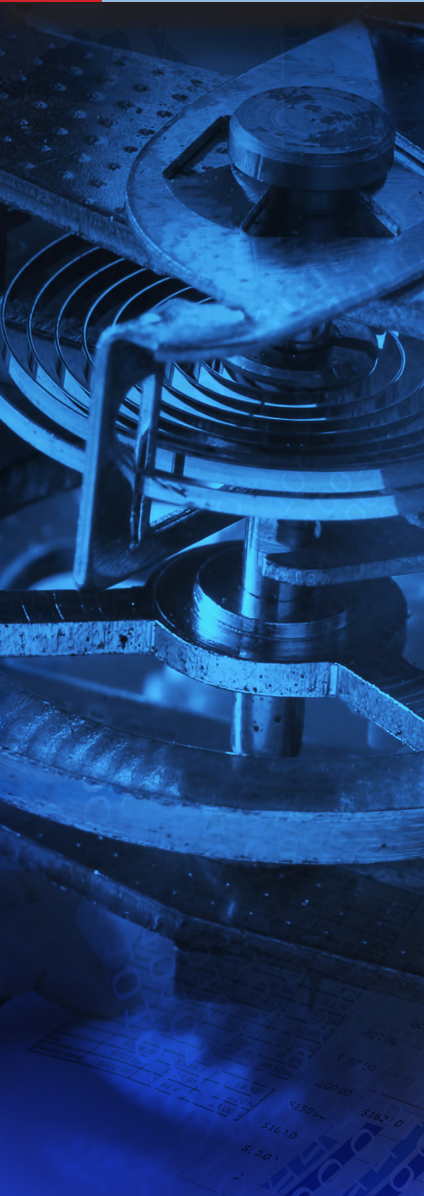


# ENGINEERING MANAGEMENT COLLECTION

C.M. Chang, *Editor*



## **Manufacturing Excellence** *Renewal and Rebirth*

**Kenneth N. McKay**  
**Vincent C.S. Wiers**



**MOMENTUM PRESS**  
**ENGINEERING**

# **MANUFACTURING EXCELLENCE**



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**RENEWAL AND REBIRTH**

**KENNETH N. MCKAY AND  
VINCENT C.S. WIERS**



**MOMENTUM PRESS  
ENGINEERING**

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*Manufacturing Excellence: Renewal and Rebirth*

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*To Erik*



# ABSTRACT

For years, automotive supplier GAFFER has been able to survive using its old management and production practices. But times have been changing and GAFFER's future looks bleak. Jake is a retired production planner, reflecting on his long history with the GAFFER factory and what is currently happening. He wonders how things might change as their main customer wants a completely new part to be not only produced, but also designed at GAFFER. Just when the old management is about to mess up the relationship with the customer, there is a new factory manager. He starts turning the factory around and Jake shares all of the juicy stories with his coffee mate, Ben.

## KEYWORDS

change management, collaborative design, management training, manufacturing management, operational excellence, organizational knowledge, people development, quality management, supply chain management, teamwork





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# FOREWORDS

I have known Mr. McKay for 12 years. Despite not being able to meet frequently, our long association has come about through our mutual appreciation of the importance of manufacturing from a factory-floor perspective.

I have worked at Panasonic for over 40 years. Over that time I have accumulated many years of experience, in production technology in an audio-visual product business division, in factory supervision (e.g., scheduling, cost management, planning capital investment), as a factory superintendent and as the CEO of a manufacturing company in another country. What surprises me about this book is that whatever chapter I read, I come across example after example of my own experiences. I can find pages staggeringly similar to my experience in internal production projects, or to the time when we introduced IT into an inventory reduction project. Other sections detail experiences the same as my own to show the importance of teamwork with other departments when aiming to have a simultaneous global launch.

I think there are very few books in the world that accurately detail what it is like to constantly work in manufacturing, to summarize it and to show personal points to check. This book achieves that while being extremely easy to read, making it a very precious work.

A revolution in manufacturing through the use of the Internet of Things (IoT) is being bandied about in Japan, the United States and Europe. Though no-one can say just how big this revolution will be, I am certain that whatever shape manufacturing takes with IoT, the situations described in this book will still be fully relevant, and Ben's Notes and Self-Assessment to check will remain effective. Anyone starting up a new manufacturing company or aiming to kick-start a revolution in the manufacturing industry in the emerging nations could do no better than to read this book.

Fumio Ohtsubo  
Former President—Panasonic Corporation, Japan  
May 2015

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This is a different book about manufacturing. It isn't an academic treatise nor a conventional text book. Instead it aims to teach the reader about what effective manufacturing management looks like in the real world. Two retirees, Ben and Jake, meet and start exchanging gossip about a local manufacturing plant. Jake used to work there so he has contacts who tell him what is going on at the plant. Initially the survival of the plant is threatened. The plant needs to adapt to the new conditions that face manufacturing in North America. Ben and Jake continue meeting and exchanging gossip as the plant goes through a process of change and adaptation. Ben records their meetings, outlines his reaction to what Jake tells him, and then summarizes the lessons that can be learned for bringing about effective change in manufacturing organizations.

Ben's experience and wisdom reflect the experience and wisdom of the authors. Both have worked for many years as consultants and researchers, trying to understand manufacturing, and to use that understanding to improve manufacturing operations. The work they have done in manufacturing has focused on organization, planning, and control with particular emphasis on the information system support. Above all else they have always sought to understand the expertise and skills that people, be they managers, supervisors, planners, or schedulers, need to have and acquire in order to be effective. The strength of this book is the understanding and guidance it provides on how to develop and implement effective manufacturing management.

John Buzacott

Professor Emeritus, Schulich School of Business, York University,  
Canada

May 2015

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# PREFACE

This book can be used as a supplementary text in a variety of courses, but the primary targets are the managers and leaders in factories. While the book focuses on factories, many of the ideas and suggested practices apply to almost any business.

The creation of this book was not an academic exercise. We decided to tell a story. A story about two years in the life of a factory. Why a story? We wanted to explain a number of concepts and ideas in context, providing rich imagery that will hopefully strike multiple chords in your memory and ignite the desire to take your factory and situation to a new level of efficiency and effectiveness. Together the authors have approximately 60 years of experience practicing, consulting, and researching management in factories around the globe. This book represents what we have learned about making factories great, or not so great.

To make a factory operate at its full potential, there are many elements to master and there is no single silver bullet. It is important to know and understand a broad set of methods and tools that interact and which will together help you reach your goals. There are many small ideas throughout the story, things to consider doing, things to consider not doing. Not all is random or ad hoc. We do have three themes throughout the story which we think are critical if you want to seriously improve and are willing to do what needs to be done. There is a page or two on each idea toward the end of the book. One could write a book on each concept, but it would be hard to explain how the concept would play out in a real situation—hence the story.

There will be no math. There will be no long discussions on each point. You should be able to find other information or just think it through if you want to implement any of the ideas. None of this is rocket science. The ideas pop up here and there, just like they do in a real factory. There are 21 episodes to the story. Each episode is a chapter and each chapter has four components. There is the initial narrative about the factory

followed by the listener's reflections and insights about what he is hearing. A summary of key notes is then presented and several self-assessment questions complete the chapter. Most of the chapters are around five to six pages. Short, and hopefully, sweet.

Kenneth N. McKay, Vincent C.S. Wiers  
May 2015

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## CHAPTER 1

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# INTRODUCING BEN

Hi, I'm Ben. This book might help you. But then again, it might not. It is not for every factory or plant. It is for factories who want to survive, reach their potential, and kick their competition's butt. If that is not you, please put the book down and use it as a paper weight while you still need one. Specifically, if you:

- Have no interest in long-term viability;
- Are 100 percent focused on the quarterly results while forsaking common sense and long-term strategies for survival;
- Are constructed specifically for short-term plundering to be followed by closure;
- Are not interested in fair and honorable relationships with customers, employees, suppliers, the environment, and their investors;
- Say one thing and practice another in a two-faced, hypocritical fashion; and
- Are executives who pillage and destroy the vitality of the firm you have been trusted to guide while providing yourself with obscene bonuses, perks, and financial remuneration.

Move slowly away from the book and put your hands behind your head. Do not make any sudden moves, do not try to engage your brain, and go back to sleep. You will not learn anything of use from this book.

I am writing for and about the other factories and companies. I believe that there are still many firms that do not fit the previous description.

I am going to tell you a story. To tell you the truth, I'm not that great with the writing bit, so I got some friends to help out, my ghost writers. I would like to tell you that the examples and lessons found in the story are fiction and come from my imagination. Sadly, that is not so. The story I am about to tell is true and based on real life examples—changed somewhat

to protect individuals and entities. I've worked in a few places, so the examples come from multiple companies and experiences on multiple continents in multiple industries. I have tried to put them together into one twisted situation and it might seem extreme. Some plants will have a few of the issues I will describe. I know of many real plants that will have almost all of the issues I will dive into. My hope is that the book will help you face your toughest challenges, fears, and harsh reality and help you make hard decisions in a thoughtful and progressive fashion! There is no magic formula for butt-kicking manufacturing processes. Never has been. Centuries have shown us that it is hard work, requires a long-term view of the situation, and that you must have excellent personnel at all levels. There are no silver bullets in this book, nor simple recipes for the brain-dead. Sorry. This is old school, with a twist. Let's begin ...

But first, who am I? I like to call myself a factory rat. Done a little bit of everything. Worked on the line, did some shipping, receiving, and ended up in production control, as one of the planners. I am now long in the tooth and a bit cranky at times, but this story is not about me. It is about a buddy I have been talking to on my morning walks, Jake. No, don't know his last name, just know him as Jake. Usually see him in the park opposite the big GAFFER factory on Wilson, or over at the diner at the corner of Jackson and Washington. Interesting guy. Used to be the master scheduler at GAFFER, and has been retired for a few years. Huh? GAFFER? No, not that type of gaffer, the electrician type you find in movies. They say that gaffer is an old term for boss, old man, or someone rustic. Who knows why they named a company that. Anyway, this GAFFER plant makes the full automotive dashboards, which are then shipped to the assembly plants as a single module. Lots of pieces, wires, connectors, forming, and such. What's involved? They assemble the heating and air conditioning components, instrument cluster, form the dashboard shape over a metal superstructure they make, and do all of the wiring. They have a major assembly line for each major customer and a number of subassembly areas.

No, GAFFER is the new name. Was sold to GAFFER a few years back but they kept the old name till last month. GAFFER is based out of Europe, UK I hear. Plant used to be called United Fascia. Was real big in its day. Largest factory in town. Often supplied the big three at the same time. They also have a large number of suppliers, mostly purchased parts, but GAFFER does some primary fabrication as well. The plant I used to work at was one of their suppliers.

Jake sure loves to talk. Me? I like to listen, so it works out. To get Jake going, all you had to do was ask him what's new. Was so easy to get

Jake wound up. We would talk for hours about the best way to do this, the stupid way to do that. We would argue and debate for hours on that park bench. Got to the point where we would like to figure out what separates the very best from the rest. It is not as obvious as you would think. No sir. We got to thinking that the very best keep their mouths shut and do not share much. Why create your own competition? Just go quietly about your business. Yes, there are those who do a lot of self-promotion about quality and their efficient processes, but are they the very best? In some cases we figured it was not too hard to look good when surrounded by idiots. We eventually concluded that you have to dig deep to know what goes on behind closed doors and look beyond the obvious. We got a good laugh about the bosses we knew who would go out on a looksee to a factory to do a benchmark and come away with what they thought was *the* magic incantation to cure all ills and make lots of money. Ya, as if it is that simple! I remember the late 1980s, managers brought back those funny little kanban cards used to control just-in-time work flow, thought that was all there was to just-in-case as we called it.

So, sit back and relax. Jake's story or tale as some would call it, is interesting if you are into how factories run, or don't. Here goes, as best as I can remember. Don't worry, have got a good memory, can tell a story as if it just happened ... but just in case I forget, I have my diary handy. Like to write things down. Gonna try to see if I can tell it as it happened. Sure, you can ask me questions. Don't mind.



## CHAPTER 2

---

# BEN AND JAKE

Was a sunny day in the park. A touch warm, but not too hot. Just comfortable. That is when I saw him. Sitting on the bench ...

*“No, no ... go ahead. Sit down. Lots of room for both of us. Nice day isn't it? I often stop here in the park and enjoy the air, listen to the birds. Good to get out of the house each day. Bench was someone's good idea, eh? Live close by? Me too. Nice to meet you Ben.*

*Me? I'm retired. Used to work at that plant across the street. Thirty years. Escaped three years ago when they sold the plant to GAFFER. Used to be what they called the master scheduler. Name's Jake.*

*Nope, never been back in the old place. Have heard that lots of changes have been going on. Some good I hear, some the usual screw-ups. Occasionally I have lunch over in the diner and bump into some of the old crowd from the plant and they give me an ear full.*

*You worked in a factory too? Small world. They used to be one of our suppliers. Are they still? Jennifer? Don't know. She might still be our contact there. Talked to her occasionally when there was a problem with the welds. Did you know Sam in shipping? Talked to him almost every day. 'Tis a small world.*

*Did you hear the gossip? They're bidding for the dashboard assembly for the new Aetna platform—a compact cross-over. It was the idea of the new Saeed guy, newbie VP they brought in from our main competitor in Europe. This will be interesting. I hear that the Aetna assembly plants are real picky. Ya, that will be a challenge for the night shift. From what I hear, they still don't get it. Still think we are in the driver's seat and have a monopoly. Customer will take whatever we give them.*

*Yep. Lots of rental cars in the parking lot these days. Must be lots of vendor and customer meetings. Mike? No, he is no longer the plant manager. He left with a pocketful of change when GAFFER bought the place. Plant manager is Raul, long-term GAFFER, a lifer, was transferred*

*in. Seems to be OK from what I hear. Guys do not see much of him on the floor though. Likes his office. Sally, no. She is gone too. Lady called Nancy, can't remember her last name, took over from Sally in quality, has about 20 years' experience in other companies. Not sure, but I think all of it was in the OEM side. No. Not everyone left. Did you know Bill? Bill is still the operations manager and Karen is still running production control. Ya, Bill does have a sick sense of humor doesn't he.*

*I wonder how they are going to pull this new quote off? Bet they are burning the midnight oil figuring out what they will have to change and upgrade. Rumors are they are going to bend over backwards to get the contract, or it might be curtains for the old girl. Nothing like a little bit of pressure to shake things up. Well, have a nice day. See ya around again sometime."*

While Jake was jabbering away. I had a déjà vu moment. A real flash back it was. A new vice president, a new plant manager. One from a competitor, one from the corporate nursery. Once had a similar situation. A real challenge of three cultures. It was like the United Nations for a while. Everyone was talking in foreign languages. No, not real nation type languages, but they had different words for the same things and when they used the same words, they meant something different. It is real important to have people talking the same thing. I have heard that some of the most successful supply chain designs consciously acknowledge this. For critical parts, they make sure that the suppliers share the same genetic DNA or genetic makeup. They do not want to be talking and doing different things by accident. Will also be interesting to see how the new kids assess and figure out who knows what in the factory. There will be a lot of sucking up for a bit and the usual smoke and mirrors. It will be hard for Raul to figure out what is truly going on and who is telling him the fake stuff if he stays in that office of his. Needs to get out and walk the floor, come in on the night shift, and spend time learning how the factory works. The line will not give him a break unless they think he knows what they have to do and how they do it. If he does not take the effort to understand the factory, he will be the typical corner office boss, and will be dependent on the courtesans who will flock to him. Cannot have this crap with blue collar and white collar anymore. That is Stone Age. Everyone must work together and no one is better like that. Sure, bosses and managers have to have respect for decisions, ability to make decisions and stuff, but they need to leave the attitude behind. Must work as a team.

Not sure how they are going to get a decent quote together in the time they have. The big guys are learning about the factory at the same time as they are planning new work. This is sweet. Should be interesting to watch.

They have also lost a few key players. Ya, this usually happens during a takeover, but it always amazes me when people forget about the chaos and learning that happens. Raul and what's his name, the VP might have slowed down a bit and tested the factory a bit so that they could know what it can and cannot do. And not just the physical plant either. They have some good staff there, but there is some deadwood too. Wonder how the customer is looking at this. Would make me nervous if it were me. If the plant has to undergo serious surgery to pull this off, will the operation kill the patient or will the patient survive? Not sure how flexible the old plant is, nor how adaptable the workers are. Could be a wild ride.

And those rental cars in the lot? Not sure. Could be GAFFER corporate fly-ins, but could also be vendors and suppliers. Can see the former, but not the latter. That plant was known as a closed shop, kept to itself. Could do that in the old days when it had a monopoly and they were in the control position, the seller's market. Ain't so anymore. Learned that at my old place. Getting to be a team situation at best, and a buyer's market at worst. Didn't tell Jake, but we had some dealings with Aetna. Tough nut to crack. They get right into your processes and the way you do your business. None of this hands off. Sure different from GAFFER's traditional customers. The old crowd got in your face too, but their technique was yelling, screaming, and threatening, and it was all about them. Aetna is not like that. They play hard ball, and they do not bluff, but they try to create a successful situation where the supplier will thrive at the same time Aetna does well. Will be a wakeup call for GAFFER. A real culture shock. They will not know how to play this game. Aetna will expect GAFFER to work this same way with GAFFER suppliers too. That will be even harder to pull off. Enough of this, getting a headache thinking about this. Time for lunch.

## BEN'S NOTES

It is crucial that everybody speaks the same language, uses the same terms, and understands each to other, making it others background—where you are coming from. Place yourself in the position of the other, and always initially assume that the other party has rational reasons to act the way they do.

A plant manager has to understand the plant. This cannot be done from a spreadsheet; you have to get to the floor often. It should be your natural habitat and the office is just a retreat. You have to be able to talk to an operator in a peer-to-peer fashion.



The market has changed, supply chain management has changed. You have to work together with your supplier or customer in a rational way. You will have to perform, open yourself, cooperate, and be prepared to question assumptions that have not been questioned for a long time at your plant. You will have to admit that you have been making mistakes for a long time and start to correct them. Don't look for people to hang or blame, just step up and work toward the future.

Organizational changes will take away some of the focus on the day-to-day business. It can be disruptive, which can be a good thing but at the same time might incur a series of failures. The trick is to find the right balance between stability and change.

## 2.1 SELF-ASSESSMENT

1. Do you have a standard process or set of guidelines for new plant managers (or VPs) about how to assess a factory or division? Perhaps for someone being assigned a new area to manage? Alternatively, do you have group discussions on the best way to do this? Or do you just assume that everyone knows how to do this?
2. How do you manage your critical supply chain? Do you integrate up and down stream? Is it collaborative and helpful? What is the involvement level? Process and product?
3. Do you have blue and white collar separation? Why? Does the senior plant management know how the product is made? The detailed processes? Does the management stay in their offices for the majority of the time, or do they spend good time on the floor?

## CHAPTER 3

---

# STRATEGY

*“Oh, hi Ben. How have you been doing? Yep, still enough room for both of us. Haven’t put on that much weight in the last month. Have a seat. ‘Tis a bit of a chill in the air. Winter’s coming on I suppose.”*

*“What? Oh, that new Aetna line. Has been interesting, that has. Remember Raul and Saeed, the mighty duo? Well ... they have been busy. They have decided to split the factory and move the primary operations to another location and make this place assembly only. Bunch of us told the old management that 20 yrs. ago, never listened to us though. What did we know? Just a bunch of plant rats. Gotta be careful though. Think it through. Lots of possible tar pits. Remember where your old friend Joe worked? They tried that, never did recover from those adventures did they. Nope, still suffered from them till the day they closed the doors. Best not to repeat that history. Come to think of that, their production manager is now working here managing the night shift. Ouch.”*

*“You won’t believe this one. They are also going to outsource the heating and A/C unit, the whole HVAC module. Yep, the complete unit. Going for plug and play. At least that is the theory. Also heard that they were discussing outsourcing the instrument cluster subassembly. Hey, you better stop laughing, you will wet yourself at your age. Gossip is that this ain’t going to happen though. OK, I don’t know that for sure, but those are the rumors. I would buy tickets for that show.”*

*“Guys on the line were at the diner last week. Managers are not happy these days. Whole crowd from the Aetna assembly plant were around for two weeks looking at everything, making lots of notes. Got in the way a bit too. Plant is going flat out, 7 by 24 and you have got these guys stopping the line looking at the fixtures, measuring stuff. Wonder what they were looking at? If they were in the sub area, would not have been pretty. Last two rounds of cost reductions hit preventative maintenance there hard. Sally warned them. Pay now or pay much later. Didn’t listen to her either.*

*Maybe that sub area, should also be outsourced. That will wake up some of the crew, wouldn't it. Then again, some of the crowd will never wake up."*

*"No, I have never participated in those big meetings about strategy and their long-term visions. Often thought most of their visions were more like hallucinations. Wonder what they had in their coffee cups. Have you been in those types of meetings? Too bad. I was curious about how they reach these types of decisions and plan out the changes. Guess both of us were always in the dark. Was always confused. Some of the decisions I have seen seem to have no thinking behind them, flip of the coin, and no thought about how to get the job done. Other decisions weren't so bad. Guess I will never know now. I hope they think through this Aetna plan, don't want them to mess with my pension and benefits. If this plant closes, will probably have the pension money, but the benefits might go, like what happened to Joe."*

*"Brrrr. Too cool for this. Butt's sore too. Let's go over to the diner and get some coffee."*

Wow. That was an earful. If GAFFER actually moves the primary ops out and just leaves assembly, and outsources the HVAC at the same time, the plant's going to be a whole bunch smaller in many ways. Moving the primary out makes a lot of sense. Running that as a job shop just-in-time to the assembly lines? Was a mess, always would be a mess. Wouldn't have been too bad if they kept the areas somewhat independent and decoupled, but no, they mashed both systems and processes together. Sometimes it is not good to be too close and too integrated. Similar processes and requirements make sense, but try putting a dog and cat together in a box and see what happens. Good that they are building a new facility for the primary and will still run it themselves. They need lots of control over the primary from what I remember. Also have some nice homebrew there, the fellas did some nice creating there and came up with some slick processes. Yep, a little separation with dedicated management and infrastructure will be a good thing. Too often the techs would be in assembly and the primary would suffer. Or the other way around. Management would also be caught in the crossfire. Not good. Much better to make the primary a focused area with dedicated resources.

That HVAC business makes sense. Not sure who they will outsource to. Might be Ajax. They are already in the business and they have a good rep. Could also be the Clipper factory. They usually lowball the quotes and worry about things later. Time will tell.

The instrument cluster? That is a different story. Don't understand them thinking about that move. Maybe they have the old problem of getting extra demand while running out of capacity but the added work

does not warrant the investment? Did not hear that they had extra orders though. From what I hear, it is not a big cost issue either. It will likely cost them as much, if not more if they outsource. It is a complicated item, not just a simple part. I think they also had to create some special tooling and fixtures for that cluster, one of the guys even tried to patent it. Wonder if they are going to provide that stuff to a possible competitor. Might not be the wisest thing if they do that.

Hmmm ... who are they going to outsource to, that is the question. There's no one close who does that type of thing. What are they going to do? Train and teach the supplier? Jake did not mention it, but I know that they have had a nasty time with that module and if they cannot figure it out, why do they think a newbie can? Can get some good runs, but needs constant diaper changing. Wonder if the quality problem is associated with that proprietary tooling? They are not known for coming up with that kind of stuff. Not a core competency or competitive edge if you know what I mean. Anyway, just passing the hot potato onto the next sucker I guess. Looks good on paper and from upon high, but strange where the rubber meets the road. Will likely have to hold a bunch of inventory there too. Too critical for a shortage, would shut down everything. Maybe they know something I don't. Time will tell about that too I suppose. Have to be careful about outsourcing the money making stuff. You also outsource the learning and new ideas if you are not careful. Have seen this many times. You can have a duplicate supplier for quantity and for a backup system, but you should still keep some ability to understand what you are supplying, else the customer can just go to your supplier and forget about you.

Ya, that is true. In your key stuff, you better keep your skills sharp and even better than your suppliers if you want to stay in business. Short sighted to outsource your future, eh? Many of those Wall Street types might like short-term gains but they do not care about the company or workers. Like vultures and pirates. Ha. Good one. They do call what they do investing. What crap. Swapping stocks like toilet paper during the day is not investing. It is just like betting on horses or playing slot machines. Sure isn't investing if you ask me. Investing should be a long-term commitment, not constantly buying and selling different stocks. Yep, there are still some of those long-term thinkers, but not many.

