ACTION: Immediately Execute a Comprehensive Activity Value Analysis

- **■** Every Plant
- **Every Product**
- **Every Function**
- **Every Activity**

Variables

- Segment Activities Based on Valuation Impact:
 - o Value-Added (VA)
 - o Non-Value-Added (NVA)
 - Non-Value Added-Required (NVAR)
- Eliminate NVA & NVAR as Quickly as Possible!

Total Gross Assets³ – Total Current Liabilities Schedule Y Activity Center's Specific Activities Analysis Tire Rubber Treatment/Forming Summary of Annual Costs At This Activity Center Recast By Processes Performed Bad units per hour \$108,05 Scrap originating at this CA 18% Bad units per hour \$277,857 \$169,801 \$138,928 \$185,238 12% Applying UV treatment to ti \$401 349

Immediately Improve Processes for

Qualifying New Suppliers

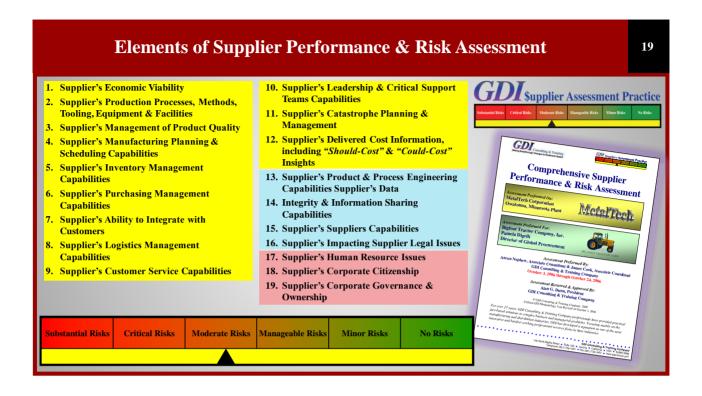
Operating Cash Flow¹

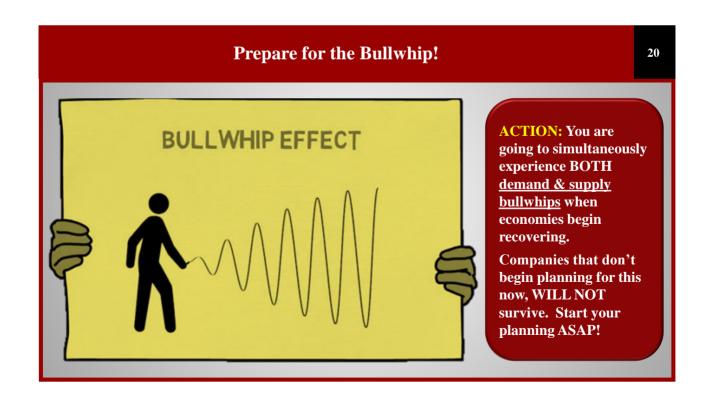
4. Continuity of Demand & Supply

■ Assess Customers' Ability to Pay: External o Regularly Communicate with Variables **Customers** ■ Assess Supplier Performance & Risks: Use Risk Assessment Matrix to Isolate Manageable Risk High Risk **Critical Suppliers & Components o** Conduct Formal Supplier Performance & Risk Assessments Supplier Controlled Risky Low Risk o Increase Safety Stocks... Either at Your **Factories or at Your Suppliers' Factories** Yield & Quality Variations

18

19





5. Destruction of Business Models

21

SELMENTS

CHSTONE

REVENUE STREAMS

VALUE

PROPOSITION

ACTIVITIES

RESOURCES

COSTS

PARTNERS

- Rationalize Customers & Suppliers
- **Rationalize Your Business Model**
- **Expect Remote-Work to Increase. Evaluate Bricks & Mortar Investments**
- Fundamentals of "Work" Will Be Redefined
- **Rethink Where Supply Comes From**
- **Terms & Conditions May Become More Important Than Price**
- Rethink Vertical Integration & Partnerships
- **Travel Will Change**



6. Managing Regulatory Compliance Risks



- **■** Must Evaluate Important Compliance **Requirements**
- **■** Must Evaluate Impact of Non-Compliance
- Identify Compliance Requirements That Will Be **Adjusted During Current Period of Uncertainty**
- Build an Updated Compliance Plan That **Reflects the Current Economic Reality:**
 - Occurrence Probability
 - Occurrence Severity
 - Occurrence Consequences

ACTION: Have one of your task teams define AND prioritize specific compliance based on current conditions.





