Factory Physics For Managers: How Leaders Improve Performance In A Post–Lean Six Sigma World

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From the award-winning developers of Factory Physics—a powerful leadership guide for
to breakthrough performance A comprehensive guide that cuts through the hodgepodge of copycat
initiatives, overblown buzzwords, confusing mathematics, and misguided software, Factory Physics
for Managers is a breath of fresh air for operations managers and executives. Written by the leaders
and experts behind the bestselling Factory Physics, it’s a brilliant crash course in the practical
science of operations designed to help you: Achieve best possible profit, cash flow, and customer
service Attain highest return with existing Lean, Six Sigma, and ERP initiatives Manage your
capacity, inventory, response time, and variability with high predictability Simplify management of
complexity using existing IT systems Use the fundamentals of science to ensure your
operation’s success See your company and procedures more clearly Improve intuition, decision
making, and strategy execution A strategy of imitation is not much of a strategy. Most every
company uses the common continuous improvement initiatives. This highly accessible guide
addresses but goes beyond other business approaches such as Lean, Six Sigma, and Theory of
Constraints by offering a customizable plan that you can apply to any manufacturing-based industry
or supply chain. You’ll discover invaluable tools for developing operations strategy and driving
execution by using practical science to assess your procedures, target problems, and find solutions.
You’ll learn essential life lessons from the best and worst practices of corporate leaders like
Toyota and Boeing. You’ll find ingenious new ways to improve your leadership by predictively
managing the tradeoffs that every operation faces whether it’s more or less inventory or
capacity, higher or lower customer service, or more or fewer products. Using this approach, you can
tackle these natural conflicts in business through a practical, comprehensive science of operations.
Factory Physics for Managers makes it easier to choose and execute the best strategy for better
productivity and even bigger profits. Praise for Factory Physics for Managers shows
that Factory Physics science and CSUITE software have given our organization the ability to plan, predict, model, and execute
based on explosive growth and rapid-fire, dynamic changes to our business model. In our case,
history is not a good predictor of the future, so we need to deploy our resources wisely, and the
Factory Physics approach has helped us do just that. “Larry Doerr, COO, Stratasys shows
how the science behind Lean initiatives can greatly improve results in terms of productivity and
resources. “Bill Fierle, Vice President and General Manager, TopWorx, Emerson brings
powerful, accessible science to operations management. The Factory Physics playbook enables me

to lead the harnessing of our data more effectively for modeling, planning, control, and feedback. Armed with the concepts, common language, and tools in this book, I can partner with operations™ leadership to impact the bottom line. “Jeffrey Korman, CIO, Hu-Friedy Mfg LLC, Chicago

Book Information

File Size: 14018 KB
Print Length: 384 pages
Publisher: McGraw-Hill Education; 1 edition (April 4, 2014)
Publication Date: April 4, 2014
Sold by: Digital Services LLC
Language: English
ASIN: B00J0AT7PA
Text-to-Speech: Enabled
X-Ray: Not Enabled
Word Wise: Enabled
Lending: Not Enabled
Enhanced Typesetting: Enabled

Best Sellers Rank: #623,184 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #87 in Kindle Store > Kindle eBooks > Business & Money > Industries > Manufacturing #190 in Books > Business & Money > Management & Leadership > Quality Control & Management > Six Sigma #274 in Kindle Store > Kindle eBooks > Business & Money > Management & Leadership > Production & Operations

Customer Reviews

Every once in a while a book comes along that within ten pages you know you’re going to read it over and over again, and get something new out of it every time. Factory Physics for Managers is one of those books. To say it is dense is like saying perpetuity is a really long time. But it is also profound in the insights it offers into the natural tendencies of processes and systems. I especially enjoyed its take-no-prisoners perspective on Lean, Six Sigma and Theory of Constraints - the holy trinity of process improvement approaches that have taken on the status of religions in their own rights. I would say this is a must read for anyone involved in decision making in manufacturing. Translating its principles for transactional sectors will be more difficult, but well worth the effort. As always, the main difficulty will be getting the data necessary for the fundamental equations to
Some years ago I bought the full Factory Physics reference book - which is a weighty tome. Over many flights, nights away in hotels etc I managed to work my way through the 3rd Edition. There is so much in this original text, but it can be quite tough going in parts. This latest publication from Factory Physics is excellent. It pulls out all the essential points from the original volume, and I find myself using this latest publication to refresh and remind myself. For sure if I want the detail, I can dip back into Factory Physics 3rd Ed (which by the way has an excellent history of manufacturing management in the early chapters). I work in ERP deployment and for me Factory Physics is a body of knowledge that unifies the many separate bodies of knowledge: Lean, MRP, Demand Driven MRP, Theory of Constraints. And what makes this book special is that I can get the full picture, without going into the detail math and proofs. Please, if you are working in the supply chain, you must read this book. Whether you are in the direct operations or supporting operations, this book has all the answers (and solutions) to your supply chain problems.

Read this book after my son recommended to me. As an ops manager he put many of the concepts into practice and produced the results. It provided the analysis behind much of the common sense that used to be present in ops before the complexity gurus arrived. There are some basics that never change regardless of whatever "business enterprise system" has been implemented to control your ops, never quite delivers but distracts people from the fundamental laws of processes, product and people on the shop floor.

This book has been very insightful for me. It explained several things about Lean and Six Sigma that confirmed what I saw and have been seeing in companies that try to implement it and how the results rarely meet the hype. I am currently reading this book, again with a group of friends, and it is even more insightful the second time through and with a cross section of people reading and discussing it as we go.

The Factory Physics objective, which is to develop a science around how businesses behave, never ceases to fascinate me. As an Industrial Engineer with years of experience, this objective promises the holy grail of management: what method to use when, and why. It puts Lean, Six Sigma, ERP, Industrial Engineering, Constraints Management and others in their context, the strengths and weaknesses of each. Only then do they develop new material designed to simplify problems and
solve these weaknesses. My concern with the new book was that it would just be a rehash of the original Factory Physics. Thankfully, it is not. Factory Physics for Managers does exactly what the title implies: it describes why managers should care about Factory Physics. The new book delivers a framework for managing based on the successes of the other methods along with the new approaches from Factory Physics practice. This new material is useful for non-managers as well, since it will help non-managers understand the value of certain approaches and, in turn, explain this value to management. As with all fields of science, there is always more to be done. The Factory Physics objective will never be “finished”. However, the more we approach the practice of management as a science the better we will be able to move the field forward.

I’ve always been a fan of Factory Physics and have used the concepts extensively. The primary book is filled with useful detail and equations - but that doesn’t always work when faced with trying to convince others about the benefits. This book brings the same concepts up a level so that you can talk to your manager and your manager’s peers about the benefits of applying factory physics. The book does a great job combining practical concepts in Lean, Operations Management, Finance, Business and Leadership into a very readable overview.

This newest book in the Factory Physics series takes a different approach than the first book. While the first book is a classic within industrial engineering and management science circles, this book takes up the cause from a managerial perspective. Appreciate the authors distinction between science and math: we can solve problems using the scientific method and logic. While a formula applied properly will produce results, they make the point that you need to frame your process improvements against organizational strategy and clear goals. Great read for anyone seeking fresh thinking on reducing waste in operations from manufacturing to healthcare.

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