Guess I was right about the Aetna group being in. Getting stuff stirred up. One of the problems is how that plant is driven to the max without any time for repairs or recovery. Can't just drive, drive, drive a plant. Well, you can if you are just milking it before slaughter, but not if you are hoping for a long term go at it. The bosses sure do not work themselves like that. Not sure why they think the factory can. Not much different. Need to eat

right, keep hydrated, give the muscles time to heal. Go flat out all of the time and you can expect that when things go wrong, they will go wrong in a big way. And, you have to remember that bad things will occur at the worst possible time.

Was not surprised to hear that the spectators from Aetna messed with production. But, if the plant cannot handle that, then how do they expect to conduct inspections, do preventative maintenance, and keep the blasted machines and tools running? They drive the workers the same way.

I know, I know. Should not get so excited. Not good for the blood pressure. But, it bugs me how stupid and short sighted some folks are. Would not treat their car or home the same way. But, someone else's money and business, different story. I think they should treat the company assets as if they actually had skin in the game, not just a greedy caretaker taking advantage of the situation. Hear that some companies are lucky enough to have good bosses. Must be part of the company culture if it happens more than once. Sounds good to me.

That phrase plug and play also gets me. Kinda a holy mantra these days from what I hear. Passing the buck is what I think. Ya, OK. Not in all cases, but like I said, you have to pick and be careful about what you outsource or delegate. Not everything is suitable and sometimes folks have dropped the ball, getting rid of core competencies in a weak moment or panic attack. Not only have they given away the family jewels, they lose sight of the jewels, how to improve them, and how to exploit them. Short-term gain for long-term pain, if you ask me. Not that anyone asks me for my opinion anyway. Got heart burn now. Best to change the subject.

## BEN'S NOTES

It is a good idea to have focus in a plant on one major type of operation. In this case, it is the assembly lines. However, there can be many pitfalls as the outsourcing of the parts must be managed. Suppliers need to be trained to deliver the right quality at the right time. Some parts should not be outsourced—because there is no supplier that has the capability, or can do it better than you can. Outsourcing problems simply leads to more problems, as you need to tell the supplier what to do, and when you are not able to do so, the supplier will not deliver. In other words, you should usually outsource parts when you know how to make them, but you do not want to use internal resources on them anymore. Or when a supplier can deliver at lower cost because of scale benefits.

One of the problems of having part manufacturing and assembly lines in one plant was the lack of focus and services that had to be shared. Outsourcing is one of the possible solutions here and probably quite a drastic one. Another option would have been to create *plants within the plant* or a focused factory. This means that the *techs* that needed to divide their attention would have been split in a team for part manufacturing and a team for assembly.

There must be a healthy mix between production and maintenance. Processes have to be kept in shape, people must be trained, and small problems have to be attended to before they grow and become unmanageable.

There is often a large gap between strategy and execution, and between senior management's view on the way forward and the lower echelons, including operators. This is something which is seen by many managers as a fact of life, which is wrong. It is a bad thing because of several reasons: (1) a good strategy can be explained in simple words and (2) the lower echelons will have to make it happen, which is difficult when they do not understand what direction they need to work to, or are not even informed.

### 3.1 SELF-ASSESSMENT

1. Do you have the same type of manufacturing profile throughout the factory or not? How do you manage them differently—the dogs and the cats?
2. Do you explicitly assess and control the amount of change in the plant to ensure that the plant is not overloaded?
3. Do you outsource your future?
4. Do you think long and hard about why you are outsourcing and what it means—long and short term?
5. Do you run flat out, or do you have spare capacity on key resources?
6. Do you have good management by design, or by accident?



## CHAPTER 4

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# THE INSTRUMENT CLUSTER

*Hi, how you been keeping? My back bothers me too. Especially on these cool days. No, never tried that, will get some later today. I hope that my sources are wrong. Gossip is that they are going ahead and will outsource the instrument cluster as well. Didn't figure that they would keep that idea going. We are supposed to be the go-to place for that stuff. Why do they think someone else can do better? Cheaper? Took us decades to get the hang of it. Both the HVAC and instruments. Wonder if they are trying to send a message to the workers? No. Not sure yet. The morning line is that the HVAC is just going down the road. Ya, that's the factory, Ajax. They are already doing HVAC work for our main competitor. Hear good things about them.*

*No, I was serious. There are still some rumors floating around that they are looking to outsource the instrument cluster. Go figure. There is no one close by who has experience with instrument clusters. Nope, they stopped doing that about eight years ago. Moved that whole operation down to Mexico. Nothing left here except a warehouse. Hmm. You might be right; they might still have the design team running out of here. I wonder how that has worked, designers here, the factory there. Must be a challenge to get that right.*

*Almost forgot. I think you know Allen. Guess he is Raul's new golden boy. Going to be the line manager for Aetna if they get it. Big move for him. Oh, he was running the tool crib last I heard. Not clear why he was picked. Ya, he was doing a good job, but managing the tool crib is not like running a large assembly line. Yes, I know some people think that, but I don't. I don't think that just because you can manage one thing, you can automatically manage everything else. I guess we can agree on that score. Well, it isn't my problem anymore. Wish him the best. He'll need it. Lucia isn't happy. No, you would not have run into her. She has been managing one of the sub areas for three years. No, not the sub-from-hell, this is the*



*good sub. Used to be one of the problem areas though before she got her hands on it. Has been doing a great job according to the gang. Knows her stuff and knows how to work with the crews. She got that area sorted out. Yes, she did. No more overtime, hitting the quality and production targets. First time in a decade. She thought she was going to get the Aetna line. Makes it interesting, huh?*

*Not sure what GAFFER's plan is. If they don't get Aetna, they will not have enough work for half the plant on a single day shift. Most of the current work is close to build out and nothing else close in sight. Sure, they keep bidding, but as soon as the customer comes on a tour, that kills any interest. For Aetna, they are going to need almost a new plant in there, dock to dock. They have not been doing the necessary maintenance and keeping the main equipment up to spec. That's why they have to go 7 by 24, too much down time and they are always catching up. Whenever they bid on something that will be based on the existing equipment, the customer smells the rotting flesh and runs away. If that isn't enough, some of the crews are like zombies and move like snails on valium. Any customer seeing those displays of energy and work effort will not like what they see. I wouldn't like it. I think that the customers would want to work with a supplier where the workers want the business, not that they think that they are entitled to it. Heard a few months ago, a foreman was starting to bear down on a crew a bit, trying to get them to follow the work instructions. Union got him fired. Yep. No kidding. The union got a foreman fired because he was trying to get workers to actually do what had been agreed to between the union and the plant. How can you run a factory like that?*

*Yes, it is your turn to buy. You can even treat me to a muffin. I am entitled!*

My memory wasn't too bad after all. That instrument cluster was a bitch when they first got the business. Looks like it is going to be one of those panic outsources though if they decide to move on it. Never made sense, still doesn't. You can't start to outsource something when you are getting into deep crap. You need to work with vendors, and have them ready. Reminds me of fire trucks and firefighting. You have to keep the trucks ready and crew trained for when you need them. You don't get a fire alarm, go find a truck to use, fit it out, and then go find a gas station to fuel up, eh? If you need that extra help or capacity, you have to think in advance. I can see it now. The guys will be trying to keep the plant going with all of that yelling and screaming, and they will be trying to get the supplier up and running; all with the brown stuff hitting the fan. Great planning in advance. Ya, I guess that no planning is a form of planning, but that is no way to run a place. My dog has more common sense. If they

outsource both subs at the same time, that would be priceless. That would have been the icing on the cake. That would.

I think Jake is right about Allen and Lucia. Allen is better with the politics and the sucking up. Looks like he has done a grand job with Raul. Lucia is quieter from what Jake was saying, and just goes about her job, not patting herself on the back constantly or taking credit for other folks' work. I have heard about Allen. My friends nicked name him Slick, nothing would stick to him. He thought it was a cool nick name, never clued in. This will be a real test for Lucia. Don't know more about her, just what Jake said. She might take the high road or not. If she is a pro, she will just suck it up and do the best job she can. If any of the management have their heads out of the sand, they will see what she does and how she does it, she won't have to tell them. But Allen? That is a big step for him. Would have made more sense to give him a subassembly area to overhaul first. Ya, he is a good guy, if you ignore his sucking up, but he has never done anything close to what Raul has given him. Nice to have a challenge, but this is like sticking your head in a hornet's nest without any protection.

I wonder if Aetna will smell the rotting flesh that Jake brought up. That can be a deal breaker, that can. At our plant, we had good plant managers who believed that the equipment should be maintained and looked after. You need time in the schedule to do that and running flat out 7 by 24 all year except for the yearly shutdown does not leave any time to do maintenance right. When something is going to go south, it can go bad real fast and likely make a big sound. No, we never had big down times, just minor issues. We had a drill at the start of every shift, did a quick inspection like they do on the planes, saw that on the television recently. They check out the routes for the day too; make sure everything can do the journey without a disaster. Ya, crap can happen, but not all of the crap is 100 percent random or acts of nature, eh? We also would fill up or top up all of the material so that there would be enough for the shift. It is like topping up your windshield washer fluid before a trip. Don't want to get out on the freeway to do it. Not safe. Stopping production during a shift because something ran out, sounds stupid to me. Oh ya, back to the maintenance. All areas did the flight check and we had a little time every shift planned for this. Made a big difference once we started that. Also gave us time to keep the place neat and tidy. Going flat out all of the time makes it hard to keep up with normal stuff. Am sure that the folks in GAFFER's front office do not go flat out all of the time. Wonder why they think the floor can?

That's right. Not all of the workers cared about this stuff in the beginning, but the area supervisors helped out, as did the managers. With everyone pitching in instead of just watching or talking, got the workers

going. Can't pretend either when everyone is around at shift start, helping out. Not sure how GAFFER is doing this. Might ask Jake. I know that in the old days, the managers and supervisors would be having their own little meetings at shift start or they would walk around looking important; the line considered them absentee landlords. Like I was saying, at our plant, when we noticed that the bosses cared and their actions matched the talk, we started to care too. No, don't get me wrong. We were not always so good and we had our own share of decaying flesh. But that was a long time ago before the last few plant managers I had. My management turned the place around. Who knows, GAFFER might have some wizards and turn around GAFFER too. Management and worker attitude will be important. Still not sure why Aetna is sniffing around. Maybe they know something that Jake and I don't. Maybe they like a good challenge? Or, they are into self-inflicted pain.

## BEN'S NOTES

We already reflected on outsourcing—why would a supplier be able to acquire a competence that you cannot acquire yourself after trying for many years? Furthermore, it is probably a bad idea to separate the operation from the design team. There are many reasons to keep the loop short when a creative process has to be carried out. For example, how to attend a trial run when the factory is in another place? How to gather suggestions from production in such a case? The added lead time needed to transport will make it more difficult to react on quality problems. When the other plant has its own profit and loss responsibility, will they be willing to share the risk, to invest time? Will communication be open?

Cutting down on maintenance costs can seem to be an easy cost saver in the short run. However, in the long run, it will only increase costs. There can be much downtime as a result of the lack of maintenance. Products can fail and will be returned for rework. Employees will get demotivated as they see no interest or investments in the place where they work. It will be difficult to involve them in improving quality or uptime, for example by doing routine checks before production starts.

Management is not a generic skill that can be moved from one environment to another. When a manager has been successful in one domain, he or she might fail in something that might look similar. As a manager, you need to get acquainted with a large number of aspects of what you are managing—hard and soft. When you are managing a

production line, you should understand the process, the products, why things run smooth, what can go wrong and how this can be fixed. But you also need to know the people that are working there, the ones that are supporting, the objectives and behavior of other managers, clients, suppliers, and so on. It is impossible to be fully prepared for something like this. This means that a good manager must be prepared to learn and assume that he or she knows nothing when starting with a new assignment. The key factors are attitude, situational actions, social sensitivity, pragmatism, and vision. These are personal traits, not characteristics from a previous success.

How to motivate your employees to perform, take ownership, and strive for good performance? The answer to this question is not difficult; just ask yourself why you would act as such. When you have clear goals, when you are enabled—have the right tools, methods, and means to perform, when you are rewarded for good performance, when you get responsibility, and when your management gives you the impression that you are needed, and trusted. Motivation is not something that changes from day to day, which is perhaps why it is undervalued. Some managers think that *people issues* are difficult and they focus on numbers on a spreadsheet. In such a case, you should not be a manager but a bookkeeper or accountant. When you are manager, there is nothing you do yourself, you achieve by yourself. Everything that is achieved is achieved by the people that work for you. Act likewise.

## 4.1 SELF-ASSESSMENT

1. Do you promote and move people too far out of their level of competence? People need to be challenged to the next level, but not past the point of being successful.
2. Do your workers want to be successful and do their tasks with energy and purpose? If not, why not?
3. Have you maintained your resources and the plant to a level where they can deliver consistently, to expectations?
4. Do you do flight checks for each shift and replenish so that the shift has a good chance of completing without an unnecessary stoppage?



## CHAPTER 5

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# FEAR

*Can you smell that Ben? It is the smell of fear. Saeed's boss isn't happy I hear. Has been making some trips here to see what the heck is going on. Figures Saeed and Raul have bitten off more than they can chew. Still talking about splitting the plant, putting in a new line dock to dock, and talking about outsourcing two of the main subunits. Yep, the instrument cluster is still being discussed. The HVAC looks like a done deal and Ajax management has been in the plant a lot. Anyway, fur's been flying. See that limo, that's Saeed's boss. Here all week. Behind closed doors 7-11 each day, and Raul does not look happy whenever they break. Real foul mood. Everyone is staying clear of him. Definitely don't want to tell him any bad news this week.*

*Not sure, but some of it will be like shooting fish in a barrel. They just don't have enough engineering staff to do all of this at once. No way. Team is still burned out from the last hare brained scheme. All the big guy has to do is to ask them how they exactly plan to do any of this and he will have them squirming. Ralph, one of the millwrights, no, not that Ralph, the other Ralph, told me that he had heard that the initial planning meetings sounded like a child's book. We will do it this time. We will do it this time. We will do it this time. Yes we can. Yes we can. Would laugh, but not sure I could stop if I started. I can just see their faces as they get asked for specifics about what they are actually going to do, how they know what the results will be, and how they will know if they are making progress toward the targets. Blindfolded darts. About as good.*

*Ya, they are still suffering from that delusion. Plant is no longer in the driver's seat and the price is set by the customer for the most part, not the seller. Oh, those were the good days. Just give the workers what they wanted, pad for a good profit margin and then pass the cost to the customer. We had about twenty years like that. Created a real attitude, it did. Don't know. Some of the management and line workers still think that way. Can be hard to change after so many years of easy gravy. They just*

*can't believe that the old ways will not still work. I hear that a bunch of the new gang understand the situation and are trying to get some attitudes adjusted, but I suspect they lose more battles than they win.*

*You are right, I am enjoying this. Nice to be on the outside this time and not caught up in it. Been there, done that, bought the t-shirt, and have the tire tracks on my back to prove it. I wish them the best, but they have a big job ahead of them. On top of all of this, the corporate wizards have decided that now is the best time to upgrade the software systems and try to get those new planning and scheduling tools introduced into every factory. Yep, they say that one size will fit all. Rolling out the same config to everyone next month. What's good timing for corporate has to be good for all plants, right? After all, corporate is the crowd who makes the money for the firm. They know everything. Plants know nothing. Better stop this. Getting depressed. Am happy to be on the outside and getting my monthly check!*

*Aetna folks are still around too. Heard that the plant is on the short list. Can't figure that one out. With what I know about the current going on's in the plant, not sure if I would place the plant on the short list on anything except closure. Perhaps the plant is on the Aetna black list. Let's go get that coffee.*

Lovely. Seeing fur fly is always an interesting pastime. Especially when it ain't yours. And that Jake, he sure loves a good spectator sport. Glad to hear that the big boys got involved and slowed down Raul and that Saeed chap. Splitting the plant was probably a good plan a while back, but they can't do it now with everything else happening. No way. Good that someone is checking on them and caught that. Two newbies, making lots of big changes too quick. Classic recipe for high adrenalin manufacturing, living on the edge. Can probably do one major change at a time, control the situation. Yep, that is what I would do.

Jake had me laughing at the blindfolded darts. Too true though. Used to see that all the time in the old days. What do we have to do? Improve by 25 percent. Not a problem, we will do it. Folks never knew what the current status was, nor could they figure out if a 25 percent improvement was possible, and they sure had no idea about how to know if they were making progress. On top of that, they would just huff and puff, stick their chests out, make some gestures, and proclaim to all, "we will do it this time." Yep, same old song. Sad that GAFFER is still singing it. One of the industrial engineers at our plant got everyone to back up their claims with what he called evidence based reasoning, forcing them to use some math and logic to support their claims and plans. Some stuff was simple. Some stuff wasn't. Somehow he managed to persuade them to use some

simulation software and some other tools before just jumping into any big mess. He told them it was like the old carpenter phrase, measure twice, cut once. There are some smart people at GAFFER, some not too smart too, but there are enough smart folks that they should be able to see what they are doing and how silly it is. Maybe they have not been shown the same tricks our industrial engineer knew.

Funny Jake mentioned the worker attitude. Probably the biggest challenge, but also has the biggest return. I remember once asking one of my first bosses, why he hired me. I knew I was not the sharpest knife in the drawer, but I was also probably not the dullest. He said attitude. Asked him why he kept me on. Attitude. Why did he involve me on special projects. Attitude. Real challenge to change and create a positive attitude. It cannot be bottom up though. Making this change? It has to be from the top down with the big people walking the talk. They have to lead by example, not by proclamation or pontification. Buzzword of the month. Fad of the week. Raise another flag up the pole. Might as well just throw another shrimp on the barbeque. That is all crap unless you are actually doing something different. Just telling folks and making noises will not create new practices or beliefs. No way. You actually have to do things to change people and their attitudes. Us folk in the factory might be thought to be slow and dimwitted by some managers, but we aren't that slow and that stupid. We sure can tell when management is talking down to us instead of talking with us, or just playing with us. Perhaps they are the slow ones. Thinking that words alone will change things. Real bright that is. Come to think of it, the good bosses thought of us more as peers and valued our ideas and thinking. Might have less formal education, but that does not always mean that we are less intelligent than they are when it comes to making the plant more efficient or effective.

Some of our plant managers were better at rallying the troops than others. I remember this one guy. We liked him. Had the respect of the workers. He was normal. No airs. He made a point of understanding the workers and what the workers did. Got a lot of respect that way. No, I do not think he was faking it or doing it just for effect. He seemed to honestly care and was interested in what was done and how it was done. Would come in at all kinds of weird hours and just hang with the workers, help a bit on the line if needed too. Never dressed or acted like fancy pants either when he was around the factory. Just like a normal worker. Good point. Would not want him handling anything critical or sharp, but just having him around and talking with us was great. Evening shift, weekends. Almost forgot, he would also come in whenever he asked the plant to put out an extra effort. He was there himself. None of this *work hard and*



*have a nice day* while he went out and played golf. Yes, he did that too. He would actually spend a whole shift in each area, once a year to watch and talk with the workers. He wouldn't just take a few minutes and breeze through the place. Anyway, he got lots of help from the workers because they believed that he understood their world and what they had to do. They also knew that he only asked for extra effort when necessary. He was the first one to start the extra effort and others would follow. Would get his hands dirty if needed. He did not cry wolf or constantly push either. Must say, he was a great manager. He took on a couple of juniors and mentored them too. One became the next plant manager and he also did a good job. No, he moved on years ago. Lost track of where he went to. Couple more plant managers since him have taken turns with the factory.

My old gang not as impressed by the latest boss. But, it sounds like GAFFER could use someone like the old boss I had.

Great timing about the software upgrade. Just what the local IT team needs right now. More change. Talked to a couple of other friends from GAFFER soon after this little chat with Jake. Filled me in. A new ERP upgrade coming from corporate. Not just planning and scheduling software like Jake said. Local geeks are not happy. Seems that the corporate know-it-alls went to a lily white, new facility to figure out the requirements and set the standard. Brilliant. High volume, low mix, no legacy service issues, nice new equipment, no legacy IT, and they only supply one customer and only have two steel mills supplying them. Squeaky clean and on a scale of 1 to 10, probably a 1 or 1.5 in terms of complexity and day-to-day issues. Maybe even a negative 1. I can see rolling out the first version into such a site, but they sure got a limited and biased view of the problem by using the latest showcase factory as the baseline. They should have used one of the older factories. Why? Well, it goes like this. If you understand the ugly or challenging situation, it gives you insights into how the bill of material, routings, and other goodies should be designed for the long haul. What has happened in the past might be an indication of what is needed in the future, and this is certainly true about product and facility life cycles. The simple plants can use a subset of the bigger picture and grow into the full picture. The reverse is not easy. It is very hard to start under one set of simple structures and change up. Some small changes maybe, but sometimes it is hard to change all of the old IT structures as you evolve. Oh? Had not thought of that. Good point. The IT guys might be a little reluctant to change and do what is needed after spending all of that time doing the wrong config. Too much invested I guess. Might try to keep a bad idea going, like lemmings going off cliff. Human nature I suppose.

I hear that the local guys are pulling their hair out. They are constantly fighting with the corporate consultants and gurus about this feature or

that option and trying to explain why the requirements are different. It seems that the corporate folk also do not know the difference between job and flow shops, nor intermittent and repetitive manufacturing. They think everything should be like the new factory down south. Must be fresh grads or have never been to a real factory. It even gets better. They have been advising their corporate masters about metrics and how the factories should be all measured on one set of KPIs and compared against each other. Duh! New plant versus old? Flow versus job? Dedicated feeder plant to one assembly plant versus generic plant feeding multiple assembly plants? Priceless. Sure glad I am not in that mess. We were not perfect, but at least our corporate office recognized that there were differences in the family and that each plant had to be assessed on its own merits. No, you still measure and look for relative improvements over time. The plant should be expected to improve on its baseline metrics, not match another plant's numbers. Yep, 'tis more work, but why should the bosses have an easy job and be lazy. Just because it is work does not mean that they can take the easy and stupid ways out. They should work too. Not easy to do, I agree with that. No one said it would be easy. If they want easy, go buy a box of candy with a prize in it, and leave the big pay check behind.

Have a little vacation trip planned for the next few weeks. Won't be seeing Jake for a bit. Wife and I are going to indulge ourselves and be pampered on one of those cruise ships. Can't wait!

## BEN'S NOTES

By measuring you create data, by interpreting and structuring the data you get information, and by identifying patterns you get knowledge about the domain the data came from. When you do not measure, you do not learn. It is as simple as that. However, measurement alone is not enough, as you need to be able to link back the measurements to actions that have been taken or should be taken. When you measure without reflecting about the values you observe, and there is no clear or trivial cause-effect link, you start to change your behavior anyway without knowing whether it will be for the better or the worse. This has been observed in cognitive psychology and in simpler terms can be described as playing darts blindfolded. When you do not understand the link between cause and effect, you have to start diagnosing the problem. And diagnosing is a skill in itself. When you diagnose a complex system, you need to understand all possible cause-effect relations and start testing them one by one, and by that you are excluding causes

until you find the root cause of a problem. Removing root causes of problems is a major activity in a factory, as potential failures lurk in the background all the time. A good manager helps his team to diagnose problems and to implement solutions. He or she will question their hypotheses about potential causes and critique the potential improvements that are proposed. The plant manager will value a good solution over a timely solution, as the time needed for diagnosing a complex problem is hard to estimate.

The concept of attitude plays a central role in how we distinguish effective plant managers from ineffective ones. The task of a manager is to set objectives, to measure whether the outcome is in line with the objective, and to help the team achieve the objectives. In order to do this, the manager must understand how the actions of the team influence the objective. This can be different today than how this has been yesterday. Many managers observe key performance indicators on a daily basis, but most of them forget that the values of these indicators are precisely that—indicators. They require further probing—something may be wrong that needs diagnosing. Performance measures are a means to an end and this should be recognized by managers. This means that a manager should always be interested in both sides of the story; they should recognize that he or she should ask many questions in order to understand the whole story. The manager must stay connected to the employees—when they answer questions, they should feel they are getting something in return.