8. Enterprise Transformation

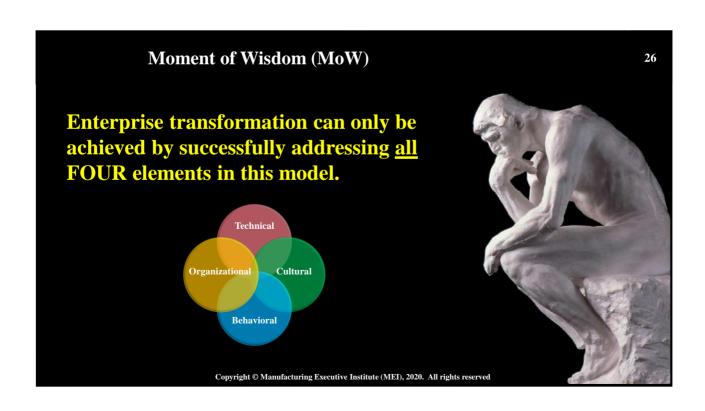
25

Expect To Transform Your Enterprise After the Crisis Has Passed:

- 1. What impediment is the <u>easiest</u> to overcome?
- 2. What category of impediments do most transformations mostly focus?
- **3.** What category(s) of impediments <u>really</u> <u>drive</u> transformation success?



ACTION: Build a "Transformation Possibilities Board" & encourage all leaders & critical support personnel to contribute.



Issues To Address When Restarting Global Supply Chains

■ Ocean Ships are Mostly In the Wrong Places

- **Same With Containers**
- **■** Same With Inventory
- **■** Materials Bullwhip Effect
- **PLUS Transportation Bullwhip**
- **■** Messed-Up Suppliers
- **Talent Mobilizing**
- **Distressed Employees**
- **Tight Credit Markets**
- **Extra Bank Scrutiny**
- **Asian Supply Disruptions**
- **Realignment of Internal CI Projects**



Be Disciplined About Communications & Transparencies Customers Customers Leadership Team Shareholders Lenders Lenders

Summary – What To Do NOW!





- 1. Consequences of this crisis will be long felt.
- 2. Priorities first... planning & execution come later.
- **3. Protect your employees...** don't allow sick employees on premise... implement robust hygiene practices... align PTO policies.
- **4. Assess risks...** immediately & comprehensively assess your enterprise risks using FMEA & other risk assessment tools.
- **5. Preserve capital...** borrow-up line-of-credit... get ahead of bank covenant issues... reprioritize cap-x projects... aggressively collect receivables... get government capital... identify non-value activities... update budgets... quickly reduce expenses.
- **6. Insure continuity of demand...** regularly communicate with customers... rationalize customers... focus on terms & conditions... prepare for the demand bullwhip.

Summary – What To Do NOW!

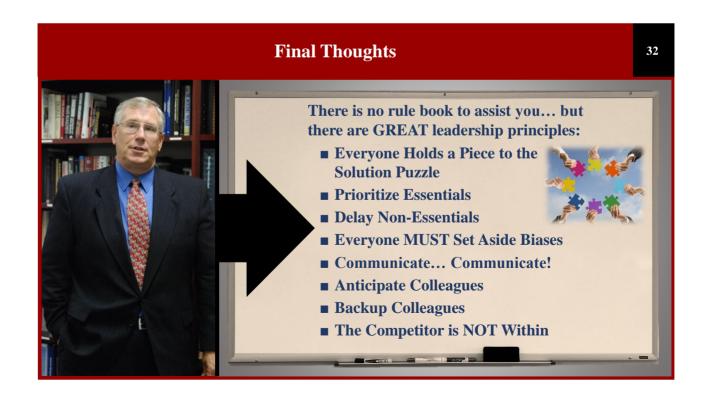
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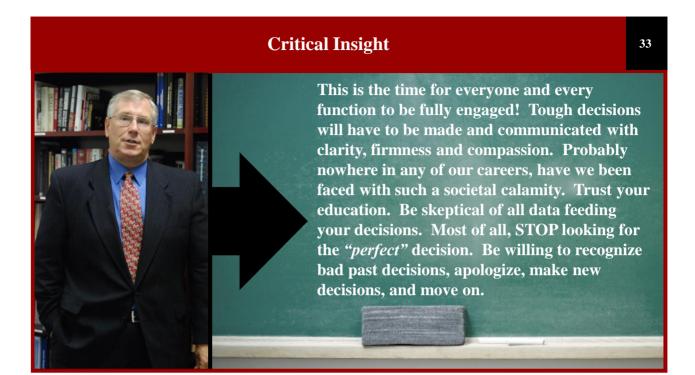