Single numbers and indicators can be very misleading. There are two points to always remember: what is the variance, and what is the shape of the data. If you do not consider both when looking at a number, you are playing with a partial set of information and this can lead you to the wrong decisions. Remember, you can get an average of 5 from (5,5), (4,6), and (1,9). There is more to an indicator than just an average!

Many managers only take, and do not give back. The strange thing with management is that this seems to be the natural career path for the ambitious ones. Ambition apparently is in many cases equal with wanting to control other people's work. This is the wrong motivation to become a manager. A manager should be recognized as a manager before they are formally appointed as a manager. Such persons are also referred to as *organizational champions*—to whom do people turn to when they are stuck with something in their work? Unfortunately, many organizational champions often do not make it to the managerial level. Reasons for this can be that they do not have the academic degree, they

do not shut up when told to, they do not play the political game, and they are not part of the organization's elite group. In a plant, remove the managers and you get new managers. When you are lucky, they will keep themselves quiet for the first few months instead of trying to change the world, rocket themselves to the corporate pyramid, and wreaking havoc. But remove the organizational champions and your performance will drop dramatically.

Discussions on how to solve problems can be incredibly complex when they are on too high a level. It is very easy to talk for hours without understanding each other when vague concepts are used or solutions are proposed without understanding the problem in detail. When something like this happens, and a discussion seems to boomerang back again and again, go into detail. Let people explain precisely what they mean and have them collect evidence on their statements. We *often have problems at machine xx*? What do they mean with a *problem*? Does it mean downtime, quality problems? What is the downtime, how is it measured? Is this downtime higher than other machines? Based on evidence and details, discussions can be resolved and seemingly unresolvable conflicts suddenly disappear.

The gap between a corporate IT department and a plant can be huge. Corporate consultants live in another world from operational people. Their lives are not disturbed by problems on the shop floor, complaining customers, materials getting lost or not being delivered. They are in peaceful offices, and they listen to stories from software companies so often they start to believe this is the truth. They believe that one solution will fit all, which is sometimes the case but more often is not. They will define a standard ERP kernel system and roll this out to all the plants, as they believe this is the best way to save costs. Actually it is the best way to optimize software sales at the ERP supplier, but the consultants forgot about this. Standards are best and resistance is futile. Support costs are minimized not because the support is efficient, but because it is so hard for a user to get anything done through the support organization and most users will capitulate at some point in time. The only thing you can do at the plant level is to keep things as simple as possible, so you can work around the formal system when needed without problems.

As we have read in the story from Jake, the environment has changed and the plant is now in a buyer's market. This means that the attitude needs to change—from inward facing, rigid and reactive, to outward facing, flexible and proactive. To support this change, people need to be trained and educated. The old tricks do not work anymore

and it is change or become roadkill. People need to place themselves in the position of the customer. They need to anticipate how the client will perceive things and what can be done to make them happier or to prevent unhappiness. Rule 1 is that the client must be made happy, and when this cannot be done, go back to Rule 1. In other words, failure is not an option in a business, or stop being a business. If the client is not a good client and you cannot make them happy, you might need to find a new client. Not all clients are good clients. Yes, we know that this contradicts Rule 1.

## 5.1 SELF-ASSESSMENT

1. Do you use evidence based reasoning for setting goals, measuring progress, and establishing plans? Are people expected to provide rationale for any critical estimate?
2. Does your corporate team understand the differences between plants and what it takes to support and assess them?
3. Does the corporate information technology staff have a strategy for how to deal with the diversity usually found?
4. Do all management levels spend time and understand their areas? Serious time, not just a walk through. Do the managers walk the talk and also work hard when they ask the workers to put extra effort in?

## CHAPTER 6

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# MR. BIG INTERVENES

*Hi Ben. 'Tis a nice morning. Haven't seen you for a couple of weeks. Oh, how was the cruise? Great. Never taken one myself. Wife wants to go, but I have no interest. Would rather go to the dentist. Open mind? OK, I will try to keep an open mind.*

*Speaking of an open mind, guess Saeed and Raul got theirs opened up a bit. Mr. Big turned up and gave them a spanking. Well, this is what is on the grapevine. Nothing official yet. First, they will not be splitting the factory. Nope. Can't do that and deal with the new line. Might be good news, bad news I think. But, I guess you can't fix everything at once and they have to pick their battles. He told them to try a focused factory approach within the factory first. Simpler and more controllable. Not a bad idea. Supposed to get the primary area running better. We'll see. Second, cavalry is coming. Lots of engineers and line support people from the mother ship. Rented half of a local motel for a month or two I hear. Guess they finally figured out what they needed to pull this off. How they reached this conclusion sure wasn't pretty. Anyway, sounds like they are putting enough resources on the problem to actually help and fix things, not just tell people what to do. Ya, I hate that too. Suits come in, mouths open wide about what you are doing wrong, what you should do, and then they sit back and have their latte. Never get their hands dirty or actually help. Looks like this time will be different. At least it is starting out different.*

*I'm just glad that this happened now and not later. Can you imagine the mess the plant would have been in if they had just continued as they were going to. Ouch. Some silver lining in the cloud though. The plant is considered saving and it looks like the corp is going to do whatever is necessary.*

*Hmmm. Good question. Let me see. They just did a new agreement year before I retired. Guess the union agreement is coming up next year. GAFFER isn't big on unions. Most of their plants overseas don't have them. No, haven't heard of any problems and I hear that the workers are*

*well paid and get the same basic benefits we do. Union going? No, can't see that. True, the line workers are making a bucketful of money with their overtime. Guess time will tell on this. I bump into Fran on a regular basis, you know the union steward, will have to get the latest on this. Could make the future very interesting.*

*Wonder how they will do the training and get the workers to buy in. This has been a real problem in the past. The line workers like it the way it is, that's for sure. Some were not happy with all of that talk about moving the two subs out. Even moving the one sub out. That will result in a bunch of bumping. The newer guys have a better attitude, but they could be out the door because of this. Any idea how Fabride handled this? They supplied your plant, no? Heard they had a similar situation a few years ago. We had some dealings with them, but nothing major.*

*Really? Wow! Although I am a union man, some things just don't make sense. The good, young talent was let go and they kept on Jochen and Jasmine? No justice there. I know that there used to be reasons for many of these policies, but sometimes you have to use commonsense. Just because Jochen was in the same category in shipping, does not mean that he has a clue about scheduling. I dealt with him once when we needed some special prototyping done. Couldn't plan his way out of a paper bag. No wonder they had to pull more jobs and run around with their heads cut off. With him scheduling, surprised they got anything out the shipping dock. I wonder if the management ever tried to estimate how much he cost them? Their setups were not cheap if I remember.*

*Just before I left GAFFER, Lucia was hired and she showed me how to figure out the number of setups we should have been able to do in a perfect world and how far off we were. Can you believe it, we were doing 20 percent more setups than we should have been doing and we thought we were doing good. Good question. Not sure about the dollars. I suspect each unnecessary setup cost us about \$15,000 all in. Well, you have to take into account the setup crew, idle time of the production crew, any material and scrap during setup, the quality checks before you let rip at full rate, and the lost production time. Adds up. You are right, gotta be a different way to deal with setups. Coffee?*

That cruise was great. Had a good relax time. Fantastic food, wine, sun, and fun. They had wine tastings and the buffets were great. Put on lots of weight. Some of the nightly shows were OK, and I did not like the stupid games they tried to get you involved in. Imagine a guy my age doing that stuff. Never did it when I was younger, why would I like it now? At least the boat was big enough I could hide when I wanted to. Oh ya, Jake. Almost forgot about him. Had been a few weeks, so there was lots for him to spill his guts about. You could just tell that he couldn't wait to share.

Now, that's someone who could use a cruise or a time out. Guy is still as wired as when he was working full time. Interesting guy to talk to, not sure if I would want to be married to him.

Anyway, I go away and miss all of the fun across the street. The old owners would never have done anything like this. Perhaps GAFFER is a different breed after all. Started off sorta like a hands off. Put the new team in, and then watch what they do instead of assuming that they needed a firm hand. Probably the best way to do it, but you gotta watch and be ready to step in before they do a big face plant on the concrete. Have to give people room and the chance to figure it out for themselves I suppose. Good thing that Mr. Big as Jake calls him was keeping his eye on things and watching for any dumb decisions. Mr. Big is the corporate VP for the division. Not sure if Jake knows that. Come to think of it, not sure if Jake actually knows Mr. Big's real name. You know how nicknames are used. Anyway, Mr. Big must have a different view of things if they are putting so much energy and effort into the old place. I always figured that the place had potential, and that might just be the case, eh?

They seem to understand that you have to get past the critical mass, not just give it a lick and a promise as they say. Enough resources and effort to make a change instead of just playing with it like a cat does with a mouse. Takes a lot of corporate backing to do that. I like the hands on approach too. Nothing worse than the con artists who turn up and tell you everything to do, but who have no skin in the game. That plant tried to change many times in the past, but this might be the first time that the management team is actually backing the words with action. Other ways did not work, who knows, this might actually be what it takes.

That union business is going to be some challenge. That plant has a rep for being militant and hardnosed about their agreements. Might be a chance if the company is more open and does some education about true costs, revenue, risks, and reasonable return to the shareholders. Gotta be realistic. If the workers feel that the bosses are lining their own pockets at the expense of the workers, will get ugly. I hear that there are still some companies that limit senior management compensation to reasonable levels, their pay drops when the firm is not doing well, and they do not get bonuses when the company is struggling. That is refreshing. Not sure if there are any of those companies around here, but that shows the company managers are not ripping off the shareholders or the workers. I do not know how GAFFER works on that level. Will have to ask Jake and see if he knows. I think that if the workers understand that the bosses and company care about doing things right and fair, and are willing to back words with action, might be a chance in getting the workers to change their attitude and work with the company to succeed.



If the bosses act as if the factory is there to serve them instead of the other way around, the workers will never work with the management. I have seen too many old bosses who were making decisions for their own good and not the company's good. Sure a good way to kill a factory or company.

Yep, Fabride was an interesting situation. We had something similar 20 years ago. Ended up working with a third party to assess and work between management and the union on those types of jobs where there is an actual skill component. Took a bit to persuade the union that the third party was going to be fair and unbiased. Process involved training and then an assessment period. Reasonable goals were set out in the beginning and were used to give a pass or fail grade to the worker. Of course. The same criteria was used for everyone. It was not as fast as just moving in the best body, but it worked both sides of the street and avoided a blowout. This was done several times over two decades. Was easier and faster each time. It did take some education of both sides to explain that some positions were different and that seniority was not the only worker qualification to consider.

Glad to hear that Jake got a lesson from Lucia on setups and how to look at them. Even if it was when he was going out the door. We did not have a Lucia and had to learn those lessons for ourselves. We never tracked the setups, pulled jobs, or short runs. We just looked at direct materials and labor. Boy, did we get our eyes opened when we started to figure out the real cost of breaking jobs and running extra setups. I guess our management looked at these situations just like a fixed infrastructure expense and buried it. On one of these cost reduction campaigns, someone decided to dig in and found out what our setups were costing us. That resulted in a whole bunch of meetings and discussions on how to plan, prepare, and schedule better. Also involved a bunch of discussions about the cost of holding inventory versus lost production time on key bottleneck resources. We quickly learned that you do not need to worry about every resource and every situation. Figure out the bottlenecks, do not starve them, do not block them, and make sure that they can run when they have to without any wasted time or effort. Unnecessary setups were hurting us. Fast setups? Oh, we were doing some of that, but after this exercise, we were doing more, and when possible doing a parallel hot setup so that the value added work could just flow. Being practical, we could not do this on all key machines and processes, and that is where we had to make sure we could do what we had to do without pulling short and creating extra setups.

## BEN'S NOTES

How unions influence the effectiveness on a plant can vary a lot. In Europe, unions have achieved many things for workers—good work for fair pay and some protection against bosses with high testosterone levels. A stable workforce is good for a plant, as experience stays and people are not afraid to speak their mind because they might get fired as a result. In environments where there are a lot of flexible workers, such as some warehouses, you can see that a small number of experienced employees need to train new workers again and again. As these flexworkers come and go, you never reach a level where the workforce is mostly trained and knows what to do. As the spreadsheet manager is smiling because the labor costs are seemingly under control, your operations are messed up. When a flexworker disagrees with a manager, he can be fired easily and replaced by a more zombie-like creature. However, unions are not always good for plants. When layoffs need to be done, you are typically not allowed to pick the good people you want to keep. Instead, the employees with the longest track records will stay safely within the plant domain. It can be very difficult to get rid of workers that simply do not perform anymore—after you have tried to teach them and help them. Stability is a double-edged sword. It seems that unions in North America are mixed with some creating good situations and some bad. Even if your company is in a good zone, a global manufacturer must be aware of the different cultures and implications a union will have—Asia, America, and Europe.

To plan or to schedule is not easy. It is important to have the right man or woman on this position as it has a large influence on performance. What makes a good planner? There are certain skills involved that can be trained, such as using information systems, following a certain way of working. And some other skills cannot be trained very easily, such as not being a pleaser, not wanting to put out every fire, numerical skills, and a lust for details. We have written another book that goes into more detail on what a good planner or scheduler is. Where a typical manager takes perhaps 2 to 3 decisions per week, a planner or scheduler might make the same number of decisions every hour. This means that planners are decision-making machines, and much has been written about effective decision making. Planners are team players in that they will have short links to the people that will have to make their plan happen. When the plan needs to be changed, they will know this before anyone else does. Furthermore, planners and schedulers have

a very good overview of what is happening in a plant. When you are a manager, you can get a treasure of information by observing your planners and schedulers. Just make sure you do not get in the way.

How much does it cost to have an hour of idle time? What are the costs of material at every step? Does the operator actually know the cost of the tool he is working with? Do they know how much power is used by specific machines and what the costs are? And, as in the example, do they know the costs of a setup? In some companies, a planner or scheduler can tell you these figures exactly. These are usually the companies that have seen bad times and have to watch the bottom line all the time. Furthermore, these companies have been blessed by good planners and schedulers. They measure, rationalize, and make decisions based on financial facts. In many other companies, they are just trying to satisfy some vague KPI's, or even worse, are trying to prevent gross criticism by their management and for the rest, they do not bother.

It is not easy to understand whether a schedule is a good schedule, even when the costs are clear and measured. To calculate an *optimal* performance needs prolonged measurements and interpretation of figures—what are short-term disturbances, what is the influence of temporary factors? A good performance today can be achieved at the cost of a bad performance tomorrow. Or a good performance can be achieved by hurting the performance in another part of the plant. Only after some time you will have an idea on how you are doing against the norm—if nothing special is happening. There is always an excuse to underperform, and the trick is to distinguish real reasons from plain incompetence or ignorance.

A good manager knows how to apply situational management. Some managers will micromanage everybody, and when you micromanage an experienced person who knows their stuff, they will either ignore you or kick your delicate behind. Micromanagement is rarely needed, and it will keep people from taking on responsibility and will prevent them from growing. Furthermore, who is deciding that someone needs to be managed more? The manager? This has a big assumption behind it: the managers know things better than their team. This is nonsense. A good manager tries to sense how he or she can help the team. They take away obstacles, and allow the team to do their work. The manager will not send them five or more emails per day, ask them to provide figures to silly reports that nobody reads. The good manager will not meet with them all the time, or ask them “how things are going” half an hour before the manger needs to report to his or her

manager. In plain words, a good manager is not a pain in the neck—they help the team to set objectives and to achieve them. The manager is a facilitator for whom the hierarchical factor is almost unnoticeable.

A salary does not necessarily have to be the highest possible—it should be fair. And variable pay is usually not a good idea—not on any level. There is evidence that variable remuneration actually has a counterproductive effect, as people will start thinking they are doing it *for the money* and not because of some intrinsic motivation. Fairness of pay also means that things should not be too much out of bounds between the lower and higher end of the hierarchy. The most extreme example is the manager who lays off 20 percent of the workers and gets a 50 percent rise in salary as a result. This is not only killing motivation, it is unethical. Please start hating yourself when you do this. When you are in there for the money, get out. Put down this book. Good companies that survive in the long term are not just focused on getting a double figure percent return on investment—they believe in their products and feel it is the right thing to produce and sell them. The company provides some value, serves some purpose to society or the community! That should be the focus. Obviously the bottom line should be positive and decisions have a financial impact that must be evaluated, but this should be in the long run interest. Forget shareholders who buy your stocks only to sell them six weeks later. We do not want to serve these people, let them pickpocket some old lady. We want companies that stay profitable and who propagate fairness—which is not the same as scraping every dime off the floor.

Contrary to what might be logical, people do not learn from experience—they learn by doing and by explicitly reflecting on what they are doing or what they have done. Experience is just the doing; without the thinking. The statement “but I have been doing it like this for 20 years” can be answered by “perhaps you have been doing it wrong for 20 years.” There are people that are being told at the dentist that they have been brushing their teeth incorrectly for 50 years. Why? Because they never asked themselves why they were doing it exactly that way, and never measured the effectiveness of their actions. They just made up how something should be done and when they were able to do the job in some routine manner, they stopped to question themselves, as this might just increase the effort again, and our cognitive system is aimed at reducing effort. This means that you have to explicitly manage the skills of your employees. You will have to do assessments—in a way that people do not feel threatened, but in a way that they see the team benefiting as a result. It may be difficult sometimes to be criticized, but

then again, it is much worse to have colleagues who mess up again and again without someone telling them how to do their work. Just make sure the assessment of skills is fair, transparent and the outcomes are used to improve, not to punish.

In planning and scheduling a plant, there are many areas that demand your attention: keep work-in-process low, keep bottlenecks occupied, keep material moving, keep setups to a minimum, adhere to due dates. Many books have been written on this topic, and we advise you to read some of them, as concepts on planning and scheduling deserve some attention. Some factories try to simplify matters by focusing on bottlenecks alone, inspired by *The Goal* written by Goldratt. This might be an effective strategy—if you know where your bottlenecks are and when they do not move all the time. A resource that is typically not a bottleneck can become one when you make all the wrong decisions. Or when your product mix changes. Furthermore, focusing on bottlenecks will not solve the issue on what materials to keep on stock and how much the stock should be. There are structural decisions to be made and re-evaluated all the time, separate from the operational stuff. Study some inventory theory and concepts on the push or pull point and postponement. Furthermore, it might seem that there are different *religions* in production control and that you cannot practice one and another at the same time. For example, practitioners of *lean manufacturing* might argue that centralized planning and scheduling, using advanced planning and scheduling (APS) tools, is the wrong approach. However, this is somewhat black and white. Lean manufacturing is an excellent way to improve the flow and reduce work in process, but the remaining planning and scheduling problem might still justify some advanced techniques, as things have to be made as simple as possible, but not simpler (Einstein).

## 6.1 SELF-ASSESSMENT

1. Do you know how many setups are unnecessary? How many setups you should be doing and how much a setup costs? All in?
2. Are people promoted and moved by skill and competence within the plant, or is it only based on seniority?
3. Do you try to implement changes without sufficient resources and time to do them?
4. Do you focus on bottlenecks? Do you consciously plan and control the flow through and around the bottlenecks?

## CHAPTER 7

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# THE CONTRACT

*Doing daily walks now? Good idea. You too? Yep, heard this morning on the news. They got the Aetna contract. Yes sir! They sure did. Guess you can fool some of the people all of the time. Anyway, they now have a real job ahead of them. Heard that they started getting engineers from Ajax into the plant and they are also going into Ajax's plant. Going to study and work with each other on the HVAC processes and manufacturing details. Also have Aetna product engineers involved. Yep, at Ajax. Not just the manufacturing crowd either. And, also involving more of the whole process through the life cycle. Can't believe it, they have a quality assurance, product management, logistics, purchasing, and human resources, all involved. Must be quite the process and eye opener in the plant. They have some line workers at the meetings too. Never seen this before at the old girl. Also have Aetna folks in here on the main assembly line discussions and have delegated several of our engineers to be imbedded at Aetna. The engineers are going to be stationed at the Aetna plant full-time and be part of the overall production team. Can see this working, maybe. Aetna is relatively close by, as is the Ajax plant. Should not be too hard to get people to talk and work together. Glad they brought in the cavalry to help out. Can't see how they would be doing this with the staff they had. No way. Nope. Still have not heard where the instrument cluster is coming from. Rumors are still flying and no activity in the plant that anyone can see. Lots of the gang are wondering about this.*

*Bumped into Lucia yesterday at the grocery store. She's not happy. Wants the new Aetna line to be designed in a certain way. Allen disagrees. Allen is old school and is pushing for a series of stations linked together, something like a transfer line. Sees it as one big machine, he does. Nope, Lucia didn't tell me her ideas, we had to keep moving, did not want the ice cream to thaw. Am sure I will see her again though. See her there regularly. Ya, not on the diet list, but a little bit of ice cream will not hurt me.*

*Heard one interesting thing about the new Aetna job. They are expecting us to do some of the detailed design work beneath the skin. Giving us the outside geometry and functional requirements, that is all. Does not mean that we will actually build every component though. Oh, did I say we? Well, after 30 years, still think of myself as being part of the place. Old habits die hard, eh? Anyway, ain't that something. Aetna is assuming that we might actually know something and not dictating everything. They weren't like that before. Also heard that we are doing that with Ajax. They get to sort out the HVAC details. That makes sense. They have been doing HVAC longer than we have. But, for us to actually design major parts of the panel? That will be something. Yes, we have built them for years, but never actually designed anything except the production processes.*

*Glad that not too many of the workers are part timers. Can see how that helps the company manage labor costs, but it can screw up the plant's ability when you need people who know and understand the process. Some is OK, but I heard that some plants have almost 50 percent contract workers and one plant had 100 percent except for management. Not investing in the workers, eh? Just an in and out operation. Plant will be here today, gone tomorrow. Joe told me something interesting. He visited one of those plants with lots of contract workers. Workers were just standing around when nothing to work on. No extra effort, no cleaning, none of that kaizen stuff they talk about. Company does not care about the worker long term, so why should the workers care about the company's future? Turnabout is fair play. I wouldn't do any extra effort myself if I was on contract. Just what I get paid for. Nothing more. No way.*

*I don't know. Guess it will depend on what the old crowd has learned from making panels and dealing with service issues, and what the new crowd has done elsewhere. Sure hope that someone has some basic design experience. I remember a few cases where the structural design was left to a supplier, was botched, and the assembly plants were shut down. A big mess. Hope we escape that experience. My turn. It sure is getting cool out. Winter's sure a coming. Tell ya what. Next Tuesday, let's just meet at the diner after our walks.*

What is Aetna thinking? Company wise, Aetna is about 20 times the size of GAFFER, so GAFFER has no power over them. There are other companies in GAFFER's line of work that they could have picked. Gossip is that Mr. Big was seeing the top management of Aetna quite a bit. Didn't tell Jake that. Didn't want him to go all conspiracy theory on me. There must be something going on between GAFFER and Aetna me thinks. Might be a strategic alliance or something like that. Definitely not the usual song and dance routine I've seen before.

The cavalry is sure coming in handy over there. Hard to do all of these extra activities without the horse power to keep the plant going at the same time. Heard another interesting point. The helpers were actually taking care of the day to day business and letting the plant engineers and lead hands deal with Aetna and Ajax. That is a bit different from the old days. The corporate dudes would race in, handle all of the meetings, make all of the decisions, and leave the debris to the locals. And then they would wonder why things went off the rails. Jake used to call them the corporate duds.

From what I have heard, the old plant management made it clear that they knew everything and that the floor did not. Old customers also assumed that the plant knew nothing and everything was dictated from their side. If the plant was like ours, 'twas a totally wrong view of reality. I know that in our plant we learned a great deal about how not to design, and how to design the parts we were building. After all, we had to provide service, deal with end customer issues, and live with the oversights of our customer's engineers. We actually got the design changed a few times, even got a patent on one idea. That was pretty cool. Yes, we supplied GAFFER but we did not have that kind of relationship with them. Our other customers were a bit better to deal with. The old GAFFER folks were old school and would just dictate, close their ears, and walk away. Blamed us for everything that went sour, even if they were the ones to dictate materials and processes. On the floor, we did not like supplying GAFFER. They were a pain in the butt to work with. Oh, guys like Jake were OK on the operations side. It was the managers and some of the engineers who had the attitude. Don't know yet who is driving these changes at GAFFER. Might be Mr. Big. In any event, I suspect that the floor is clued in and the engineers can actually do what Aetna is expecting them to do if they get a chance to just do it. I always thought that you should treat your suppliers the way you would like to be treated. What goes around, comes around.