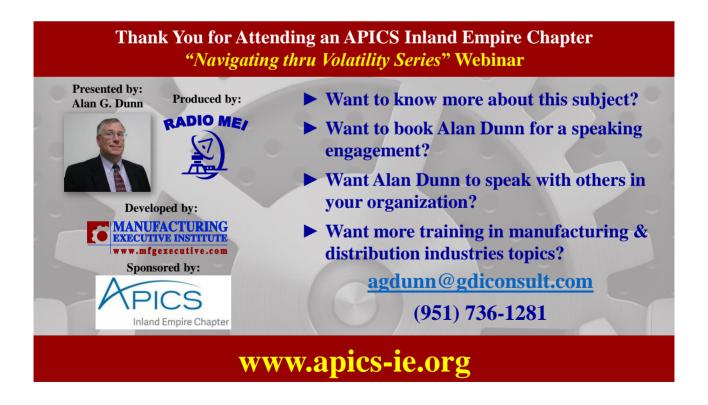
- 7. Insure continuity of supply... identify critical suppliers & critical components... assess suppliers' performance & risks... protect critical suppliers' economics...focus on terms & conditions... prepare for the supply bullwhip... adjust safety stocks.
- **8.** Assess regulatory compliance requirements... determine priorities... build a crisis-relevant compliance plan.
- **9.** Look for new business models... execute "Voice of the Customer" analysis... work methods... new channels... new products... new customers.
- **10. Lead...** don't stop RUNNING the business... communicate with clarity... don't be a manager or an administrator... be a LEADER!

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More Details About Your Program Leader... Alan G. Dunn

Alan G. Dunn is President of GDI Consulting & Training Company and is the founding sponsor of the Manufacturing Executive Institute (MEI), a manufacturing industry training provider. Before founding GDI, Mr. Dunn was a Vice President at Gemini Management Consulting and a Partner at Coopers & Lybrand (now Pricewaterhouse Coopers). In both positions, Mr. Dunn was responsible for leading large teams of technical manufacturing consultants in innovative productivity enhancement projects. For the ten years prior to joining Coopers & Lybrand, Mr. Dunn was President, (and Founder) of ADI, a successful systems implementation consulting and training company that Mr. Dunn sold to Coopers & Lybrand in 1990.

In addition to his 40 years of technical and management consulting experience, Mr. Dunn has several years of line leadership experience in manufacturing environments. He has extensive background in most functions within manufacturing companies and has participated in over 175 manufacturing and distribution consulting projects in over 110 companies. Mr. Dunn has consulted in 22 countries and across most manufacturing industrial sectors.

Significant companies that Mr. Dunn has consulted with: 3-Com, ABEX, Air Cargo, Air Logistics Corp., Akzo, Alcon, AlliedSignal, AMCOR, American Cyanamid, Amgen, Applied Automation, Applied Materials, Argon, Arkema Chemical, Associated Spring, AT&T, Baker Hughes, Ballard Power Systems, Banner Pharmacaps, Baxter, Beckman Smithline, Bentley Labs, Boeing, Borg Warner, Bystrom Bros, Canon, Caterpillar, Chamberlain Manufacturing, Chuao Chocolates, Ciba Geigy, CitiCorp, Cooper Vision, Costa Rica – Department of State, CSC, Cutter Labs, Cyberamics, Daimler-Chrysler, Danaber, Datametrics, Data Products, Davis Wire, Ellison Glass, Emerson Electric, Engaged Capital, Fairchild, Fleetwood, Fluke, Ford Motor Company, General Instrument, General Valve, Halliburton, Hewlett Packard, HOERBIGER, Hoffinger Industries, General Motors, Health Net, IBM, ICV Partners, Intel, Intruder Prevention Systems, ITT, Johnson & Johnson, Johnson Valves, Klune Industries, Lear Siegler, Litton Industries, Lockheed Martin, Loral, Marcy Fitness, McElroy Manufacturing, Moniert, Ifetile, Nalley's Fine Foods, Natural Alternatives International, NCR, Netherlands Economic Development Agency, Northrop Grumman, Pacific Scientific, Packard Bell, PaperPak, Parker Hannifin, Perelss: Trailers, Perceptronics, PG&E, Phelps-Dodge, Pilkington International, Plantronics, Poly, Proxima, Quotron, Rain Bird, Reda Pumps, Relational Investors, Rexnord, R.W. Lyall, Schlumberger, Siemens, Signens, Systems Industries, Taylor, Guitars, Technicolor, Teledyne, Tellabs, Teradata, Teradyne, Thornwood Furniture, Tools & Metals, Toshiba Corporation, Trans-Continental Manufacturing Company, Trailmobile, Tropitone, Tycom Industries, Tylan Corp., United Technologies, U.S. Borax, the U.S. Department of Energy, U.S. Navy, Warner Bross, Whitaker International & Xerox.