Reminds me, one of our boss' favorite sayings was to get out of the way and let the people get the job done. Heard that he actually told some of the older managers to just let go and have more faith in the workers and stop treating them like children. Stop interfering he would say. Manage by exception he would say, don't assume that everyone is a screw up or that they are going to take advantage. Put in some checks and balances, but for the most part, respect people and they will respect you. Used to have these regular management development meetings about stuff like that. Would also involve some folks like me to sit in and participate. Told us that he did not want management to be like a secret order with black



cloaks, secret handshakes, and hoods. I got to go to several of his sessions. Pretty enlightening. Was fun to watch the body language of some of the antique managers and then guess their expiry date. Not all of the old guard were out of touch though. Enough evidence that you could indeed teach old dogs new tricks. OK, some old dogs.

Reminds me of another one of his famous sayings. He used to say that management's job was to create the situation for worker success, so that the floor could do what it was supposed to do. He kept emphasizing that. He actually put our managers on notice that they were responsible for helping the workers get their work done. If the workers couldn't do what was expected, then why? It was management's fault at the end of the day if the proper conditions did not exist. Some of the crowd did not believe him. They did not last long. Adios amigo!

Something Jake said is bothering me. Odd that they are still having Allen have a go at the new Aetna line. Guess they had to leave some meat on the bone for Saeed and Raul. Couldn't just stomp on all of their decisions and leaving them to sing soprano. Can be risky though. They better keep an eye on him. Wonder what Lucia was thinking. A transfer line is certainly the way that the plant has always done its business in the past.

## BEN'S NOTES

When supply chains mature, the rules of the game will change. This is what GAFFER is experiencing—customers expect them to collaborate and to work together on the design. When you have never designed before, this can be a real shock to the organization. But think about it. The design criteria are simple: make something that works at a reasonable cost and fails as little as possible. This illustrates the strong link between design, manufacturing, and service. There should be real short lines of communication between these departments. When manufacturing is outsourced, it also has implications on your design capabilities. When your designers do not talk to service, they do not know what the issues are or what to improve. To do a big new design, you need to free up the right people, and in such a case, some help from externals (consultants, headquarters can be needed. You will have to ask for such help and use it in order to get the job done. To think that employees can take on a project and carry on with their daily job is not only incredibly naïve, but also harmful to your workforce.

In mature supply chains with complex products, you will have to change your relationship with your customer. Instead of the purchaser talking to your sales representative, there will be collaboration on many other areas, such as quality, production, and design. This will completely change your way of thinking about customers. In the old days, you would have control over the information they would get from you. You would not let them know about mistakes you were making, about organizational weaknesses. However, when the customer's team visits your plant on a daily basis, this will change. They will see everything and your customer will not accept anymore that you structurally fail to solve specific problems, that you avoid slaughtering the sacred cows, and that you will just look the other way when an incompetent manager fails—again and again. In other words, you will have to open up. It is like being in a relationship where your partner can read your thoughts. There is no hiding anymore and no covering up. Suddenly you will have to improve all the time. You will be out of your comfort zone—and hopefully, at some point you will see the benefits of this and start to enjoy it. You will not be able to do this alone. You will need your team more than ever, and have to open up to them as well. You will have to give them real responsibilities and let them solve problems.

## 7.1 SELF-ASSESSMENT

1. Do you work with your suppliers and do your customers work with you to make success for everyone?
2. When you get help, what kind of help is it? Is it the kind of help that improves you for the long term?
3. If you use contract labor, how is knowledge and skill development handled? Is contract labor used wisely?
4. Does the management truly value and respect the work force? Is the skill and knowledge of the worker understood and used?
5. What does your management think its job is? Do they back this with actions or just words?



## CHAPTER 8

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# CULTURE SHOCK

*Howdy. That park bench was indeed getting a bit cold on the old behind. Feeling the cold more every year. Blood must be thinning out. I see that our usual table is free. My turn? Again? Hmmm. I thought I bought last time. No? Oh well. Do you want a bagel?*

*Let's see. None of the managers have been fired this week, so that is either a good sign or a bad sign. Depends on how you see it. Some still don't get the message. Probably couldn't see a train until it hits them. Don't like the new ideas or the new methods. Allen's complaining all of the time. Still Raul's pet, but the Aetna crowd is roughing him up a bit. Gang's started a pool to see how long Allen will last. The morning line is three months. Good size pool too. Wish I could get in on it. I give him one month. Lucia? Not sure what she is up to. She has gone stealth. Does not say much, looks like she is letting Allen dig his own grave with that line design of his. Yep, she was speaking up in the beginning, but when it was clear that what Allen wants, Allen gets, she went dark. Probably a good strategy. Allen is doing a good job at being clueless and does not need any help. Did hear though that she is quietly making changes in the sub area aligned with Aetna's philosophy and methods. Small things, but she is changing stuff, engaging the workers more, getting more involvement. Yep, fun to watch the two go at it.*

*Ya, guess I am a sick puppy. But, you have to admit it is entertaining. Thank you, I will accept your grin as a form of agreement.*

*Heard that Aetna trainers were in yesterday. No, not for the line. They were in for the front office and management. They were giving the old, practice what you preach sermon and telling the front office management that they have to look at their own processes, methods, do continuous improvement activities, do mistake proofing, you know that pokey yokey stuff, and get their own act together. Imagine, HR, finance, engineering, and facilities. Even the oak offices, the executive suite. Had all of the*

senior management and directors in the training session. Talk about a culture shock. Wish I was a fly on the ceiling to see the looks on their faces. I can hear the whining already. They like to preach that stuff to the factory floor, but they have never looked at their house the same way. Guess Aetna's going to change that. Raul looked a bit pale after the session I hear. Nancy, that new QA manager didn't say much, was just smiling. Buddy said that he heard that she had been suggesting the same type of stuff to Raul, but got shut down. Might be some truth to that old saying, we can do it the easy way, or do it the hard way. Probably harder to get it rammed down your throat by the customer, than to take the initiative in the first place. Seems to irk Raul that Aetna thinks that they can critique and make suggestions about the way GAFFER operates inside the four walls, thinks they should just buy the product and keep their noses out of GAFFER. Seriously. He was complaining at his director's meeting. He should watch what he says because in that place, the walls have ears and there is nothing that is secret or confidential. All of the old crowd love to gossip. If Aetna or Mr. Big hear what Raul is saying, he won't be around long.

Refill? You buying? Thanks, but make it decaf. Gotta cut back a bit. No, don't need another donut either. Trying to lose some weight. No point going for a walk and then eating too much sugar and carbs. Tomorrow? No, going on a little trip, see you next week.

Wonder if I should tell him what I know about Mr. Big. Probably should keep it to myself. Not surprised that there were no terminations this week. The last few weeks had enough bodies leaving the plant. Mostly early retirements I hear. Although, there were some young'uns given their walking papers too. Mr. Big likes to cull the herd and then let things settle down a bit.

I agree with Jake about Allen. Give him about another month. Not sure what Mr. Big will do about him. From what I hear, Allen is not a total idiot but I do not think he is worth the effort to save. Got to hand it to Lucia though. What did Jake call it? Going stealth? Just keeping her head low, taking care of business. Listening to what the Aetna folks were saying instead of telling them how it was going to be. She has a little bit of a cell design going on from what I hear. Tore apart the two small lines and made several work cells. Same number of workers, but each one is doing more ops per piece, one stop shopping. Has also introduced some mistake proofing and some worker improvement teams. Nothing flashy and no headlines, but just making the changes and monitoring how it is going. Smart. You never know what might happen.

If I was a betting man, I would suspect that Mr. Big has something to do with Aetna coming in and having a go at the front office. Sometimes it is easier to get change when the customer asks for it than when head office does or when someone like Nancy says it. Easier to sandbag the corporate overseers I suppose. Interesting, isn't it. Often a customer has tighter and better communication with a plant than the plant has with corporate. Not always the case, but seems to be the norm in our neck of the woods.

Most places focus on the factory itself and never sit back and look at their front offices and supporting areas. For some reason, they must figure that those areas are fine, have no waste, and are efficient as they can be. Could have fooled me. No point being bloated and slow in one part of the org and flailing the line. Suppose you don't see the waste until you sit back and challenge all of the processes, policies, and methods. Top to bottom.

If the bosses woke up, they would see lots of waste and not just on the factory floor. Imagine the waste when a factory is closed and all of that skilled labor is lost. Imagine the waste that occurs when smart workers are ignored. Sure, different type of waste, but still waste and these days, might be more important than the stuff they keep complaining about.

Yes, have seen that too. Many areas seem to think that they are the main driver of the company and forget where the money actually comes from. They should be doing what they can do to help the floor and allow it to do what it needs to do, when it needs to do it. No, some of those industrial engineers are not any better.

They sometimes come up with ideas that seem pretty arbitrary, as if they have to create a policy, just to show who is in control, or that they are doing something. We had one guy, trying to do some of that Kaizen, huddle stuff where you get the people together for a quick update, tracking every day. Not a bad idea in itself, but you have to interpret it in my opinion. For example, here is this industrial engineering guy having the team track, record, and discuss numbers that they had no influence over instead of looking to see what could have been tracked under their control. Made no sense to me when I heard it. Didn't make sense to any of the team either. Eventually, they got the guy to see some light and sorted out the process. Also had to educate the guy about what did not make sense about his general approach. Thought he should use the same method for every problem. No, the workers did not educate him on that one. The plant manager did.

I wonder what Nancy's background is. Maybe she has had some of that industrial training. If so, hope she learned how to interpret it and apply it so it works. Straight textbook recipes usually suck. She seems

to have a brain and is more of a modern thinker. I imagine that she and Lucia get along well. Not sure if Raul is getting along well with anyone these days. Defensive little guy. Been reading some of this philosophy stuff. Confucius described guys like him as little men. Not a gentleman or honorable man. Definitely not an open minded dude. Seems to think that just because he has a big title that all of his ideas are somehow magical and blessed. Yes, he did come from GAFFER corporate, but that does not mean that everyone at corporate is OK and has a clue about running an actual factory. My own bosses did not think like Raul. Never assumed that they were somehow endowed with perfection. They were willing to change when the facts changed and when the evidence suggested something else. Opinions? Of course they had opinions and if opinions were the only thing on the table, their opinions were bigger than anyone else's. That is understandable, their butt is on the line. But, if there was data or some kind of decent analysis, that trumped egos and posturing.

Raul's time? I don't give him the month. Sounds like he is so stunned that he is living in his own world.

## BEN'S NOTES

Having politics in your organization is a symptom of waste and inefficiency. Politics is consuming energy in a negative way and does not deliver anything. You get politics when there is a lack of transparency and when management is setting bad examples. When you are punishing employees that speak their mind and communicate openly, you are asking for politics. Alternatively, people start behaving like 9 to 5 zombies. When people *go stealth* and continue to improve anyway, you are just very lucky. Also, when there is a lack of clarity about who is responsible for what and what the objectives are in the organization, politics will flourish. Keep your eyes and ears out for signs that people are playing politics and do not accept this as a fact of life. Politics is caused by bad management, it is as simple as that.

GAFFER is clearly feeling the cold wind of the new supplier and customer relationship. Apparently, something is going on at the corporate level between the two companies and the local GAFFER plant is not used to the new reality yet. Principles of lean manufacturing, cutting out waste, apply just as well to management as it does to the

shop floor. Management needs to remind itself again and again that it is not part of an elite group that is not or should not be criticized anymore. When you do not get feedback on how you are doing, organize your critics and make sure that feedback is encouraged. When you are feeling comfortable about yourself all the time, you are not improving fast enough.

It is easier to keep internal sources of feedback under control than when the feedback comes from another company—the customer, or suppliers. You are dealing with customers all the time, and when did you last ask them how well you are doing? Or perhaps you have contractors working for you. They are an excellent source of information—are you using that source? Or do you think you know how you are doing? The corporate office might be far away, perhaps on another continent. Management has learned how to deal with the corporate people. But a customer will be different in that they have a direct benefit from how well you are doing. Remember how valuable you are as a supplier to the customer. Often, a customer can be replaced more easily than a good supplier. Good customers are also willing to invest energy in improving you. Be very happy with such a proactive customer and use all the feedback you can get.

What many consultants and newborn industrial engineers do not understand is that the concepts from textbooks cannot be applied just like that. A concept is a solution, and you have to understand the problem first. Sometimes, concepts can be applied, but in many cases, they need to be adapted, tweaked, and combined with other concepts. Reality is just so much more complex than textbook cases. Your toolbox should be filled with concepts, and they should be applied in a situational manner. Moreover, not all concepts work well with each other. For example, centralized detailed scheduling does not match creating autonomous teams on the shop floor. A good way to improve the applicability of an improvement program is to get support for the program from your team and to understand the detailed consequences of what you are going to do. Improvements that are initiated in isolation are almost certain to fail. Or it might seem that they have succeeded, but the only thing that succeeded is employees generating the illusion that they implemented your ideas—but circumventing it on the detailed level, which is invisible to management because they never look at it.



## 8.1 SELF-ASSESSMENT

1. Are your relationships with vendors and customers truly bidirectional and collaborative, or are they unidirectional and heavy-handed?
2. Do people make decisions, policies, and work just because they think they should make a decision, create a policy, and create activity—even if a decision, policy or activity is not needed?
3. How are opinions and egos handled? Are some of the management team like Confucius', small people? How are they managed?
4. What kinds of waste are focused on? Front office? Human capital? Knowledge and skill?

## CHAPTER 9

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# THE GRIM REAPER

*Boy, did I pick the wrong week to go on a trip. The grim reaper came for Raul. Yep, the corporate HR manager arrived on Tuesday at 7 and Raul was out by 7:05. At 7:06, someone called Ross, or Rostic, or Russell turned up and called a senior manager's meeting. And I missed it. Talk about creating a moment. Heard that Saeed guy is also gone. Not much was done on Tuesday as everyone tried to figure out what happened and what might happen. Counts were all down. They even took the meeting off-site. All day. Till midnight. Well, that is what I heard. No, have not heard all of the gossip yet. Not as much good stuff leaking out of the senior team. They might have finally learned how to keep their mouths shut. Good for them, bad for me, eh? The best I can figure is that Raul kept on pushing back on Aetna, complaining about them to anyone who would listen, arguing about joint activities, refusing to do some of the requested line changes, and this either got back to Aetna or the big office in Europe. Either way, Raul's fried, done like toast.*

*Also heard that Allen's been called into many meetings. Not sure what that means. Could be good or bad at this point. He was Raul's buddy and the two thought the same about the line design and methods. Allen was also not fond of Aetna butting in. Didn't see any good coming from that. Yep, I guess Allen might not know what he does not know. I always figured that I did not know everything and tried to work with the suppliers and customers to learn what we could do better with the shipping and receiving. Never thought I knew it all or that I was Mr. Perfect. Lucia actually asked the Aetna engineers to come look at her sub area and discuss some ideas she had about improving the part. Allen was giving them a cold shoulder and ignoring them as much as he could. Figured if he ignored them, they would eventually go away. If I was Allen, I would read the tea leaves and change my ways and attitude. Else, he will be joining Raul.*

*One thing I heard was that Nancy, you know QA, has been given a new position in the factory by this new guy for overall effectiveness and*

*efficiency, including up and down the supply chain. Is going to be given a few staff positions, a budget, and some authority. Ain't that precious? Her signature is going to be needed on a whole bunch of things. Sweet. Finally, someone is going to look at the big picture and be accountable. Won't that be a change? She is also responsible for the front office, not just the floor. Must bend a few noses out of joint, but sometimes the medicine is not tasty. Suspect that this will get nasty and painful before it gets better. What do they say? The dark before the light? Or is it the gloom before doom?*

*Want another giggle? That one size fits all corporate IT strategy rollout imploded on itself. No kidding. Could have seen that coming. Guess the whiz kids thought a factory is a factory is a factory, huh? True, same in some regards, but there is a big difference between a nice new pretty factory and an old one like GAFFER over there. Yes. That is what happened. They went to the CEO's pet, brand new factory and set up the system for that one, then expected all other factories to match it. Anyway, heard that they are now starting over. Going to analyze a complex plant first, and then roll it out in a simple one. Probably not a bad idea.*

*Ya, I know. Sick puppy. Where is that donut? Forget my diet and don't nag me.*

Jake will eventually get it right. Guy's name is Rosco. Mr. Big and Rosco were both trained by the same guy at GAFFER HQ. Rosco is a bit junior, but I hear that the three of them are like a SWAT team for GAFFER, work together on problem areas. Oh, I have my sources. Can't talk too much to Jake. He tells everyone everything. Wonder where Raul will end up. Good talker. He can probably talk his way into another position somewhere. Throw up a smoke screen about this and about that. Not his fault, yada yada. Raul just did not get it. Did not want to work with Aetna and do the work together. Oh well.

Allen might be a different case. If he can get his act together, might be able to stay with GAFFER. Am sure that if they thought he was totally hopeless, he would be out the door with Raul. Personally, I cannot see it, but who am I anyway. According to Jake, Allen has a thick head. Lucia knows how to do the drill. Allen can learn a thing or two from her. She was not just doing the job, she was thinking about what she was doing. Am sure that the suggestion she gave Aetna was noticed.

Good for Nancy. But, quite the task she has. Heard that Rosco has done the same thing at a few other plants. Created the same type of job, scope, and authority. Someone has to look at the big picture and be given enough authority to make actual changes. One of my sources knows Rosco and his style. Goes into an area, does an analysis, and points out strengths and weakness, and not just the bad. Then he challenges them with fixing

it, does not give them a solution immediately. They get first crack at coming up with a solution, will even be given help to think up the necessary improvements. However, if they do not get on with it or sandbag. Thump. He will give them a solution. Perhaps not the best, nor the best tasting, a solution nonetheless. Corporate supports him and they work on the factory with agreed upon timelines. All transparent, but there isn't any bluffing about what might happen if a local manager decides to opt out. My source tells me that Rosco and Mr. Big work with their mentor out of the HQ and that they have patience, but don't suffer fools and definitely can smell a rat or when someone is trying to play them.

Looks like Jake finally got his story straight on the IT project. He must be slowing down. Took him way too long to lock on that one. Like I said, the plant team is not as stunned as some of the corporate make out. No, the team of three could not do much about this. They only influence the GAFFER division and the IT strategy came from the big, the real big, corporate headquarters. You also have to pick your fights and conserve your energy. Suspect that the plant is enough of a challenge for them right now. The rollout plan was not totally stupid either. They kept both systems up and built a bridge between them before cutting over. They were able to roll-back to the old system until the geeks clean up their act.

No, I don't always know everything about what is going on, but I have my hunches, and it seems I am right more than I am wrong. Will be interesting to see what will happen next. I think Nancy was just the first step. Put everyone on their toes. Start to look for sacred cows and start some cooking. I am more curious about what they will do with Lucia.

## BEN'S NOTES

It does—or should—not happen too often, but large changes in plant management have a disruptive effect. At first, the organization might get in a state of shock as people will await what will happen next, and whether there will be more large changes. A new boss might either make some changes immediately or not act at all before the first 100 or so days are over. Some people will start to protest and fight the new structure, and some people will silently proceed with what they were doing. Some plants get a new boss every half-year. Developing strategy needs a mix of change and stability. When there is no stability, there will be chaos as people will simply define for themselves what the best approach is and not take new management seriously anymore. Some plants seem to be used to train young management—they are allowed

to run the plant for a few years and then disappear again. A plant is not a playground. There must be a stable factor, experience, and knowledge. And the team should know each other, know each other's strengths and weaknesses.

Implementing information systems for different plants can be tricky, as some plant characteristics are unique and some are similar to others. The amount of similarity across plants differs for different types of applications. For example, an ERP setup which takes care of the basic order management, stock control, and purchasing, is easier to standardize than a manufacturing execution system, which physically controls your equipment, starts and stops devices, measures flows, speed and quality, and tracks and traces products and batches. Planning and scheduling is probably in between—some of this can be standardized, but some details cannot. It also depends on whether the consultants are able to keep things simple in the systems. Some plant representatives see large IT projects as an opportunity to prove how special they are and they will not compromise on functionality which costs a lot to implement and will deliver a small added value.

A roll out strategy for a common IT solution needs to take into account several factors. When there are multiple plants targeted, look for the basic technologies applied in the plants and make sure you cover them early on. In other words, choose your plants such that the basic model in your system is completed soon, as changing models later on is more difficult. Another criterion is whether there is a real business case at the plant—in other words, are they actually pulling the solution in, or are you just using them as a playground to prepare for other plants. In the latter case, the plant people will see you as a waste of time.

## 9.1 SELF-ASSESSMENT

1. What do you do when someone does not get the message?
2. How do you refurbish or renew a manager or supervisor?
3. What do you assume that people know and do versus what you know they know and what they do? Do you assume that a manager knows how to manage?
4. Do you have one-size fits all systems and metrics? Do you shoe horn everything to fit one concept, or do you use different methods and ideas when necessary?
5. Do you have someone with enough authority, resources, and knowledge driving total business improvement? Have you made it possible for them to succeed?

## CHAPTER 10

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# THE NEW BOSS

*Oh boy, lots of fun. No more dead bodies, but the wounded has increased. Allen was demoted, back to the tool crib. Yep. Sure enough has. Also heard that he's updating his resume. Rosco, finally got his name right, is going through the factory end to end. Talking to everyone, even coming in at 2 in the morning on the weekend, watching shift changes, everything. Has a little black book he keeps writing in. Has not done much yet, except to create that new position Nancy has and to demote Allen. Heard that Nancy's position is modeled on something Aetna has been doing. Interesting. Oh ya, Rosco has not indicated who will take over that new line. Oh? Well, they stopped doing the line design, put it on hold while they finalize the actual product design. Guess that was one of the problems. The gang was jumping the gun and getting ahead of themselves. Making decisions, issuing contracts without knowing what they needed, and making lots of guesses. Heard that a million has been written off. No wonder Raul was axed. So, for the short term, they can live without an Allen I guess. Can't for too long, but no harm for a week or two I suppose.*

*Everyone is wondering what Rosco is writing and thinking. Asks some questions, but is not giving opinions on anything. Just asks, makes notes. Asks for suggestions and ideas, but does not comment on them, just makes notes. Appears he likes to think first, like measure twice, cut once. Is asking questions about training, preventative maintenance, how setups are done, and so on. Lots of questions. Hmmm. Saw it in a fortune cookie once—you have to ask the right question to get the right answer. Maybe Rosco got the same fortune cookie. Seems to know his stuff though. He even asked for six months of production data to be downloaded for him to analyze. Buddy overheard him asking a manager about the production rates and variance. Said Rosco was patiently explaining to him what a standard deviation was and how to use this information. Do you know what a standard deviation is? You neither? I sure don't. Wonder why he was so interested in this?*

*I might do some surfing on the web and see what I can find out. Good news was that he seemed patient and willing to explain to the manager. Was also talking about something called a coefficient of variation. Never heard of that either. Buddy could only hear so much while he was copying some reports, but the discussion impressed him even if he did not know what they were talking about.*

*This silence is driving everyone crazy. They are not sure what Rosco is going to do. Gossip is that Rosco is known as the fixer. Is in his mid-fifties, has been a plant manager at a few of the GAFFER plants, brought in as a turnaround guy. Officially reports to Mr. Big, but unofficially reports to Mr. Big's boss. Has not always been successful, but has a strong track record. Everyone is trying to get a line on him. Quiet, does not say much, but means what he says and is not afraid of making tough decisions. Has some folks feeling optimistic, others scared. Rumor is that he has two degrees, industrial engineering and process engineering, and has done an executive MBA. Never had a plant manager with this background before. Looks like he might actually know how to make things as well as knowing the financials. Never a dull moment, eh? No thanks. Am back on the diet. Just the coffee.*

Intriguing. Tool crib for Allen. Demoted, but not demoted out the door. That leaves a lot open for guessing. Bet I am not the only one. Funny that they think Nancy's role came from Aetna. They actually do something similar, but the idea is also used at a few of the other GAFFER facilities. The plant must be like a beehive right now. Rosco is doing the drill. Dig in and figure out what is going on before doing much change. It was clear that all areas needed to start looking at themselves. That is why Nancy's role made sense. If a place does not have one of those already, usually the first thing to do. Need someone with enough brains and authority to get the ball rolling. Also needs to be supported big time by the boss.

Imagine asking for the last six months of production data. Wish I had seen the looks on their faces. Wonder when the last time was when a plant manager could read that stuff and understand it without bluffing. Rosco can. That is a given. Well-schooled on basics and how to read a plant. The fixit team's head makes sure his students understand the basics before they get immersed in the advanced stuff. Drills them and gives them lots of challenges. Rosco was pretty good before joining the special team, but he took his game up a notch with some mentoring. Yep, Rosco knows how to find the money-maker as they call it and how to focus the plant on it. Will turn the plant on its ear if he has to. Will also get a lot of help from the other team members. They often stay in the shadows during the overhauls, but they are very busy and are actively helping out behind the scenes.

Variance is their favorite topic. They think it is the plant killer. They try to reduce any variance they have control over and manage the rest. No, I am not going to tell you how I know this. The point is that you have to get your crap together first, know what you have to make, how to make it to spec, be able to make it repeatedly before you try to do any silly work trying to make it more efficient. Think about it. If you focus on costs and times first, you are likely to screw things up more. Might get some quick hits, but things are not likely to get any better. Lower the variance and you might actually be able to make a plan and follow it. Novel, eh?

Had to control myself when Jake told me about Rosco explaining what standard deviation meant to a manager. Imagine he has given that speech a few times in his career.

OK, will tell you a little bit. The team's lead was brought in 10 years ago to overhaul the GAFFER division and he brought the other two with him. No, I never worked for him, but know someone who did. They are pretty quiet and work on one or two plants at a time. Keep focused that way. Know they are limited in what they can do and they would rather go for quality than quantity on this type of overhaul. Saw too many big plans wither and die. They call it plant renewal and rebirth. No, they do not do a scorched earth approach, they try to reuse and recycle as much of the plant, management, and workers as they can. You know, the three R's I think most people talk about, but they take it up a notch. They have a different view of waste. It can take a couple of years to pull each overhaul off, but it is faster, cheaper, and more effective than starting from scratch somewhere else. Oh ya, the top guys at the division must have a long-term view and lots of patience. Something that the local plant's old owners were short of.

Perhaps this plant did not hear of the team and their approach because the plant was recently bought by GAFFER and there are few inside connections yet with other GAFFER plants. Some in the plant appear to be quick studies and they are picking things up fast. They have figured out the relationship with Mr. Big's boss. Some of Jake's info is on the money, some, as usual, isn't. Got Rosco's education dead on. Someone probably found his profile online somewhere or one of his bio's from a talk. He did have some early screw ups but that was before he got adopted by the team lead.

One of the lessons Rosco learned was that one sole white knight riding to the rescue was crap. Usually the knight needs help, lots of help—people to bounce ideas off of, slow you down, and challenge your assumptions. Takes a team to win, only one idiot for the project to fail. Or something like that. That is how the trio work together. Claim that all of their successes come from working together, different skills, but the same philosophy. A couple plants could not be saved, too much rot in the facility and org, but they have a pretty good success record.



## BEN'S NOTES

The plant manager should have the right background to run a plant. It should not be a pure engineer, who is fascinated by technology but where costs are not under control, or a bookkeeper that adds up the figures but does not understand where the figures come from and what they mean. Being a plant manager involves knowledge from the production process, financials, human resources, and information technology. In any case, the plant manager needs to be a multidisciplinary person, as technical decisions have financial consequences, and financial performance cannot be reached without understanding how the plant works.

When you need to manage a plant you have not seen before, you need to take time to get used to it. A plant is like a living organism, with a behavior that can only be understood by careful observation. This does not mean—taking a tour and having some polite moments with foremen. It means—getting in frequently, on different moments, different places. Use your eyes and ears to understand where to investigate further. The plant should be your second habitat. Or perhaps even your primary one, with the office as the place to reflect. Talk to operators and ask them about problems and issues. Follow them up. They might not have reached the same level in the organization as you, but they are not stupid. When you just spread some hot air around, they will know within a few weeks. When you misuse the information you get—for example, to get rid of someone or something—it will have been the last time you have been told something important.

When a plant has never done design before and suddenly is asked by a customer to do the design for a new part, it is tempting to design the process first as this is where the plant feels most comfortable. However, the process follows from the product and this needs to be designed first. Obviously, there is a relation and there will be iterations between product and process design. However, the product design is leading.

Most plants have information systems for order management, resource planning, manufacturing execution, planning and scheduling, and warehouse management. There is an enormous amount of information available there to be analyzed. However, few plants actually use the potential offered by analyzing the plant data. Using some basic statistical knowledge, data can be analyzed, problem areas can be identified and potential cause and effect relations can be hypothesized.

In particular, variance is an indication of processes not being under control. This can be variance in quality, speed, setup times, or certain operating parameters. Using data, you can also determine what the moneymakers in your plant are—what items are the easiest to produce, with low material costs, with high added value? What products can easily be produced *in between*? What products can be used to start up a line to produce something more complicated? What products can be produced with a tool, which is almost worn out?

## 10.1 SELF-ASSESSMENT

1. Do you think first and then act?
2. Do you rely on silver bullets and the sole hero?
3. Do you have an experienced overhaul team? Or, do you rely on people and areas to magically know how to rejuvenate and correct the situation?

If personnel knew how to do change management and how to approach continuous improvement, don't you think that they would have demonstrated that by now? If they were clued in and had the skills to identify and fix problems, you would not be reading this book. You would have few problems to worry about. A problem would be fixed and remain fixed. Most people do not know and need training and a mentor.

1. If you have an overhaul team, are they supported and equipped for the job?
2. Have you assigned your best and most talented to the overhaul team? Or, is it the case of being told you need someone and you assign someone you want to put out of harm's way in this role. After all, old Ralph can't do too much harm there and we have to give him some kind of job!
3. Do you understand and focus on variance?



## CHAPTER 11

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# THE GOOD, THE BAD, AND THE UGLY

*Hi, how are you this fine day? Was sick last week. Picked up something from the grand kids. You know, they are little germ factories. No. Still no news on what happened to Raul. Lucia was given the new line. Totally, totally scrapped Allen's design and work to date. Doing more of a modular cell flow thingy, not sure what that is but it is supposed to decouple critical parts of the flow and reduce the downtime. Allen is fuming. You heard that too? So did I. Don't know if it is true or not. Can't imagine why someone would put a Mr. Tool sign on his door. Well, he did annoy a bunch of folks. That he did. What goes around comes around as they say. True, they could have put worse things on the sign, eh?*

*Rosco had a series of plant meetings with all of the workers. Another new boss, another round of rah-rah cheerleader meetings with lots of numbers and dreams, the usual stuff. That is what I figured he was doing. Nope. He starts off with his assessment of the plant. Pops up a report card, just like in grade school. Buddy said that he nailed it. Talked about the good, the bad, and the ugly. Not all negative, but also did not have his head in the sand either. Pinned the tail on many donkeys. No, no names, but he nailed management in general. Told the workers that he believed it was management's responsibility to create a situation where the workers could do their job and that he believed management should be held accountable for that. Said that this was old school thinking. Explained how a guy called Gantt pointed this out about 100 yrs. ago. Go figure. Did not let the workers get off the hook. Enough blame to share he said. Both sides had some good points, but also had some bad. Did point out that he thought many of the workers had good ideas on how to improve the process. Said that he was going to create an area where the ideas could be tried out. He did not want new ideas being tried willy-nilly on the line, but*

*in a controlled, safe place where they could be understand. Wow. In the old days, we would just change with knee jerk reactions or the wind, dump new ideas on the line, and cross our fingers. The workers always had to clean up the mess. Not sure if he intended to, but he got lots of people talking about this idea after the meetings.*

*Said that the plant seems to have lost its way. Good talent, lots of potential, but has been overlooking the basics. Trying to be too fancy. Doing advanced manufacturing when the day-to-day stuff is starved, abused, and neglected. Yep, his words. Said you cannot run a factory like that and be successful in the long run. Told the workers that he has been given extra funding and support from corporate to overhaul the factory and is not expected to improve things while struggling with the current budget. Has also managed to get some of the crap work moved to another facility for a bit to create some breathing room. The move is not permanent, and the work will be coming back, but not until the plant is running OK and has enough capacity for the work and a bit of breathing room too. Will not be squeezing 5 kg into a 3 kg bag as he put it. I wonder how he managed to get that pulled off. He must have pull. Never heard of that before. Some kind of elasticity he called it.*

*Instead of doing lots of those graphs with numbers on them so small that you can't read them anyway, he proceeds to explain to everyone how he expects everyone to move forward. First understand what it is that needs to be done, then make sure that everyone knows how to get there. Focus on the specs and what the definition is of quality. Expects to have all of the factory, including the front office and plant ops do this. Then he says, figure out how to make it repeatedly and consistently. And get this. Then he says, only then start worrying about speed and efficiency. Says that if you get it back asswards, yep, his phrase, you won't have to worry about the plant for too long. The problem will look after itself. Told everyone that he is not looking backward, is taking current baselines and is looking to the future. This is sure a different way to look at things. It will be interesting to see how the old guard is going to take to this. I can see some of the managers working this way, but I am not sure about some of the others. Yep, Allen is one. Might be dead meat yet. Another refill?*

Ah, sounds like the SWAT team is working hard. No, sometimes they surprise me. Don't always do the same thing. They do not play the same song every time. Lots of arrows in their quiver. You know, tools and methods. They have lots of methods and ideas to choose from. Not everything is a nail to their hammer. But, one of the assessments they always do is to see what the plant can do given the work on their plate. If there is spare

capacity, no problem. If no room to breathe, then they try to find a way to give the plant a chance to succeed. Ya, it is common sense but don't see too much of that around. After the trio are done with a plant, there is usually a bit of spare room and capacity. And guess what, those plants are willing to help the next overhaul and give them a helping hand. Ever wondered where all that help comes from? Officially from corporate, but the actual help comes from the other plants. Old concept, help each other out when one needs a hand. Oh. Yep, it is like that pay-it-forward idea. Everyone needs help sometime.

Can't add much more to what Jake was saying. That is the way Rosco would roll it out. Not a lot of data no one can understand. He likes simple graphs and some key messages. Will you stop bothering me? Let's say that I heard about a lot of this from my friend who trained with the team.

It is important to look for the good first and build on that. Very few places are totally screwed up. The people do not like it and will not work with you if you are 100 percent negative and only see the bad. They also are smart enough to know if you have been smoked and cannot see what is going on. Important to get that initial message out there. Rosco knows what is going on and will work with those who want to survive and turn the plant around. It should be pretty clear to all that he will not tolerate those who don't care about the plant's future.

Wonder if Jake saw it in the paper yet. Aetna bought 25 percent of GAFFER. Not just the plant, I mean the division. Guess that explains why they were so interested in the plant. That will make it easier for Lucia to get that new line up. She already has a good relationship with Aetna because of the sub area. Am sure that Aetna and other GAFFER plants will pitch in to help. I like the way Rosco explained the facts to the plant. Plain talk. Straight up. Am sure that his delivery was heard.

## BEN'S NOTES

In designing a production system, deciding about the decoupling points and buffers is crucial. Some elements of this can be calculated, but it also needs holistic thinking. Sometimes, simulating a production system can be a good thing to do, so the effects of design decisions can be assessed. A good simulation model can be expensive, but is only a fraction of the costs that you need to spend when the design has been built and turns out to not produce according to the efficiency figures

you had hoped for. When machines or stations are linked to form a line, the reliability of the line depends on the reliability of the stations. When every station has a reliability of 99 percent, the linked line has about 90 percent when there are 10 stations. There are more advanced models, but this is the basic tradeoff. When designing a new line or a complete new plant, it is unrealistic to expect that the new production technology will make buffer stocks unnecessary. Pure flow lines represent a nice utopian situation, but when doing the real design, take off the pink glasses and assume that everything that can go wrong will go wrong. So, when in doubt, put more buffers in, not less.

When starting to work on a plant, first get an overview of the complete picture. Causes and effects can be everywhere and when you start assuming after a few emotionally loaded discussions, you are bound to have failure and disappointment. Absorb and think first. And when you think you have the big picture, start discussing this with your team. In the end, it is your team that has to make every change happen. You will just be turning the steering wheel and you better make sure the other end is actually connected to the wheels. When you assess the situation, are you able to express the key issues in plain, simple language? Are you able to explain to your neighbor in 30 secs what your main issues are? Simple concepts require complex and hard thinking. Simple concepts can be understood and hence executed. Management's role is to transform complex problems into measures that can be understood. Management's role is not to create a complex reality that nobody else understands and therefore gives management the feeling that they are smarter than the others, and that it does not make sense to involve others because they would not understand the complex spreadsheets anyway. When some day you realize you are doing this, wake up and change before it is too late.

The key message to improve performance in a plant is the following: reduce variance first and only then start to improve. Variance means that things are not under control. And when things are not under control, improvements will not make sense. They might even increase variance and throw fuel on the fire. A plant should generate an output in a predictable way, in the appropriate context of quality, time and costs. Variance can be caused by badly maintained production technology, unclear procedures, and incomplete data coming from dysfunctional information systems, poor quality of purchased material, and many other things.

## 11.1 SELF-ASSESSMENT

1. Is knowledge and information shared with the workers so that they can understand the situation and help? Or, are the workers treated as a necessary evil, not to be trusted, respected, or valued; knowledge shared on a need to know basis?
2. Do you get help from sister plants and do you give them help when they need to offload some of their work, or work extra shifts?
3. When problems exist, is the blame fairly shared and the situation learned from?
4. There will always be problems to solve. Do you have to solve the same problem more than once? If so, there is a problem you are not solving.
5. Do you focus on the right order of improvements? Speed and costs are the first things to focus on.
6. Do you recognize and reinforce the good while mitigating or eliminating the bad?
7. Do you have spare capacity and capability at strategic places in your process and infrastructure?





## CHAPTER 12

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# SHARED FATE

*Ya, ya, ya, but did you hear the latest? That Rosco is a smart one. He has made each department accountable for how well the downstream department is able to use its output. Yep, no more of this pushing crap onto the next guy. Did another of these factory talks. Talked about shared fate and how everyone has to think about the next step like a customer. How can we do our job better or different to make your job easier and better. Expects everyone to think about this and the managers have to include concrete examples on their monthly reports. Modified the incentive schemes too. No longer the lone wolf model as I called it. Oh, you don't know that phrase? Old phrase actually. We used it because the workers and management level would get bonuses or incentives based on their own little area or task. So, workers were not interested in helping other workers and some of the managers were sticking it to other managers. No longer. Rosco has kept some individual merit points, but has added quite a bit of weight to helping others in the same unit and helping units up and down stream. Buddy says that communication immediately jumped throughout the plant and quality also improved. Says that Rosco said that this was another of Gantt's ideas and could not take claim for it either. Wonder who this Gantt dude was, maybe he had something to do with the Gantt chart. Not sure though. You are right. This could be a short-term thing. I wonder how magic man is going to keep this going.*

*You know what else he did? This is a new one too. He has sent out some of his management team for training and education. Has to go work at another GAFFER plant, on the line. Yep, getting their hands dirty, for three months. Gossip is that he told them that he wanted them to understand the ideas he was introducing and make them a habit. Allen was one. Guess they have not given up on the guy yet. Personally, I thought they would have given him a package and sent him on his way. Trying to change Allen will be like trying to train a toadstool. The grapevine has it*

*that Rosco will eventually rotate almost all of his management team out on these learning exercises. Yep, will take time, but my friends tell me that Rosco keeps talking about the long-term needs. If the plant is to survive, what does it need? That kind of thing. The floor likes this type of talk and figures that Rosco might just be able to pull it off. All of the former chiefs left management alone and if they did a reorg, just moved them around like chess pieces. Always blamed the workers, management was always perfect.*

*Lead by doing? Yep. That does seem to be the way Rosco works. Does not seem to expect anyone to do something if he is not willing to do it himself. No sacred cows with him. No, he isn't rude or ignorant from what I hear. Seems to talk quietly with respect to everyone. Does have a tell though. If he starts clinching his jaw, watch out. No, does not call someone out in public, but something does usually happen sooner than later. He has shocked the workers before. Remember, just after he parachuted in, he was in the plant at 2 a.m. and on the weekend at that, just wandering around, talking to the workers. No, no handlers or keepers. He was off the leash. Just him, kept shooing the supervisors away. Cool. Was actually able to talk about the process and product with the guys. No kidding. That shocked the line. They never expected him to know up from down when it came to the process and equipment. He asked some pretty good questions too. Showed that he actually had a clue. Was not just a tourist.*

*Oh ya, almost forgot another tidbit. The corporate IT nerds are now using our GAFFER plant as the base case for the new IT system when they relaunch it, figures it has something of almost everything the other plants have. They will learn a lot from studying and modeling this place. That is for sure. Then, they will go to a nice green field plant and do an implementation. Glad they finally figured this out. Duh! Oh, yes a refill. But make it decaf.*

Had not heard that shared fate idea before. Makes sense if you sit back and look at the big picture. What goes on in a factory is an internal supply chain, with customers and suppliers. Can't be totally crazy with the idea, but you can probably use some of the ideas from supply chains to structure and manage the inside flow. I like the idea of treating the next area like customers. But not just words. Back it up with the bonuses and metrics. That will get the folks' attention. No more getting credit for just making a part. Have to make it right too and get it to the next worker when they need it. Interesting. I wonder if they also look at the down time or delays in one area caused by bad parts coming in? That would be good I guess. You could then also trace back to the originating point and fix it faster when everyone along the way is involved. Could also ask

why any problems are not detected at the point of failure. Make each area responsible for not passing on crap. Might just see if I can find a copy of Gantt's book. Sounds like the guy was ahead of his time. Wonder if it is the same Gantt as that chart.

That rotation thing they are doing with Allen and others is new to me too. Never heard of that around here before. I must have a chat with my source on this stuff and see what other tricks they might have up their sleeves. Sounds fair too. If there is any chance, give them a crack at redemption. Just don't pitch them. Costs a lot to grow new talent and if you have the system to help someone, why not. Don't know Allen well enough. Not like Jake does. Don't know how he will react to being back in school and working on the line again. Not going in as a boss either. A real worker. Might not work in all cases, but the closer you can get a guy like Allen to the actual work, the more they will learn and understand how things work, not just the way they are described to work.

Still clinching his jaw eh? Rosco is well known for that. Not as cool as his mentor. Pretty cool, but he does have that tell as Jake put it. Rosco's boss has no tells according to my source. Can keep everyone guessing, even Rosco and Mr. Big. Got to give them credit, all three of these guys like to spend time out in the factories. They also keep meetings to one hour unless it is a specific problem solving meeting. They all hate meetings for the sake of meetings. If there is an issue, take it offline and don't waste everyone else's time. Quite often when they first visit a plant, they will start adding up the direct cost of who is at a meeting, as well as the total time spent in meetings. Ya, it is then explained to everyone at the meeting and they are expected to do the same process for all of their meetings and so on and so forth. They believe in reasonable autonomy and delegation, just get the job done. If there are too many meetings to decide anything, some is not right. Either the authority structure is not right, or you do not have the right people in the spot. Someone who can sort it out and make a decision for themselves. Of course. There are limits and scoping rules for the people, and ways of escalating to make sure that someone else a bit higher in the chain knows about any risky decisions, but you do not need input from everyone on every decision. Do ya? People must have faith that others are qualified and able to do their job, to a point, and trust the decision, support it, and just get on with it. Needs good oversight for anything critical like I said, but only for key decisions. Otherwise, accept the decision and do not think every decision must be tuned and debated to death. Another form of waste if you ask me. Not that you asked. Just saying.

The team must be getting some traction at corporate too. Pretty smart to use this plant as the study case for the new system. Take a step back,

chill out a bit. They will also see a wide variety of requirements there, and the system has to take them into account. Green field plants do not stay green forever. That's for sure. Hidden bonus there maybe for the plant too. Having the main IT team in will help educate the local team, and they can get a head's up on what is coming down the line. Also a good time to do an IT audit top to bottom as part of the whole makeover. Normally, I would not have liked to have seen the corporate IT folks in bothering my own team when they were strung out. Heard this is not a problem right now. As part of the plant makeover, they brought in help for all of the areas, not just the factory floor, even the IT group. Ya, figured you needed to get all areas some relief and to get them upgraded. Sounds like there are lots of good changes taking place.

## BEN'S NOTES

Any manager in a plant needs to understand the process and talking to colleagues only gets you so far. Not many managers do this, and even less by complete free will, but working with the actual operators for a prolonged amount of time provides a treasure trove of information and knowledge. When you do this, some assumptions about the process you have held for years will be challenged and replaced by actual facts. When you gain the trust of the people who do this as a profession, you will find out they are not the thoughtless cost factors you expected to find, but thinking individuals with a variety of opinions and insights. Again, the usual caveat—not all are worthy, but it is best to assume they are until they prove otherwise.

Incentive schemes have a direct influence on how people behave. Therefore it is a very good tool to change people's behavior. Unfortunately, sometimes these schemes cannot be changed just like that as there might be unions and corporate bodies involved. In such cases, you might have to resort to telling people that you will appraise them based on how well they help others. The disadvantage of an incentive scheme that only rewards individual performance is not only the immediate effect, but also that people start to believe that what they are doing is actually the right thing to do—otherwise it would not be rewarded, would it? So when you are helping yourself by taking away resources from another, this is OK as this is apparently what *they* want from you. In other words, incentive schemes should reflect precisely what kind of behavior you want to see in your plant.

Corporate IT departments can be a real headache, but sometimes they can help you in unexpected areas. When you are the first one in a rollout cycle, you will get all the attention they can give as your success or failure will be visible at the corporate office. You will get free training, data cleanup, upgrades, and a system that is suited to your needs. There are disadvantages as well. There might be early adopter issues that you will have to deal with. Sometimes, skilled people that have worked in the project might be taken away from you as they get promoted to help out in other plant rollouts. And it might be very quiet after the corporate IT folks have left, as they are completely tied up in other rollouts for the next three years. Invest in the relationship with some of the best consultants, and you will have your private helpdesk secured for the coming years.

## 12.1 SELF-ASSESSMENT

1. Do your metrics, tracking, and incentives encourage shared fate? Or the lone wolf?
2. How long are your meetings? Are meetings effective? How much waste exists in the way you meet and solve problems?
3. How much micromanagement is done? Is it necessary?
4. How is management trained and exposed to new ideas? Do you rotate them out and give them internships someplace else?
5. What is the strategy for creating shared systems? What is the driving plant? What plant is the roll-out plant?



## WHAT MAKES A LINE A GOOD LINE?

*Get outta here! You got a line on where Allen was sent? Amazing. Well, you wouldn't expect him to change overnight, if ever. It is going to feel like an eternity for the guys he is working with. I'll be surprised if we ever see him again.*

*Lucia? Working hard, has dropped a couple of balls, but in general doing great. Rosco has been spending lots of time with her, what do they call it, a mentor? Ya, that is the term I heard. Seems that all of the management team are being hooked up with mentors, either in the plant or elsewhere in GAFFER. No, he is not like Raul. He isn't micromanaging Lucia. Letting her make mistakes and learn from them. I don't think he will let her make a big screw up, but it seems that he wants her to make decisions and learn from them. They have put together a good team for the line design. Some guys from the line, plant ops, suppliers, customer, and machine makers. Rosco apparently told them not to worry about the footprint, just figure out what a good line would be. Funny though. Listen to this. So, after he launches the team, he does not stay for the meeting. Leaves the room and lets them play. Then he turns up later and asks them to debrief him on what they have been doing and how they are doing it. Listens for a bit, and then simply asks, what makes a good line? Stops everyone cold. Here they are. Have been busy designing and scheming and did not think about what criteria they should be working with. Yes, that is a new word for me too. Criteria based decision making. He has been talking about that in meetings.*

*So he suggests that they stop the current discussions and back up. Get some ideas down on what makes a line kickass, what kinds of things are important to consider when making tradeoffs, and so on. No, I told you. I have not installed cameras. I just have good friends who like to talk to*



*me. Anyway, the faces were a little sheepish I hear. No, I did not install microphones. Jeez. Gimme a break. I do have friends you know. So, he gets up, gives everyone a nice nod, and goes on his way. Buddy says that people got their eyes open when they realized that there was no common definition or view on what makes a line good. Lots of discussion I hear. They all had their own ideas that they assumed were shared by everyone else. They eventually came up with a set of points to use and focus upon. Made a big sign with the points on it and put it up on the wall. Suddenly invited Nancy to attend their meetings. Had been giving her a cold shoulder. Guess Rosco caught wind of that.*

*Seems that some of the crowd got another message too. They went back to their own areas and made sure that people knew what they were talking about first and that criteria were being used and consciously thought about. Buddy said that his friend's friend figured that Rosco was giving them a subtle hint about how problems should be tackled. That was a surprise. Never figured that the guy buddy was talking about, you know, the friend of a friend could learn something subtle. Always thought he was a baseball bat kind of guy. Thud, right between the eyes. No, not decaf today. Need something with a kick.*

Surprised that Jake did not know about Allen. Was all over the coffee shop. Not a real big secret.