Mr. Dunn regularly presents executive workshops at the Center for Technology & Management Education (CTME) of the California Institute of Technology (Caltech) in Pasadena, California. He also instructs and manages the CTME Next Generation Global Supply Chain Leadership Certificate Program at Caltech. Mr. Dunn is also a regular instructor at the Manufacturing Executive Institute (MEI), where he presents numerous workshops and web-enabled training programs. Over the duration of his career, Alan has developed and presented a significant number of multi-day executive workshops and numerous other venues throughout the world.

Mr. Dunn has substantial experience in organization governance; having served on numerous private, public and non-profit Boards of Directors. Substantial current and past Board of Director positions include

- Idaho Asphalt Supply... private manufacturer... current Independent Director + Chair of the Audit and Compensation Committees
- Bystrom Bros... private manufacturer... past Independent Director + Member of the Audit and Compensation Committee
- Natural Alternatives International... public-traded manufacturer, (NASDAQ: NAII)... current Independent Director + Member of the Audit and Human Resources Committees
- Tools & Metals... private distributor... past Independent Director + Member of the Audit and Compensation Committees.
- Air Logistics Corp... private manufacturer... past Independent Director.
- Association for Supply Chain Management (ASCM)... world's largest not-for-profit professional association for supply chain professionals (previously known as APICS)... Past Chair of the Board 2015, Chair Elect 2014, Board Member 2012 thru 2013. Also served in the Orange County ASCM Chapter as President in 1983 & 1984.
- Society of Cost Management... not-for-profit professional association... past Independent Director.

Mr. Dunn holds a BA degree in business management from California State University in Fullerton. He is also qualified by ASCM as a Certified Practitioner in Inventory & Production Management (CPIM). Mr. Dunn remains an active and engaged professional member of ASCM, the Society for Human Resource Management (SHRM) and the National Council of Corporate Directors (NACD). Alan is a recipient of NACD's "2007 Board Member of the Year" award.

About GDI Consulting & Training Company

GDI Consulting & Training (GDI) provides practical solutions to complex business and managerial problems in manufacturing and related industries. Our firm has successfully assisted clients around the world for more than 35 years, having performed more than 175 projects in over 110 companies in 21 countries. GDI applies specialized and common sense solutions... *not overly-intellectualized approaches...* to numerous types of challenging client problems in manufacturing and distribution industries, including:

- Factory & distribution center layout & design
- **■** Factory & distribution information systems implementation
- **■** Cost management systems
- Quality management systems design & implementations
- **■** Core business process re-engineering
- Information systems data integrity & reliability improvements
- **■** Enterprise performance metrics & compensation systems
- **■** Organization design & improvement
- Business strategy formulation
- **■** Complex problem solving



www.gdiconsult.com

About GDI's Talent Acquisition Practice



Leadership, management and technical staff requirements continually evolve, but the need for high-performing talent remains constant. Recruiting toptalent into any manufacturing or distribution company requires a rigorous methodology. It begins with a thorough understanding of the position and continues through a detailed vetting and structured evaluation process that determines each Candidate's real abilities and real potential to succeed.