Lucia is lucky. If Rosco is mentoring her, she has a chance to learn a lot. Has the right attitude to be mentored too. Takes two to tango. Hard to help someone who does not want to be helped. If I remember rightly, she took the initiative with Aetna when they first came in and asked for help and advice. I recommend you keep an eye on her. She is going places if I am not mistaken. Rosco will not be here forever.

Family? One daughter. Got an engineering degree and an MBA. Has been working for 12 or 13 years now. Has worked for a couple of companies over the years. How time flies. Now? She has done well, runs a factory a few hours down the road, the plant manager. Yep, I am proud of her. Can't say that she takes after the old man though.

I liked how Jake described how Rosco was dealing with the new line design. Get the problem sorted out first before jumping to solutions and boxing yourself in. Heard that someone once said that a problem well defined is a problem half solved. Might be some truth to that. Have seen many folks solve the wrong problem in my life. Also like the way that he does not dominate the meeting and lets them go to it. First, he gives no guidance to see what they would do and gets something like a baseline read on them and the normal process. Then he takes a peek and if necessary does some adjustments. Seeds a few ideas or suggestions for the process

and then steps back. True, they know more about the details than he does. So, it does make sense from that angle. But, more importantly, Rosco does not immediately assume that he has to tell everyone everything, nor that his ideas are the only good ones. Doing it this way, also allows different methods and processes to develop. He has a firm hand, but that does not mean he has to be a wet blanket on everything. Have seen enough of the other style over my time. We used to talk about those managers quite a bit. It was their way or the highway.

Rosco does like what he calls criteria based decision making. OK, OK. I know someone who once worked with these guys and was mentored by one of them. Used to see them a fair bit and they would talk to me about what they were being taught. Not right from the horse's mouth, but not far from it. Anyway, this criteria based stuff. If you do not have good definitions for what should be measured or talked about, it is pretty loosey and goosey. He likes to try to figure out how to define goals and progress, and what is expected. He has a little game he plays with people. He asks them what makes a good question. What criteria could be used to judge the quality of a question? Not as simple as it sounds. If my memory is close, it is actually quite a long list of things to consider if you want to be careful about your questions. All of the team do this. When they are mentoring someone, they tell them, you have three questions you can ask me now. Make them count. If they feel playful, they only give you one or two questions. This stuff seems to help with discussions and problem solving. Makes the whole process tighter and less driven by loose words and emotional outbursts. They hate hand waving. One example I remember was when someone told Rosco's mentor that there were a lot of problems with something and that the person responsible was a screw up. He had fun with that. What does a lot mean? What were the actual numbers? What exactly was a problem? Who said it was a problem? Was there any bias or agenda when claiming something was a problem? How did they know it was a problem? What would be expected in terms of problems? Is this number noteworthy or not? What does a lot mean? Oh, he had fun with that one.

Another time I remember was classic. Rosco's mentor had the team doing some design and problem solving work. Let them go on for several hours. Eventually, he asked them to stand back and think about what they were thinking about. Gave them a couple of little examples. They then clicked in. There was a generic issue lying below the specifics they were consumed by. They did not see the patterns of the patterns as he put it. Right. Not everyone can probably do this type of thinking. Being able to think about criteria and this generic view. But, you only need one to lead

the group and the group open enough to understand that they are not well versed in these skills and that there is no shame in that. Not everyone can do everything and it goes smoother when people figure out how to work as a team to get the job done with everyone's skills combing to deal with what needs to be done. Something like having the management and decision makers willing to accept someone else's decision. Some decisions need to be debated and have group input, but not all. Just like in teamwork. Do not have time for everyone to be involved with everything. You have to know when to work together and when to work separately. If people always seek advice and talk to others, it is like hiring two people and getting the work of one and a half. Not a good use of money. Good for people who like to talk more than work. Oh yes, Rosco and the other team members had everything done to them by their mentor that they do onto others. The old guy made sure that the team knew that they and him as well were not perfect and could never take things for granted.

Anyway, I suspect that Rosco knew that everyone in the room actually knew more about the details and real issues than he did. He would have been OK with that. They just got consumed by the details and did not stand back and see the big picture. I wonder who will learn the lessons and who won't?

## BEN'S NOTES

For some reason, many of us are raised and trained by the idea that when we solve a problem by ourselves, without asking for help, this is better than doing it together with someone else. Many of us would refrain from asking for help on a difficult problem as they fear that this is seen as defeat or a sign of incompetence. This behavior is totally wrong and inefficient. Again, you are not alone—you should act as a team. When you get stuck in solving a problem, ask for help. When you are being asked for help, help. Share your knowledge. When you think you are not the person that can help, help in finding the right person. On the other hand, some managers indeed see a question for assistance as weakness. This is wrong too—it is a strength for someone to realize that he does not contain the knowledge or skills to solve a problem alone. Mentors can help in this as they make it easier for someone to ask for help.

What makes a good line? What makes a good product? Before we start to design something, we need to define the criteria. Without criteria, the design process is like an unguided rocket. When a problem

needs to be solved and a certain effort is involved in the solution, how to determine whether the effort is justified? In other words, when is something important? This question can be answered by using design criteria. When the timeline is strict and scope of the solution needs to be managed, the design criteria will help the team in deciding what is a must have and what can be added later.

## 13.1 SELF-ASSESSMENT

1. Does your problem solving get mired down in specifics and fail to see patterns, common issues, and solutions?
2. Do you make sure that people have common definitions and baselines, or are you making another assumption that might not be valid?
3. Do you explicitly use criteria as part of the problem-solving process?
4. Does your problem solving first focus on understanding the problem, or does it lose itself in the symptoms or immediate solution ideas?
5. Do people know when to work together and apart? Do they do this efficiently and effectively?
6. Do you waste other people's time?



## CHAPTER 14

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# SETTING EXAMPLES

*Hey, watch your coat. You almost pitched my coffee into my lap. If I did not know you so well Ben, I woulda thought you did that on purpose. Ya. Am a bit grumpy today. Have not heard any good gossip for the past week. Don't like being kept in the dark. No way. Buddy's on vacation. OK, so I do not have many friends, but I have at least one left in the old place. Guess no news is good news. Used to see more of the crowd when Raul was around. They would take their extended coffee breaks and lunches. Catch up with them at the diner sometimes. No more of that. No, Rosco did not say anything. Just set an example I guess. If he wanted the workers to take it seriously, he has to show that he is serious too. The line can see through the usual do as I say and not as I do crap.*

*You saw some of your old mates at Joe's retirement party? How's he doing anyway? If anyone deserved to be retired, it was Joe. They did? What did they say? Aetna and GAFFER are in your old plant and working with your designers, engineers, and line workers? Ain't that something. Must be telling your crowd what to do and how to do it eh? No? Are we talking about the same plant. You know, the one across town? They aren't at your old plant laying down the law? Really? No kidding. Actually discussing with your crowd how GAFFER could be a better customer? And how your buddies can be a better supplier to GAFFER. All nice and friendly? You are pulling my leg, aren't you? OK, OK, I believe you.*

*How do your mates see this? Some are also in the GAFFER factory? Sounds like a good thing if they are serious about this and can keep it going. Going to make sure that they ship the right stuff and GAFFER's not going to do any incoming inspection? How are they going to do that? GAFFER and Aetna suggested that they implement some of those mistake proofing ideas? Interesting.*

*Sure was good that you bumped into your old crew. The ideas sound good to me. Just surprised to hear that GAFFER and Aetna are actually*

*doing this. And, with your old place. No seriously, I like the idea of working closer together. This is more like what I was doing with your master scheduler. We were always on the phone talking and scheming. We could not affect many things, but we could at least make sure that we were on the same page and helping each other out. Never thought I would see the same stuff at the process and product levels, let alone spearheaded by management. That is the surprise. You made my day. I'll buy.*

Sometimes Jake can be a little too cranky and cynical. But, he means well. The news is not too surprising when you think about it. Both Aetna and the big boys are fond of practicing what they preach, so why not try to work with the GAFFER plant and mentor them on how to do it with their suppliers. Yes, I did not say show them. I know what I meant. Jeez. And, I am not overusing that word mentor. There is a difference. If you show them, that means you are doing it and they are more passive, duh! When you mentor, you let the other person or crowd get into it and learn the old fashioned way, by doing.

My old crew would be happy with this turn of events. GAFFER was our worst customer and was stuck in the Stone Age. A real pain in the butt to work with. Oh no, Jake and the other low level workers were just fine. It was the management and engineering prima donnas. Yes sir, no sir, three bags full sir. My job is not to think, sir, but to do as I am told sir. There were times we were hoping that we would lose the bid on the GAFFER contract. I think we were the only plant crazy enough to try for it. You should be careful what you wish for. You might actually get it. Once I heard about these managers at a sister plant of ours. They put in a proposal for two versions, one more of a smoke screen. Never involved the actual designers and manufacturing. Did it to strut their stuff, nifty features and all. Big bucks too. Expected the customer to go for the lower price model, the one we could actually make. Little did they know that the customer had some other problems that the super, deluxe model would help them with. Talk about egg on the face. The managers had to ask one of the designers to go explain that the item could not be built, that what could be built was not a bad compromise, and that it would take longer and cost more money. That designer was muttering for months about the village idiots he worked for. Lucky for those fools the designer put together a good recovery plan and was able to sell the customer. Was not pretty getting those coals out of the fire.

Did not want to say it to Jake, but I am not sure if the management of my old factory is sincere or is just faking it with this collaboration activity. They might be hoping that this is a fad or as one called it, buzzword of the month. Have heard mixed things about some of the new senior management who came in after I retired. Hope I am wrong.

Went and got me one of the books by Gantt. Might actually ask the library to get some more of his stuff to read. Did you know that he actually did a bunch of charts for improving efficiency and effectiveness in a factory? No, neither did I. Never heard of the other charts. Go ahead and guess. See if you can guess what he had on these other charts? Nope. You can do better than that. Not that either. Will give you a hint. It isn't something you will likely have seen in any plant you have worked in. At least the old stubborn type. Na. You ain't even close. They were charts prepared and maintained by the workers and foremen recording why they could not get the work done that was expected of them. Stuff not arriving in the right form, tools not ready to be used, and confusing instructions. All kinds of things reported back up to the management level. Remember, some people think it is management's job to create the situation where work can be done. Well, these charts match that. Imagine. Charts that track what management is not doing and how management is not doing its job. No wonder management never adopted those charts eh? Too close to home. But think about it. We track the floor and monitor the heck out of that. Why not management too? Give them a taste of their own medicine. Management sure likes to track what the workers do. Turnabout is fair play I think. Good for Gantt. Guy had some great ideas. Imagine, 100 yrs. ago. Looks like we have forgotten many great ideas. Nothing is new after all.

Found some other old books too when I took the Gantt out. One was describing what Henry Ford did one 100 yrs. ago. No, I did not go to school with him. Smart ass. Guy was a bit odd, and close to looney tunes, but he did seem to have some good ideas. That stuff about Aetna, GAFFER and my place looking at containers as part of the whole darn thing? Well, Henry did that too. Also did a whole bunch of factories within a factory to feed that big line of his. Like about 200 or more. Read where he thought that big plants were not needed any more and that smaller factories, more dedicated, were the way to go in the future. Here I thought he was all for those big factories. Also learned something that shocked me. Guess how much of the Model T and Model A that Ford actually produced versus outsourced. Go ahead. Give it your best shot. Nope, you are like most people I have asked this to. They have all heard about how integrated Ford was, from the mines and forests to the final car. Ford also had some big, big factories. But, that was only part of the picture. Ford claims that he only made about one third of a Model T, and another article I found said the same about the Model A. Could have blown me over with a feather. Henry was full of surprises. Did you know that they outsourced all of the electrical bits and did not integrate that supplier till sometime in



the 1950s? Spark plugs, coils, everything. Hey, not done yet. He claimed that by the early 1920s that they had totally redesigned how they made the Model T, twice. And, did lots of continuous improvement stuff with the workers. Would never know that by looking at the Model T, would ya. No, he was not the only one doing this stuff either. Guy called Nash was getting daily turns of inventory at his plant later in the 1920s, about 1926 I think. Imagine daily turns. Now, that is just-in-time, eh? No, never found the term just-in-time used. Something like it though. Hand to mouth. That was a huge thing. Many firms and industries practicing it in the 1920s. Did you know that waste elimination was such a big theme in the 1920s? Competitions between cities, firms. No kidding. And we thought the old guys were clueless and that we invented all of this after 1950. You never know what you will find in those old books. Makes me wonder about all of that stuff you read about so and so inventing this and coming up with that. Guess those authors never looked back far enough to understand how things were done. Interesting question. If we knew all about these good ideas in the 1920s, why did we forget them by the 1950s? Don't know the answer to that. It was as if we lost all knowledge of the old ways and had amnesia.

## BEN'S NOTES

Inspections should be a waste of time, because they are too late anyway. Quality issues need to be prevented, not found. And, if not prevented, automatically detected at the source. Multiple inspections are inefficiency multiplied. They are like a passport check at airports—more than one check will install the thought that the first check does not need to be thorough as there will be another one, and so on. Your process should be under control and it should not be a wild guess what you are shipping. You should know exactly what goes into the container.

Overselling is a sin that is probably committed every few seconds somewhere in the world, and then we are only counting the expensive ones. Salespersons have one main target and a few minor ones in the background, where the light is not so bright. The main target is to sell and to meet the yearly targets. Sometimes a seemingly smart sales strategy can shoot itself in the foot. You have promised something that you cannot deliver. You have not involved the right people in the sales cycle or you have been squashed by some smart purchasing folks at the client. In such a case, you might have to accept that this deal will not

give you much profit. And do some serious expectation management at all levels. Use the different levels and disciplines in your team. Let senior management pair with the client's senior management; let your designers talk to the client's engineers. In the end, most people are reasonable people and you will be able to work something out.

Imagine that your workers use a tracking system to identify the cases where management fails to help them do their work. Would you favor this? If not, would you phrase the argument: "they would use this to present all kind of irrelevant and nasty comments because they do not like us."? Think about this. You do not want to hear their feedback because there might be a lot of noise to process, and they might not like you. Why does your phone operator have a helpdesk? And why would the same argument not hold the other way round—the feedback you are giving the operators? There is this ingrained idea about management and workers in our Western culture, which is actually very weird. It has to do with the perception of being part of an elite group when you are a manager.

There is a much richer history of supply chain management than many of us think. Almost all of the concepts that we regard as new and revolutionary have been in use before and then seem to have been forgotten. Apparently, supply chains mature but there can be some disruptive event that throws them back and they have to go through the stages again.

## 14.1 SELF-ASSESSMENT

1. Do you ask your suppliers how you can be a better customer?
2. Do you ask your customers how you can be a better supplier?
3. How often do you have these discussions? Do you involve the actual participants as well?
4. When you discuss matters with your customers or suppliers, do you talk at them, or talk with them?
5. Do you track and analyze managers and supervisors with the same care that you track and analyze the floor?
6. Do you have a way for the workers to report on management's failings?



## CHAPTER 15

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# SEE THE LIGHT

*Oh, don't worry. Not going to bite you. Sorry that I was grumpy last month. Doesn't seem that long ago, but it was. Have got my fix of gossip, so I am OK.*

*Heard some good stuff about Allen. Yep. Seems he did have a real hard time on that training assignment he got sent on. No, not done yet. About half way through his sentence I figure. Anyway, it seems that Allen finally saw the light. Must give the guy credit. After he got bruised a bit, decided to lose the attitude and start using his brain. Ya, it was a bit rusty, but something must have been left in there. Started to listen and talk with his crew mates. Started to participate in their improvement activities. Yep. Allen. Never thought I would see that. Actually asked others to help him and teach him how to do some of the stuff. And get this. He started making some suggestions of his own and they implemented them. Took over a month before he came around. Might be hope for him yet.*

*Apparently the HVAC outsourcing work is going well. Nancy is leading the effort there. Trying to make it a pilot project for some of the new ways. No, have not heard about the instrument cluster work yet. Surprising actually. If they were going to outsource that, wouldn't they have started on that? Ya, I agree. Seems odd.*

*Oh. Lucia? The big line design is coming along I hear. They seem to be doing a great job thinking it through. Not only about what is needed to make the dash, but also thinking about how the line will function day in and day out. Good that they are getting all of the different stakeholders involved. Groups you would never worry about in the past, just wait till the concrete was dry and then tell them to start using it. Never worried about all of the players before or how the system would actually work every day.*

*Considering all kinds of what-if conditions. Doing manual simulations too. What's going to happen. How often. How to avoid or minimize the crap hitting the fan. Even working through how the line is going to start up each day, and how it will behave during shutdowns. The old management*

*never, ever thought about this stuff until the fan got hit. No sir. And, doing some of that computer simulation stuff too. Not for everything, but for the bottleneck machine. Need to make sure about that baby. Know as much as possible. No excuse not to. Compare the cost of downtime to cost of analysis. Easy decision. Hey, listen to me, sounds like I know something, eh? All of these big words and ideas.*

*They are even talking about how much technology to put in one segment and how to control complexity and risk. The only risk they looked at before was the risk to their own bonuses. Always made sure that what was being counted would be actually counted if you know what I mean. Some stuff even twice or three times. Only one manager ever got caught on that though. Other managers were better at hiding their tracks. We could see it in production control, but it would not have been so clear to others. Mind you, it is getting harder to fudge the books with all of that bar code stuff and new computer systems. Often those computers make life worse, but sometimes they do make things better.*

*Going on another trip? No way. Your pension must be better than mine. All I can do is visit the park bench and the diner. Can't afford those fancy cruises. Wanna try the hot chocolate today? That whipped cream isn't on the diet, but it does look good.*

Going tomorrow to see my daughter. Only a three hour drive, but it is starting to get to me. See her occasionally here, but she invited me over to where she is working. Weather is just a little bit better being closer to the water, and she has promised me a tour of the plant and some of the other local factories in the area. Some of them supply her place. Oh, didn't I tell you that? She manages an Aetna plant. Small world, eh? This is her second company. Learned lots at the first, moved to Aetna and has worked her butt off. Two years ago, they made her plant manager. Not a big plant, but still, it's an assembly plant. Heard a little bit about Aetna's ways from her, so I was not surprised by some of the stuff that has gone on between Aetna and the plant. She does not tell me too much, but when she learns a new trick or two, she shares that with the old man.

Great news about Allen possibly turning it around. Rosco must have seen something others did not. Looks like Allen has got with the program and going with the current instead of fighting it. Takes a big man to admit this and change. Maybe that is what Rosco thought was inside.

Nancy is also taking it up a notch I see. That HVAC outsourcing was a touchy subject for the union too. She had to stickhandle that and show that better stuff was going to be done in the plant and that the workers would come out ahead. More value added. More training. That kind of thing. She dedicated some of the old workers to be with the HVAC supplier and

not only be there to support them in the transfer, but to learn from them. They have been at it as long as GAFFER has if not longer, and it is a great opportunity to mix together and leverage both histories and knowledge. Nice to hear about stuff like this. Gives ya hope.

No news yet on the dashboard cluster? That is interesting. What are they planning? I have not dared ask my sources. I always let them tell me what they want to tell me. Best not to ask.

Lucia has done a great job, eh? That mentoring from Rosco is sure working. Also heard that they have paired her up with a plant manager in a customer's plant for additional support. Not sure if Nancy is also getting some mentoring.

The head of the overhaul team always has someone somewhere as his project, so to speak. He has good projects and bad projects. You don't want to be on his bad project list. Don't know who Mr. Big is coaching either but I think we would know if he was coaching Nancy. Oh? That is their style. They pick two or three to develop as a team and expect them to then pass it on. They know that you cannot change everyone at once or spread the resources too thin. No way. But, pick a few. Bet on them. And give them as much help and support as you can. Sometimes they coach people at different plants at different times. They keep in touch with their students, but they usually only focus on one new puppy at a time. It will depend on how Rosco assessed the situation. If there is a good, past student, sometimes they get them to coach too. They like to develop bench strength and develop mentors. Everyone has a mentor, even the team lead. No one is perfect, never is.

We learned the hard way about putting too much technology in one cell. Well, it is a balance thing. If it is all known and mature technology, you can do more. But, if there is a bunch of new stuff, you have to be careful and think about what you are doing and getting into. One of those old magazines I was looking at was from the 1880s. Yep. That old. Guy named Sweet was talking about not being surprised when dealing with new inventions. Expect some fun and excitement. You will not do it right the first time you do it. Guess that do it right the first time is for the repetitive situation after you get the hang of it. That makes sense. I remember some of my managers getting it screwed up though. They expected no mistakes, even when doing something new. Sometimes they were lucky, usually not.

Standards are also problems when you first start up a new process or product. Gotta be careful. You could end up with the wrong stuff being standardized and then it is hard to change. Was surprised to see lots of discussion about this stuff in the old magazines and books.

Oh ya, cramming lots of new stuff into one cell or line area. You want to protect yourself and isolate the risks. You know, you do not want to end up with lots of down time just because you wanted to create an amazing cell and impress your buddies. It is not about being fancy. It is about designing lines and machines that will do the job.

Seems that metrics and appropriate tracking are hard to get right, eh? You do not always need high tech gadgets, but you should be able to know, one way or another, what is where, how long has it been there, how long has it been in process from launch time, when it is expected to move on, how many will be produced, and when it is expected to be done. You do not want to be hunting for stuff all of the time or not know what the current state of the factory is. Many ways to do this and some places will need some of that fancy barcode or RFID technology, but you can also control what is let loose into the factory and have simple tracking techniques. Hard to control waste and get things super lean if you are guessing all of the time. Either do it by hand, or by some nifty computer system, but you need to know this stuff if you want to get the place flowing smooth.

Seen places guess a lot while I was working. Yep. But most ended up closed down and turned into retail shopping malls. Guessing will work for a while when you are in the driver's seat and the customer has no choice, but when the customer can choose, then watch out.

## BEN'S NOTES

When someone does not get the point that is transmitted by new management, or does not function in his or her role, the easiest solution is to get rid of the sore tooth. Sometimes, there is no other solution than to part, but before you do that, there is a number of other options you should have considered. People can change and they can learn, but they typically need some help. They were once hired because their qualifications fit the company, and it is your challenge to bring such qualifications out. When you simply start sending people home, their former colleagues might get demotivated, they might stop telling you the whole story. Basically you might be raising a zombie army when there is fear that initiative and criticism will end your contract. People will not take responsibilities, will not work together, will not stick their head out of their own department as a result. The plant's management is responsible to see the potential in their employees and to bring the potential out.

All problems that are avoided in the design stage will avoid expensive fixes later on in the process. When something as complex as a line is designed, the only way to avoid expensive discoveries during testing later on is to simulate. A human being cannot predict the behavior of a complex line. Even if they say that they can. Furthermore, when you are testing a line using simulation, do not reason like: I can make up a situation where it runs well. Instead, try to think of situations where it might not run well and try to simulate that.

Managing risks is trying to look ahead and put measures in place before the problem actually happens. There are many different risks and therefore many different measures. However, risk management in general means: keeping things simple, creating clarity on objectives and processes, and empowering people to solve problems. So, make sure your team knows how to deal with problems when they occur—assume things will go wrong, discuss this with your team, and enable them to take the right measures.

In some plants, there is much counting going on, because items get misplaced all the time. The idea is to avoid cycle counting completely as there should be a good process system in place that avoids problems. This can be supported by modern information technology but this is not necessarily the case. For example, barcodes are quite effective and these are cheap. Make sure your incentives do not stimulate over- or under-counting. Incentives can be stupid and shortsighted. For example, are you a plant manager that pushes every department for maximum output? Please wake up—what does this mean for the downstream department? How will workers behave when there are problems upstream and they cannot meet their target? When incentives are wrong, realism goes out of the window, and an item count becomes an opinion.

## 15.1 SELF-ASSESSMENT

1. When you outsource, how much do you invest in your personnel knowing and working with the vendor? How do you manage the knowledge and skill development?
2. Do you know where everything is in the plant, how long it has been there, what is past its best before date, and when it is expected to arrive at any specific location?
3. Do you know what is ahead of plan, on plan, or behind plan?



4. Do you build in flexibility and future concepts in standards and processes? Are your standards and processes too rigid? Are they a liability or an asset?
5. Do think about risk management (in a holistic sense) when designing lines and cells? Do you control the amount of risk and consider how the area might actually work day in, day out?
6. If the facts change, do you change your decision? Do you have a love affair with your own ideas and decisions?
7. What assumptions do you make about new initiatives? Risk management?

# TEACHING THE BASICS

*Well, pour honey on me and throw me to the bears. Would never have believed it. Have you heard the latest? Unreal. Allen's back. Yes he is. And you don't know the half of it. He is now in charge of the instrument cluster area. Yes, the instrument cluster area. The one that they are not outsourcing now. Figured it was too important to outsource and would impact the long-term viability of the plant. So they said. And, it is Allen who gets to handle it. Guess he showed them that an old dog could learn new tricks and mend his ways. Time will tell. Jury is still out. The floor does not believe it yet. Figures he has pulled a fast one over Mr. Fixit. Oh, that's Rosco's new nickname, behind his back of course. Would blow a gasket if he heard it I suspect. But then again, the guy is a bit odd. He might have started the nickname himself for all I know. Still can't read the guy.*

*Anyway, they will be clearing out the whole area dedicated to past service parts and the area for prototypes. Yep, both will be gone. They are moving all of that stuff out of this plant. Dedicating a special facility to do past service work elsewhere. Will do the work for a few plants. Want the plants to focus on what they are supposed to do. Prototypes will also be done in a new facility. No, the engineers will still be associated with the prototype facility, and line workers will also be involved, but gossip is that someone decided that they do not need a permanent area taking up space in the facility and getting in the way. Might come back some day but only after the main business is running smooth. And, those old warranty and past service parts. They have always been a pain in the butt. Oh, ya. Back to Allen. Buddy says that they are doing a little focused factory, a mini GAFFER, right in GAFFER. Own millwrights, electricians, dedicated materials people, and HR, the whole nine yards. Going to run it like a little company on the inside. Allen must have turned around. Or he has convinced Rosco that he has.*

*Oh, she is fine with it apparently. Lucia is busy with her own project. Word on the street is that she is happy to see the instrument cluster stay in the plant. Another good sign is that Nancy's working with both of them on general strategies for efficiency and effectiveness. Buddy has seen the three of them huddled everyday scheming. At least they aren't fighting or trying to cut each other's throat.*

*Also heard that Rosco has been arranging special meetings for everyone in the factory. No, not all at once. But everyone goes eventually. Sometimes he presents stuff himself, sometimes not. The meetings are on the basics of manufacturing and how small innocent things can mess everything up. Also talking about flows, critical resources, bottlenecks, and stuff like that. We saw some of that in production control, but we did not understand how to get all of the factory focused on the right activity at the right time. Has been telling the crews that they need to know what the money-maker machines are, that not all machines or processes are equal and get over it. Some are more important than others and that they should not be starved or blocked and that when they are supposed to work, should be able to work. Not everything can have the same priority and people have to understand that. Sometimes their area might be a priority and sometimes not. Was explaining different ideas for part flow ahead of and after these machines. We never thought of that in the old days. Forgot my wallet today. Can I owe you?*

I think Jake forgets his wallet way too often. But, coffee is cheap and he is good entertainment.

Ain't that something about Allen and the instrument cluster? Now we know what was going on behind the scenes. Allen has awoken from his coma and is being given a second chance. Not as big an assignment as before. You remember, he had the big line given to him. But, this is a nice opportunity for him. I like that focused factory idea too. Not a new idea, but good for some situations like the primary area and the instrument cluster. Looks like Rosco read Allen correctly. Does not always work, but happy it did this time.

If you need to have key resources running for you, it is important to support them to that same level. Rosco used to ask that frequently. What is the cost to you, the real cost, if that machine is down for ten minutes? One hour? If the machine is not the bottleneck, the impact might not be big enough to worry about. But, if the machine gates or controls the flow of the whole plant, well, you better look after it like they are your Crown Jewels. Spare parts, personal care attendant, or whatever it takes. I suspect that not too many factories can answer those questions. Important stuff to know. Even comes down to how much space to give those key machines. Don't want to be struggling to look after them, or move stuff in or out.

Even more important on these machines to do that flight check drill on them at start of a shift. Of course, you are not going to run them just to make inventory or to hit a magical utilization number because of some accountant's report, but you want to be able to run that machine when it needs to run, and be able to rely on it.

Moving the service parts out makes sense, but the factory will still need good communications with that new facility. You want to know why things come back and how to fix the problem. Maybe, they will rotate some of the workers in and out of that place. Always have a plant person there. Might work. Am not so sure about the prototyping work. Would not have guessed that they were thinking about that. How would that work?

Funny about Lucia, Allen, and Nancy. You don't always have to like someone you are working with, but it helps and at least you have to figure how to work together. It is good that Nancy, Lucia, and Allen are playing nice together now. That mood will likely be picked up by the workers too. If Lucia was to moan to her crew about Allen's area all of the time, that would also be picked up and sour how they work together. Helping each other is definitely the better option.

Rosco is a good teacher. Tough love, but he likes to have people know what they are doing, why they are doing it, what should not be done, and why it should not be done. Also likes to have people have multiple skills and talents if possible. Wants folks to know how their work affects the upstream and downstream areas and their coworkers. Can't work in isolation anymore.

No. He does not hog the limelight. Like Jake says, sometimes he does the teaching, sometimes not. He will bring in guest speakers and trainers when necessary. Knows what he knows and what he does not know. Quick learner, but knows his strengths and weaknesses. He will never use the I, mine, or me words. He always uses the us, ours, and we words, and he is sincere when he does it.

And I heard that he is always studying, learning, and improving his own knowledge base too. Can't expect that of others when you do not do it yourself. That is another thing that the mighty trio has in common. Learning and educating. Themselves and their workers. Everyone, including front office, the floor, and the trades. They figure that the workers make the difference and many good ideas come from these areas. Just can't expect them to think for you if you do not show them that you value their thinking and are willing to help them learn and better themselves. It is like those magical cost reduction or improvement activities that appear overnight. Expect the people to suddenly think differently, work differently with no prep or investment. As if that will work long term. Not likely.

## BEN'S NOTES

There are different types of manufacturing and these are not easily mixed in one plant. When there is high volume production and small batch service parts, the latter will always be seen as messing up the former. Batches for service parts will often be postponed by the planners, schedulers, or operators until there is an immediate need for the part and the service parts must be produced. It is very difficult in a plant to give adequate attention to both types of manufacturing as the issues faced are so different. Therefore, when possible, such different types of shops are separated as much as possible.

Everybody working in operations needs to understand some of the basics of production control and supply chain management. Not the hyped concepts, vague terms like collaborative this and that, distributed value demand networks, and all that. But some of the basic concepts, like waiting times, safety stocks, flow lines versus job shops, and planning versus scheduling. The principles of just-in-time are very useful to understand, although the concept as such is hard to implement fully. Salespeople who demand a 100 percent delivery reliability should get a course on inventory control, and its relation to forecasting and demand management. Purchasers who just go for the lowest price should understand something about variability and variance in the production process. Management needs to understand the need for a rigid order acceptance procedure.

### 16.1 SELF-ASSESSMENT

1. Do you train and educate your workforce about the basics of manufacturing, not just their current task or process?
2. How do you deal with *noise* in the factory like past service, warranty work, and prototypes? Do you control it and isolate it? Do you allow it to interfere with the normal daily business?
3. What measures and incentives are in place to encourage team work at the management level? Not just an occasional social time, but what is done to encourage group behavior? It will not happen by accident.
4. How do the product and manufacturing designers learn about past service, warranty, and line issues? How will these problems be avoided in future products and processes?

5. Do you know your money maker machines?
6. Do you understand your bottleneck resources?
7. Do you manage your factory to support and nurture the money makers and the bottlenecks?



## CHAPTER 17

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# THE NEW INCENTIVE SCHEME

*Hi. Haven't seen you for a few months. Health OK? Sorry to hear that. Rehab sucks. Nice to see you back around. Be careful with that new hip. What's been happening? Hmmm. Can't remember everything, but I do know that there has been some changes in the last week or two.*

*Remember Karen, my old boss. Well, she was also sent off for some training and education. Grim reaper came for her this week. Put her in a pine box and shipped her out. She was stuck in her ways and did not understand or want to understand any of Rosco's suggestions. Just kept on saying that the old policies and procedures were OK, problem was with the workers. Ya, I know how she can be. In the beginning when I had to work with her I tried to talk with her, but eventually gave up and just went along with her. I once suggested that we use smaller batch sizes or even try a continuous flow to one machine and she almost took my head off. Turns out she was the one responsible for the original batch sizing scheme and she did not like her baby criticized. No way. Told me that it had been done that way for 10 years and it was just fine. Thank you. After that, just kept my mouth shut.*

*Moving the past service out was smooth and working out OK. But buddy was all confused. They did not move the prototype work out of the plant. Guess that was bad gossip. They did move it to another part of the plant and consolidated it, beefed it up and actually are rotating some of the workers through it. There are some permanent workers, but there are also spots for, what do they call them, interns. Also using it for continuous improvement tests. Not just prototyping products there, but also processes. Cool. Don't know where Rosco found the money for this, but I like it.*

*That new incentive scheme of Rosco's is paying off. I wasn't sure that it would. Figured it would fizzle out quickly. Guess it forced most of the crowd to look at the bigger picture and work together instead of trying to cover their own backside and ignore others. No, I think only a few ever*



*did anything malicious to another manager, but they just did not go out of their way to help. No reason to. Human nature again.*

*They are getting close to a first test run for the line. I hear that the HVAC and instrument clusters are also almost ready. Your old place? No? What's the problem? Well, that isn't good at all. Aetna will not accept that kind of quality, even if it is buried under the skin. I thought they had all of that process under control and did a lot of work on the tooling. Oh crap. They didn't pay attention to the fixtures and their impact on final geometry? Ouch. Nor the thermals? Sure dropped the ball.*

*Allen? Still hasn't put his foot in it. Every day I expect to hear that he's in a pine box. Has surprised a lot of the floor and other managers. Seems to have a new appreciation of what the line workers might know and how to work with them. That little stint on the line woke him up. Sure enough did. Did not help Karen though. Ya, he seems to know that not everyone is a freaking Einstein, but he is no longer assuming that everyone is an idiot either. They got the area ready in record time using that focused factory idea and they are in good shape for the launch date. Making sure that he hears from the line before implementing ideas. Usually the workers were the last to hear about any process or method change, never asked, never consulted, just told what to do, when to do it. Not anymore. My buddy is in Allen's area. He actually likes going to work now. Is funny. He is working harder than he has ever done before, and no longer looking for ways to do nothing and still get paid. He summed it up the other day, if they care about me, I will care about them. If they do not care about me, why should I care about them. Can't argue with that.*

*You did? No problem. I forgot my wallet last time. I'll treat. We both must have that some-timer's memory problem. Sometimes we forget.*

Has been a while since I talked with Jake. How long have we been sharing the news? Well over a year and a half now. Interesting to see how the plant has been changing, or not. Karen's departure is typical. Her rotation was later than Allen's. Can only rotate out one or two at a time I was told. You might want to fix many managers at the same time, but you can't wack all of them or strip the factory. Ya, it is a bit different than the group hugs they do on a weekend, those short training exercises. They think that by getting everyone together for a few hours will actually get enough across to make a difference and everyone will turn like those flocks of birds. Flying in one big mass. Only if we were so lucky. If it was so simple, it would have been done before now. Good managing and work habits are not learned in a few hours or a short course. That's for sure. The overhauling team likes to go for deep and meaningful learning and lessons. They don't want people who only know the buzzwords.

The team will try to turn folk around, but if they don't, Rosco will make the hard decisions and terminate them. They always assume that someone can learn and improve, leave it up to the person to prove otherwise. There are lots of managers like Karen and they don't last long with these guys. Karen and those like her will make a decision and will stick with it way past its best before date. Get all defensive about their idea being challenged and possibly wrong. A decision might be right once, but it doesn't mean that it will be right forever and I once heard that the best architect is the one who is not in love with their own design. You have to be able to stand back and see what is going on. Can't love your own idea too much. Take some pride, yes. That is what people will do, but not to the point of stupidity.

Like I told you, sometimes Jake gets it wrong. It does not make sense to separate prototyping totally from production. You might have some higher volume sister plants, but you need one main factory that can do creative things. Needs support and special funding. Important to have a place where the rocket scientists can spend time with the workers, on the line, perhaps close enough to the service facility, and involve the people with the real knowledge, the line workers, on the new stuff. Engineers might know the math and science, but they don't know everything. Takes a bunch of people to hit all of the topics well. No shame in that. The prototyping area cannot be a profit center or managed like one. Will require some extra thought. Am sure they can figure it out.

That new incentive scheme also seems to be working out, eh? Get people working together and helping each other instead of competing with each other all of the time. That's a good idea. Some competition is good, but the team goal should be higher. Would be nice if words were enough. But, people are people and they do like rewards and goodies.

Eighteen months seems a long time, but it takes a bit to figure out a big system like the Aetna line. I can't wait to hear how everything fires up. That will either make or break a few folk, and the plant. If the plant cannot do this, I suspect it will be shut down. The boys are given lots of room to play, but they have to deliver.

Also heard about the problems with my old plant. Folks got sloppy I guess. Didn't quite get the whole idea. Management and workers fell off the wagon. Forgot many of the ideas and methods we were doing when I was there. Just can't take it for granted. Have to work the garden every year, do the feeding, pruning, and weeding, lots of flower care. Leave it alone and the flowers will be gone. Perhaps Rosco and crowd need to visit them for a makeover. They also did some funny cost cutting. Took the easy way out I guess. Just slashed every department by 10 percent, forcing

everyone to fail instead of doing a precise cut and getting rid of one project or area. No, that would have required too much thinking and work.

Gotta look at the whole picture, including tooling, fixtures, everything. Especially when you are trying to deliver a precision part. Won't affect what the customer will see, but until they get it fixed, almost every unit will need a little tweaking and you know who is going to pay for that. Sure won't be Aetna. GAFFER might have part of the blame too. If they were in there and blessed the process, not good. That will not be good for Rosco. Will depend if it was black boxed, or if GAFFER was looking at more than just the design. You can't get into everything with every supplier and you have to take risks. The magnifying glass will be on my old place now.

Allen's turnaround is one of the good news stories, eh? Eventually got the message and showed that Rosco's faith in him paid off. Nice when it works out this way. Going back on the line and getting acquainted with his roots was the best thing that could have happened to him. Rosco can be proud of this turn of events. Allen did know a lot, just took a bit to access it and make it useful. Being in that other factory and being in the team also showed him how the ideas work. One thing to be told how to work with the team. Another thing to actually experience it. Words are empty without memories and actions. Good for Allen! His new found spirit is also catching on with his team. Bonus!

Don't know if Jake is feeling sorry for me or if he is catching some of what Allen's got. He has suddenly found his wallet. Not complaining. Just saying.

## BEN'S NOTES

Structural supplier problems can be nasty and they will have an effect on all downstream operations. Just making sure all the elements of the product are OK is not enough—a designer or producer has to zoom out and look at the whole. What could potentially cause a problem downstream, and how can this be avoided? Creating a design for something new can be fun and exciting at first—applying creativity and imagining how something could look like. However, when the design is shared with others and multiple perspectives come in, the fun of design work is typically eroded. What used to be *your baby* is now pulled out of your arms and twisted, deformed by others. This is unavoidable though if the design at some point needs to get supported by the people around you, including the ones that eventually will be responsible to make what you have devised.

When people are unwilling to make a change that is necessary, they might have to leave. Criticizing other people's ideas is a good thing when the criticism is given in a constructive and safe manner. It can be frustrating when your comments are being ignored and this might mean that you will turn into a 9-to-5 zombie. However, always place yourself in the other's position—there can be good reasons why your ideas that sound fantastic or logical to you, do not have the same effect on another. You can also allow someone else to take the honor—instead of telling someone to do something, ask the right questions and let the other person *discover* the ideas. This will have a much stronger effect, as it is always easier to believe in something you have made up yourself. In any case, there is a difference between not being heard, or not getting it your way this time in your team. Compromising on your own views is a skill that some of us lose along the way.

## 17.1 SELF-ASSESSMENT

1. Do you care and demonstrate that you care about the workers? Action and deed, not simply words, flags, and posters?
2. If you blackbox and outsource, what precautions are in place to ensure that the vendor knows how to design and deliver?
3. Do you do more than small little training sessions? Can everything be learned and understood in a few hours? Not likely. Some management skills will take weeks and possibly months of study and learning. A weekend short course will possibly produce people who think they know something, but in reality don't.
4. What do you do to avoid behavior and practice reverting, or simply forgotten?
5. Do you make sweeping reductions and make everyone fail and struggle, or do you do the work, make the hard decisions, and make a precision reduction?



## CHAPTER 18

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# BREAKING THE EGGS TO GET AN OMELET

*Can you feel it. 'Tis spring. Just around the corner. Nice to see you again. Went south for the winter did ya. Missed our chats. Who was that I saw you dropping off at the factory? Your daughter? You are kidding me. She manages the Aetna plant we are supplying? Wow. And, she was the Aetna manager working with Lucia? Awesome! Why didn't you tell me before? OK. I can respect that. But, ain't that something. Your daughter running an assembly plant and she has my old factory as a supplier. How weird is that?*

*Let's see. Lots has happened Ben. No. No more bodies gone in management. No bosses since Karen. When she got hit, it sent a solid message to management and the workers. Rosco speaks softly, but is not afraid to make hard decisions. He also got rid of some of the troublemakers on the line. Not sure how he did that, but over a couple of months about a dozen were let go. Less of an us versus them attitude now too. I think the crowd figured out that everyone had to pull together, top and bottom, middle too. There are days that I wish I was not retired. Would have been fun to be part of this makeover.*

*Couple months ago Rosco introduced another one of his ideas. He wasn't happy with the continuous improvement program they had. Nope. Didn't like the way it dealt with risks and encouraging workers to take chances. Told the workers you have to break a few eggs to make an omelet. Told them that he would also reward errors as well as successes. As long as the mistakes did not leave the property and the plant learned from them and did not do them again, he would be pleased and reward the effort. Oh yes, and the risks had to be controlled, not just everyone running every which way at the same time. All the old crowd did was not yell at you.*

*Great encouragement that was. I put in lots of suggestions into the old system. As if.*

*It is almost too good to be true. The new area is running smoothly and they are making the same changes to the old lines. That old saying might be true. You know, doing more with less. The QA manager is not running around like a chicken with its head cut off either. Ya, a calm QA department. That's sure different. Oh. Allen is still doing good stuff. So is Lucia. Perhaps some of the advice from your daughter's team stuck. Buddy told me that Lucia was spending lots of time with the Aetna senior management. Perhaps it was your daughter?*

*Nancy is having some problems with a couple of the suppliers and is stressed a bit. Not sure, but I think your old factory is on her bad list. I think buddy said that there are lots of visits going on between the two factories by the process engineers. Seems things went off the rails when they got that last design change from Aetna. Destabilized something. Just when they got the process going smooth from the last change. No, didn't think of it that way. Hmmm. Management during change instead of management of change. Good point, there is going to be ongoing and constant change so they better figure out how to operate under those conditions. Else, good bye.*

*Raul surfaced last month too. Working at the competitor. Sweet, ain't it. If he does for them what he did for us, my pension and benefits are guaranteed. Bill? Might not be ops manager for long. Close to retirement I think. Could be another change too. They say that Mr. Fixit usually does not stay around too long. Long enough to see if his ideas are working and locked in, but he moves on when his job is done. Still keeps in touch and monitors, but he gives up direct control. He also gets bored easy. Always must be fixing something. Must have that attention deficit disorder thing going on. Well, whatever works for him. Sure glad he came here though. Place might be a bowling alley otherwise by now.*

*This? 'Tis a Café Latte with skim milk. What do you mean by that crack. I am not getting too high and mighty to be seen with you. All it is is a fancy coffee. You should try it. Might change your mind you know. You might actually like it.*

*Was great to go get some sun and get the hip working again. Wife is happy that our daughter is occasionally visiting. We usually go to see her and the grand kids. Nice that she has a reason to come this way. Easier for her to travel than for us. Can't do those three hour drives any more. Not since the hip surgery.*

*Looks like more gossip about Rosco. I think he would smile if he knew that he was called Mr. Fixit. They are right. He will not be staying*

too much long according to my source. Possibly longer than what people think, but the plan will already be in place and being worked on.

That must have been one helluva negotiating session for Rosco to get rid of the dead wood without a strike. Had to happen. If you have cancer in the place, you have to get rid of the negative people and negative energy. One way or another. Usually with that crowd, it is just a matter of money. Not all were close to retirement, but some were.

Oh, Jake was right. That cafe latte is good. Enough caffeine for a full day. What a buzz.

Wonder why Rosco did not change the continuous improvement system before now. Ya, you can't change everything at once. And, you are also right, they had big things to fix before getting down to the fine tuning that continuous improvement usually deals with. The big changes are not what you do with that daily kaizen meeting they have. Need different problem solving for different types of problems. Heard he does lots of that fishbone stuff. Looking at relationships. Starts off looking at the best way to do something, not all negative and then probes the process to see what can reduce the desired effect. Sure beats focusing on the negative right off the start. Have to control the risk taking, but you have to give people incentive to try new ideas.

Allen and Lucia are still working together, playing nice with each other. That makes a difference too.

I do not know what is going on with my old plant. They are having some problems there. Things were going along great for a number of years, still were when I retired, but something has fallen off the truck. Hope it wasn't the wheels.

Raul sure knows how to land on his feet. Not clear how he did it, but he now has another chance to screw up a plant. Wonder if he learned anything at all from Rosco and friends. Possibly, but I doubt it. He thought he was OK. Problem was everyone else.

Time to go pick up the kid. I know, not a kid anymore, but this reminds me of picking her up after school. Won't tell her that.

## BEN'S NOTES

Most management punishes mistakes and rewards success. They think they do not have a choice because it is success that makes the company work. However, this is very shallow thinking, as success is 99 percent failure. When employees are not allowed to make mistakes, they will not deliver success either. Or they will sell a failure as success. What



management should stimulate, is a team that clearly demonstrates the intention to create a success. This means that the team is allowed to make failures and learn from them, so the failures are not repeated. Obviously, the team needs to make clear how they have learned from mistakes and how this failure brought them closer to achieving success.

A calm quality assurance department is not the same as the absence of quality problems. However, when the process runs smoothly, quality problems are identified, analyzed, and solved. Quality issues are mainly found in new products or technologies. Such issues should be translated into product or process redesign that structurally solves the issue. We all have learned that quality is not about measuring the result of a process—quality engineers continuously measure the process itself, and when parameters get out of bound, they intervene before bad products are made. This achieves a calm QA department—because they can follow a process and do not have to act on problems that have already happened, they can spend their time efficiently, because it is following a plan.

Changes happen more and more often in factories, because technologies change faster, customers demand change, there is a large pressure on costs, product lifecycles become shorter, and variety increases. Coping with change in a factory means investing in brains and creating a safe environment where your team can propose changes. You need brains because doing something is one thing, conceptualizing about this so it can be adapted is another. Your team basically needs to be operating at a higher level—to anticipate change, to recognize it, and to deal with it.

It is crucial to understand under what circumstances a concept will work and when it will not. The advocates of concepts themselves will not tell you, they will just say that their concept is omnipotent. The use of a concept needs to follow the problems faced by the plant, not the other way round. This might sound trivial, but in practice, many managers will implement X because when X is implemented, you get Y. Because some other plants exist that got Y, so you will get Y too. And some concepts do not like each other that much. For example, when you implement kaizen, kanban, and lean, you should probably be careful with implementing ERP or advanced planning and scheduling (APS).