Using proven assessment and evaluation processes, GDI's Talent Acquisition Practice specializes in matching the best Candidates with each position we are engaged to fill. We have 35 years of relationships with high-performing manufacturing and distribution industry talent, giving us unparalleled capabilities to fill almost any management and technical position within these industries. Our clients value our deep industry expertise, valuable insights, rigorous Candidate evaluation methodologies and commitment to the success of both clients and Candidates.



www.gditalent.com

About GDI's Supplier Assessment Practice



GDI's comprehensive Supplier Assessment Practice utilizes a structured fact-based methodology that clinically assesses the performance of your company's significant materials Suppliers by quantifying up to 19 categories of risks that may directly impact your company's performance.

www.gdisupply.com





- Fact-Based, Proven & Tested Methodology
- Execute in 3 Weeks With Up To 3 Trained Assessors
- Execute Any Where In the World
- Quantifies 19 Specific Areas of Risk
- Results in Terms & Condition Mandates
- Provides an Improvement Path For the Supplier
- Modeled After Operational Due-Diligence From the M&A World

About GDI's Owner & Investor Services Practice



www.gdiinvest.com

Working in concert with other GDI practices, GDI's Owner & Investor Services Practice focuses on THREE specific professional services:

Governance	Assisting public and private manufacturing and distribution companies to establish, strengthen and reconfigure Boards of Directors and various Board committees. We also sit on Boards of Directors, always bringing strong global operational and economic perspectives to the governance process.
Operational Due-Diligence	Normally working for an acquirer, we often execute comprehensive operational analyses both pre and post-acquisition. Many of our operational due-diligence assignments have resulted in significant changes in the acquisition scope, price and terms.
Valuation Enhancement	Helping clients to understand <u>precisely</u> how to increase enterprise valuation by defining specific ways to generate more cash from a company's suite of gross assets is what we do best. Often, we utilize our analytics to support capital raising and recapitalization activities.

We have completed numerous projects for private equity investors, individual investors, business owners, corporations and activist shareholders.

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The Manufacturing Executive Institute (MEI) is a training and publishing organization dedicated to bringing relevant knowledge to individuals who are interested in making dramatic performance improvements in their manufacturing and distribution companies.

MEI delivers knowledge to these communities in FOUR distinct ways:

- Live Training Workshops... includes several scheduled and focused training series, and custom designed and scheduled training programs at a client company's site.
- E-Learning Training Programs... includes several regularly scheduled e-learning series and periodic special web-enabled training programs. All of these programs are produced by MEI's state of the art e-learning studio, "Radio MEI."
- Publications... includes books, white-papers, archived e-learning programs & other information of interest to the manufacturing and distribution communities. Also includes access to the "MEI Bookstore" containing all of the most important manufacturing & distribution industry books for sale.
- Manufacturing & Distribution Focused Research... MEI conducts and supports ongoing research to extend the body-of-knowledge in various manufacturing and distribution disciplines. These research projects result in valuable reports and presentations that are routinely shared with these communities.

To learn more about the Manufacturing Executive Institute, it's mission and additional programs, call (951) 736-2114 or visit us on the web at **www.mfgexecutive.com.**







SIX LIVE Workshop Series

Workshop Series	Series Information	
''Practical Capital Series''	Numerous 1-day LIVE workshops designed to provide SPECIFIC and PRACTICAL techniques that focus participants on the mastery of management and technical skills that will lead to improved working capital results. Cost-of-Goods-Sold reductions, operating expense reductions, inventory reductions, accounts receivables collection improvements and supplier payment improvements are a few topic this training series addresses.	
"Supply / Demand Management School Series"	Numerous 1-day LIVE workshops designed to provide SPECIFIC and PRACTICAL techniques that focus on how to balance supply and demand through improved forms of master production scheduling, sales forecasting and supply/demand reconciliations.	
"LEAN Tools Series"	Numerous 1-day LIVE workshops designed to provide hands-on training in the application of LEAN manufacturing, distribution and infrastructure improvement tools.	
"Professional Governance Series"	Four seperate 1-day LIVE workshops designed to provide ongoing governance related topics of interest to members of private company Boards of Directors, Owners, Senior Executives and professionals who serve Boards of Directors.	
"Project & Change Management Series"	MEI and our skilled alliance partners provide a full compliment of LIVE project management training. This training is offered in several formats including fundamentals, role-playing and project simulation formats. Each single and multi-day workshop is specifically designed to provide participants with the <i>exact</i> knowledge needed to successfully initiate, plan, organize, control and complete projects.	
"Special Series"	Numerous 1-day and multi-day LIVE workshops that focus on implementation requirements within a specific manufacturing or distribution body-of-knowledge area. Many of these programs are repeated one or more times each year.	
MEI can deliver any of the programs in this training series on-site, saving your company substantial participant travel expenses when groups of employees require similar training.		