## 18.1 SELF-ASSESSMENT

1. Do you explicitly discuss and control the number of changes being made at the same time? The types of change? The risks?
2. How do you deal with dead wood at the floor level? Supervisory? Management? Can you and do you make the hard decisions to clean the place up?
3. What problem-solving techniques do you use? Do you use them in the spirit and intent they are supposed to be used in?
4. Do you know how to use Ishikawa's fishbone diagrams or relationship mapping in the KJ method, or how to conduct group brainstorming?



## CHAPTER 19

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# PROMOTIONS AND SHUTDOWNS

*And a good day to you too. Bill's announced his retirement. And you will not believe who is getting a promotion to ops manager. How did you know? Go away. Guess this improved communication between the factories also improves the gossip. Allen pulled it off. Went from scapegoat to hero. Did well with the instrument cluster area. I wonder what drugs they gave him when he was out on training. Turns out that was Mr. Fixit's last plant and Allen's mentor was the plant manager that Rosco trained himself. Another guy who speaks softly but knows how to be firm and fair. Must have spent a lot of effort on Allen. I thought he was real old school as my grandkids would say. No, still no sign of Rosco moving on. Probably does not want to create too much change at once at the top.*

*What? Guess that is not a real surprise. When is the shutdown? Your pension going to be OK? That is good. But bad news about the benefits. You might have to look for a part time job. It will be sad to see the doors close. Well, business is business. They never got their act back together and while they were finally able to meet the production targets, I heard that it was very high cost and lots of chaos. You can't keep a factory going like that anymore. Years ago, ya. But not now. Never understood what Aetna and GAFFER were looking for I guess. One weekend, transports turned up and moved the fixtures and tooling out. Wow. Guess they were not fooling around, eh? Shipped it all to Asia? This is going to screw up production at GAFFER though. No? They did that? Hmmm. So, let me get this straight, they brought another domestic supplier on stream with a parallel system and are going to use that flow for GAFFER here and the Asian factory is for that domestic market. Wow. And your plant never saw this coming? They did? But thought GAFFER and Aetna were bluffing. What was that quote from that movie, stupid is as stupid does? Days are*

*gone where you can have a crappy process and the customer does not care. Increases the risk too much I suppose. Guess they also did not realize how much some of these companies value collaboration and a team approach. Yep, need joint respect and mutual desire to help each other and survive in this world. I suppose the bosses at your old factory that came in after you retired just wanted to keep doing things the old way. Manage the way they were managed. Yelling and screaming. Threatening and bullying. Beating everyone down, squeezing every last penny. Might show some results in the short term, but it sure isn't a way to run a company if you care about it. There are times you have to spend money to make money. All of that time GAFFER and Aetna spent with them did not seem to do any good. Did give them a chance. Give them credit for trying. Huh? That is a good one. Can't fix stupid. Ya, that about sums it up. Will have to share that one with the wife. She will like that. Can't fix stupid. That is good.*

*Now, that is a good question. Does seem to be a common problem. GAFFER had some of the same issues when I retired. They had trouble supplying different assembly plants at the same time. Lots of problems actually. Was a real zoo at times. Especially when two of the plants wanted changes at the same time. Was brutal. Nancy fixed that though. She had each area streamlined and set up like the instrument cluster. You know, those little factories within a factory. Self-contained. Ya. Focused factories. Removed the cross talk and friendly fire incidents. Allowed each area to focus on its customer without sharing infrastructure and getting into conflicts. Yes. That is true. You have to have enough volume to do that, but they did have the numbers. No. It did not add bodies or costs. It was just a different way of using the same resources. Nancy spent a lot of effort on this and had to turn a few areas upside down, but it worked. Some of the empire bosses were upset as things got rearranged, but they seemed to get over it with time. You are drinking what? Cappuccino? And you were making fun of my latte. You are a piece of work my friend. A real piece of work.*

Did not want to share with Jake too much about the benefits, but our benefits are going to take a big hit because of the plant shutting down. A real big hit. That gossip will be out soon enough. I will actually be looking for a job. Just a few hours a week, but I will need something. Started looking.

Have not heard all of the gory details yet, but there was some conflict between my old plant's corporate office and Aetna. Seems like there were some new ideas and strategies about how to save money in the plants. That

is why the plant was cutting a few corners. They picked the wrong crowd to play with this time. Aetna and GAFFER invoked one of the contract clauses on nonperformance and quicker than you can call for a taxi, the work was outta there. They have a lot of patience for suppliers trying to work with them on the up and up, but know how to deal with a supplier when the supplier is trying to be cute. Our corporate folks thought they were in the driver's seat. Tell the customer what they were going to get. No, it wasn't like that before, but we did get a new CEO and some of the shareholders were expecting lots of bucks in return for his big salary and bonus plan. In any event, his decisions cost them the contract and that was what anchored the plant. Now, no plant. Had some good workers there too. Shame. The owners just did not want to put enough dollars into it so they could supply multiple plants at the same time. Need lots of infrastructure if you are going to do this right. Ya, have heard some managers say that it should not cost more, but it does. Problem occurs when both customers want something at the same time, like a line upgrade or extra attention. Someone suffers in that equation unless you have enough resources to support both. Seems that both GAFFER and another customer wanted attention at the same time. Classic version of Russian Roulette. I wonder if the President will still get his nice bonus this year? I know that the local management kept on asking for more help, but the big guys told them to make do with what they have. Just make it happen.

Sounds like Nancy was able to deal with the same problem at GAFFER, but avoid the same outcome. Doing that focused factory approach is one way to fix the problem. You need enough volume to pull it off, but when you do have the volume and are making money on it, you can do it. Heard that her areas were able to respond rapidly to change too. In product spec and in quantity. Nothing like dedicated support teams if you want to be nimble on your feet. Do not have to fight with other departments for resources.

Knew that Allen was being mentored by a friend of Rosco's. Wasn't sure if he could turn Allen around. Looked at Allen as a real challenge. Oh, a little bird told me that. Decided to let Allen do a real good face plant to wake him up. It would either fix him or kill him. No, only figuratively speaking. Must have taken a lot of patience to fix Allen. Better someone else than me for that job. Allen will make a good ops manager I think. They will keep an eye on him and continue to mentor him. He is not out of the woods yet and they do not want him to revert to old patterns. With Rosco and others watching, that will not happen.

## BEN'S NOTES

The bottom line from the lessons noted down is that good plant management is ultimately measured by the long-term viability of the business and not the short-term pickpocket money that can be earned by cutting costs or firing people that are doing work to sustain the plant. A central theme throughout this book has been management attitude. A plant manager can declare that his problems should be solved by someone else and not by himself only for so long. It takes a long time to get rid of a bad reputation, but it can take a very short time to get rid of a good reputation. When you lose your good reputation, you will likely be ditched. When things are going bad, use all the time you still have to turn around. And turning around is possible, even for the most hard headed among us.

## 19.1 SELF-ASSESSMENT

1. What training do the mentors and mentorees get about the mentoring process?
2. Have you exploited the focused factory concept where you should?
3. How do you handle supporting two or more *dedicated* customers at the same time?
4. Do you allow people to do controlled face planting? Do you do this in a controlled and safe way?

## CHAPTER 20

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# ANOTHER CONTRACT

*Did you hear the news? They bid on another Aetna contract and got that. Did so well with the dashboard that they also got the new truck dash. Going to add a new addition to the old girl. The north parking lot is getting smaller and smaller. Pretty soon, they will be parking across town and busing them in.*

*Should be a pretty smooth process this time around. They learned a lot with that last dashboard and this should have fewer surprises. Buddy says that they might change the line design a bit. Need to add a few more accumulators and change vendors on several robots, but otherwise, same o, same o. Also going to change the sequence of some of the operations and how the sub areas are feeding the main line. No. Most of these ideas came from the floor. Really. That new CI process is working. Ya. It did take time and support from the top, but once the workers realized that management was actually going to do something this time and not just flap their lips like in the past, the workers opened up the vault and provided the gold. Yep, it is easy for the bosses to say things, run flags up the pole, create slogans, buzzwords, and fads of the month. Lots of hot air usually. But Rosco stuck their feet to the fire this time and it just wasn't another feel good exercise. Those sure get old fast. Rah rah rah. Snore snore snore. Was always insulting. Did they think that we were that stupid? OK, perhaps they did. But not all of us were that stupid. Anyway, the workers had a major hand with the changes. Lucia, Allen, and Nancy all dug in and helped the ideas to be fleshed out. Workers also got good bonuses and treats. Saw some of the savings and value come back to their level, not just in the management perks. Even had some ideas from Aetna and some suppliers. They were also looked after.*

*No, still no word on how long Rosco is around for. Wonder what he is waiting for. Buddy says that he does seem to be smiling more than he did when he arrived. Was tense then. Gossip is that Nancy or Lucia could be*



*the next plant manager. Or even Allen. Likely Allen. He's my pick. Most likely to succeed, he is. Showed his stuff. Did a turn around. Time will tell.*

*Next week is when they are closing the doors at your old place, right? Will be a sad day. How many are left in the plant now? Only a dozen or so? Sad. What was the peak count? 800? Back in the 1990s. Won't see those days again. Not likely. Everything is global this. Global that. Designed here. Built there. Shipped to another place. Not sure if I could deal with this situation like I used to. Did most with pencil and paper. Would be hard to do that now.*

*What? Back to your old coffee? Didn't like that foamy stuff on top eh? Well, I still like my latte. Those two hits of espresso get me going for the whole day.*

I think it was clear why Rosco was hanging around. That new line. Some days Jake cannot see the obvious. Rosco and his friends would like to see how the little ones would handle the challenge and be there if they needed help. Would not let them screw up, but there are multiple ways to get to the finish line and it is important to let the new team find their groove.

Jake could be right. Allen might be the next boss. He did make a good comeback and gossip has it that Mr. Big was helping him at times. On the other hand, Lucia got the big line in and working smooth. Many did not think she could pull that off, but she did. I think she was being mentored by Rosco and my daughter. No, she has not said a darn thing. Knows it is not appropriate to talk about that kind of stuff. Wished she would sometimes. Would be nice to know. Suspected something though. She was spending quite a bit of time here and I got the impression that she had adopted someone to help.

Nancy? Not sure if she is in the running or not. She was doing some plant level stuff and did get the HVAC module outsourced. Haven't heard much about her as a strong option. Doesn't look like she has a godfather or fairy godmother. She did the focused factory thing for the subs and also handled the removal of work from my old factory, but otherwise, she is a quiet type. Does not say much. Did show some guts with my old plant. Anyway, smart money is on Lucia and the old gang is rooting for Allen. Got a feeling though. I think that Nancy is a dark horse and might surprise everyone.

It is a bit shocking to see how the workers are now working with management. Did not think that would ever happen at GAFFER. The new line is going to flow nicely. Lots of good ideas there. Shame that this kind of thinking did not exist at my old company's executive suite level. Did once, but the new crowd was pure finance and accounting. No real

manufacturing background. Heard that last month. Everything was based on quick return. Did not know how to invest in the process at the right place or time. Perhaps some of the crowd will get hired on by GAFFER for the new line. Hope so.

That new continuous improvement program is pretty slick. Did not expect empty buzzwords from the brain trust, but it was good to hear that the workers also recognized this to be the case and that things were going to be different.

## BEN'S NOTES

When a turnaround has been achieved, it is incredible what can be achieved with the same team. When treated badly, they turn into 9 to 5 zombies. However, when the lessons described in this book are applied, they will act differently. The team is not a set of individuals anymore—instead, the team members know what to do, what the different people in the team can do, and how to use the right resources in the company. They know each other's strengths and weaknesses. The organization is such that it supports the team in doing their work.

## 20.1 SELF-ASSESSMENT

1. How good of a manager are you? What are your weaknesses? What are your strengths? What are you going to do about it?
2. Do you admit to your weaknesses and discuss them with your mentor?
3. If someone does not understand a memo you wrote or an argument you made and has a hissy fit, what is your first thought? Is it that you might have miscommunicated and that the problem might be yours? Or, do you get all defensive and get annoyed by the person who did not understand your communication and went off the deep end?
4. When you are involved in project planning, do you think about the parts of the plan that go better or worse than expected and try to understand why your expectations were off?
5. Do you regularly scan the time horizon and think about what might be changing in the next week or two, next month or two, next year or two and think about what this means to the factory and risk?



## CHAPTER 21

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# BACK AT THE FACTORY

*Hi Ben, we will have to change our coffee days. Going to do some part time work over at the factory. Ya. They asked me to help out on some new production control policies. Seems someone found some of the memos I wrote a few years ago to Karen that she filed in the bottom drawer. You got it. That was before I turned my brain off. I thought she was interested in improving the place. I was wrong. Anyway, someone found the memos and asked me to do some work with them. They liked some of the risk management ideas I was pitching, before I found it too risky to pitch. Should be fun. No, just a few days a week. Heck no. I am retired. I do not want to work that much. But, I am interested in seeing if my ideas would work and if they are interested, I have the time. Especially if they have the money. Will take me on one of those cruises you seem to like. No more planned? Sorry to hear. Guess you do not get enough with that part time job to make up for the hit you took on the closure.*

*Anyway, that isn't the biggest news. Mr. Fixit is moving on. Yep. Leaving end of this month. And, they just announced yesterday who will be sitting in the corner office. Nope, not Allen. I thought that too. Nope, not Lucia either. Go on. Three more guesses. First two don't count. Yep, it is Nancy. Guess she was a sleeper. Did not show off too much. Kept a low profile. But, she got results and sorted out a number of the messes. Has that strong QA background and from what I hear, Rosco threw her into a number of tasks just to see how she would perform. And, get a bigger view of the show. No, Allen and Lucia seem happy for her. Guess she helped them out a lot behind the scenes and they see her as a strong supporter, not a competitor. Interesting.*

*No. Did not hear where Rosco's going. Likely be some other mud hole. Lots of factories to fix I reckon. Sure, I can get you a tour of the place. Give me a few weeks and then we can do a walk about. I'll introduce you to Buddy. He is now running the instrument cluster area. You're not looking*

*for a bit of work are you? A second part time job? You and him would get along. And, he is looking for some part time help. No, you have to know more than just tying your shoes.*

*Speaking of hard spots, heard some gossip about our friend Raul. Funny ain't it. Comes in, claims lots of experience and talks a lot. Sometimes he actually had some good ideas—remember, he thought about splitting the factory. Not a total fool. But, he just could not get with the program and understand how to work with the customers and suppliers. Also found out later that this was his first plant with this kind of technology and processes even though he claimed to have had LOTS of experience with them. Guess he was in over his head and tried to fake it. His current plant? Oh, it is much smaller, fewer products, one customer. Not doing great. The coffee folks heard that it is on the butcher block too. Profits down, unable to hit the customer targets for quality. If Raul keeps down-sizing, he will be managing a coffee shop next!*

*My treat. Feeling good today. The plant looks like it as a future after all and I do not feel so useless. Yep, a good day. Wish it would stop raining though. Can't have it all.*

Good for Jake. He will have a good time helping out in the old place. Has some good ideas about how to improve production control. Good way to use some of the retired talent. Recognizes their contribution and their knowledge. The young today think they are actually smarter than the older generation. Brain has not changed that much in a few thousand years. People were just as smart. All you have to do is read some of the old writings and look at what made in ancient Egypt or China, and other countries.

Nancy sure was a sleeper—to some. I had my ideas though and am not surprised. If I was a betting man, would have put some money on her. It looked like she was being thrown to the lions fairly often, but I figured she was being tested. Most people in the plant think it was Rosco who was her mentor. Nope. It was the overhaul team lead from GAFFER HQ—John.

Just did it quietly, behind the scenes. John doesn't always work with the next boss, but he usually takes one of the managers for his own personal project. Well, since Rosco and the *fixit* team are moving on, guess I can tell you now. My daughter is one of the overhaul team alumni. She used to work for GAFFER HQ, got there after some time at the plant level, was trained by the team lead, John, same guy who trained and worked with Rosco and Mr. Big. Yep, John was her mentor and trainer. By the way, just heard that my daughter is getting a promotion at Aetna, no longer going to be the plant manager. She has been asked to do the same type of

thing within Aetna that John created at GAFFER. Glad Aetna has a strong relationship with GAFFER. She will likely need the help of John and her other friends to launch this puppy.

Oh sure. There were times she could have throttled John. Was frustrated by him. Did not answer questions, let her make mistakes, and figure out things for herself. Sink or swim. Told her it was spelled *work* and not *summer camp*. Told her that she would have to learn how to think for herself in most situations. Was great training for her I suppose. If you can survive that experience, you are better off for it. But, that is why I was pretty good at guessing what might happen and what was going on. Could not hit everything on the nail, but John's overhaul team has a certain style when they tackle a plant. David (Mr. Big) was the first person to be trained by John. Then, Rosco. My daughter was the third. A few more since then have been through John's training process. Long effort, big investment in time and energy. Doesn't always work, but when it does, it pays off big time.

By having the overhaul teamwork with Lucia (Rosco's target, with some help from my daughter), Allen (David's assignment), and Nancy (John's project) in unison and in a synchronized fashion, the three pupils were guided to help each other and not to explicitly compete with each other at the expense of the plant. Not sure if they were explicitly clued in or not, but it helps to have a team help a team—it is always too big for one person to pull off. As they move forward, they will share a common base that encourages healthy discussion and debate. They will have a mutual understanding of the assumptions and philosophies that anchor the plant's strategies and tactics. If they do well, it is possible that one of them might be picked for John's boot camp at HQ. They are not entitled, they have to earn it.

Has been fun to watch. Did not know if they could pull it off, but when I heard that Aetna had bought part of GAFFER, that gave me hope. Aetna knew about John, David and Rosco and what they were doing at GAFFER HQ and at the local factory. They made the investment based on what they believed the team could do. They wanted my daughter to link in and help create a better bond as well. My daughter thought it was great. Had a chance to work with the guys again and learn some new tricks.

Raul? What can you say. He is one traffic accident after another. I would not trust him with a coffee shop.

Off to a meeting? See ya around. Oh? Did get a better part time job. Did not want to do much with GAFFER. Helping out at Ajax on the HVAC unit for the new truck dash. GAFFER was too close to home. People might think it would be an inside connection, my daughter and all. She

is also helping with some of the bills. Good kid. With her help, we will make out OK and be able to enjoy retirement. Even a cruise or two. I wish that I had had the same chances she has had. Would have made my life different. Having someone like John, or the other two helping me would have been great. Can't say it has been easy for her. Lots of hard work and many frustrating moments. Worth it in the end. My time is past, the future is hers. Take care.

### BEN'S NOTES

Strong leaders usually forget one thing—to make sure there is a successor. Some managers like to make themselves indispensable, to be far better than the rest. Unfortunately, such behavior just stimulates the ego of the manager, not the long-term survival of the plant. Management needs to do management development all the time. Use the ambition that employees have so they will improve themselves and there will be some choice when you leave. Some competition among the candidates is good; make sure they do not overdo this. Create the right expectations and make sure the candidates can still work together even when one of them is promoted—and the others aren't. Good managers consciously hire people better than themselves and do not feel insecure. Good managers work with people smarter than they are—to learn and improve. Lesser managers like to hire people not as smart and work with people they can dominate.

## 21.1 SELF-ASSESSMENT

1. Are you like one of the overhaul team, or like Raul and Saeed? Do you have managers like Karen or Allen? Lucia? Nancy? Do you support and help the ones you should be helping?
2. Is your plant going to be like Ben's old plant or GAFFER?
3. Do you measure twice, cut once?
4. Can you honestly say that you consciously and regularly think about managing and how to improve your managing? Improving the management skills of the ones you manage?
5. Do you practice holistic waste management? Do you perform Kaizen on your front office, the infrastructure, and your own office?
6. Do you have a mentor and use them?

## CHAPTER 22

---

# SOME LAST THOUGHTS

Well, that is about it. Perhaps one hundred or so ideas to think about for your factory. Could have done a book per topic or at least a long, boring chapter on each. We thought it was important to share all that we know and show how ideas work together; the story providing context.

Not all of the specific ideas make sense for all factories. The general themes should. We did not invent them. We are not that smart. We merely learn and share. The ideas need to be interpreted in each factory and sometimes when we are asked if such and such idea will be useful in someone's factory, the first answer is *we do not know*. Depends on the factory. In some cases, the general concept can be used in a manual way and not automated. In some cases, the core processes must be fixed before the idea can be applied. In other cases, the idea requires a high volume low mix profile and the situation has the reverse. And so on, and so forth. We hope that we have given you sufficient inspiration and context so that you can take it from here.

We do know that there is no, single magic bullet. We also know that you should understand the assumptions, necessary conditions, strengths, and weaknesses of any idea or tool before using them. We have seen too many cases where a method is not right for the job or is incorrectly implemented. Often the method is blamed in these cases instead of looking in the mirror for appropriate responsibility and accountability. If you choose a method or tool, you are responsible for understanding it. It is like the fools in the 1980s who thought that you only had to use Kanban cards to capture the essence of Toyota's method. Great factories have a culture and many practices that come together for success. It is never just one person or one method.

Over the years we have been fortunate to work with some very good factories and many bad factories. You can learn quite a bit from the weaker situations, but they become frustrating when you see so many and no real



improvement over the years. There is too much myopic and short-term thinking for our liking. There is also a shortage of thinking things through. There is too much influence from the quick gamblers on Wall Street who pretend they are investing; their strategies are not good for industry. And, there are too many managers who are pirate like, stealing from the shareholders and workers for their own, unjustified gain.

This stuff is not rocket science. Mostly, it is just common sense and hard work. There is no magic and you cannot be a lazy thinker. Many years ago, we saw and cannot remember where, but the phrase was something like “if common sense is so common, why is the lack of it so often lamented?” The following three chapters summarize our main themes.

## CHAPTER 23

---

# TEAMWORK

In our story, we have given many examples of teamwork. Teamwork between supply chain elements, teamwork within a plant, and teamwork within the company. Teams helping teams. Teams must be both vertical and horizontal with team members bridging the old boundaries of blue and white collar. There should be no distinction and leaders must also be team players.

Different plants are members of the same team and should help each other and work together for the larger success. Same as departments in a factory are on the same team. We probably need new incentive models to encourage more team play. It is possible and has been done in the past.

Many firms already do many kinds of teamwork and some are conscious, some are not. We believe that teamwork must be consciously thought about and nurtured. New opportunities to help each other must be looked for and undertaken. Do not be shy nor avoid asking for help. There is no shame in acknowledging the need for help and getting help from a team member. At a professional level, there is shame when you should ask for help and do not. Everyone needs help at some time. Ask for help when you need it and provide help when you are asked. Unfortunately, we have developed cultures and organizational designs that do not encourage or support teamwork. Yes, there are concurrent engineering and product development teams, and there are Kaizen improvement teams, but this is only the tip of the iceberg of possible team play.

Teamwork and helping does require a higher minded view from management. There must be some extra capacity throughout the system so that help can be given. There must also be incentives to encourage greater teamwork and to break old habits. We believe that the returns from helping, while hard to quantify, will far exceed the cost of the spare capacity. Imagine the knowledge sharing, building communication channels, and avoiding unnecessary and costly errors. It is always hard to quantify risk

management. Think about the problem times in your factory or business. Think about how possible team work and help might have been used to avoid a bad situation or control the damage. Think about when you have had good teamwork and what the benefits were. The accountants might not like the answer, but we suspect that you will easily understand how greater teamwork would make your own company and supply chain stronger. This will require true leadership from the top down.

## CHAPTER 24

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# WASTE AND RECLAMATION

There has been a great deal of effort applied to reducing waste in direct processes and the supply chain for the past few decades. There are also great efforts in making products more energy efficient and being designed to be recycled—the process of being recycled, the materials that are used, and noninvasive ideas like laser etching of information instead of a label—avoiding the material in the first place. These are all good practices and need to be encouraged and incorporated in product design, product manufacturing, and factory design.

We are also concerned about a different type of waste. We see too much waste when a factory is closed down and workers removed from the books. We also see lots of waste when the knowledge and skill of current workers is not used. We do not think that sufficient attention has been given to the direct and indirect waste that is generated in these cases. That is why in the story we talk about how to overhaul a factory and how to reinvent workers. It is hard to quantify what is lost and the human and cultural loss is not concrete like a kilogram of metal. Of course, not all plants or workers are worth saving and losses must be controlled in these cases. However, corporations should have plans and methods for rejuvenating factories and management, and use them when appropriate. We see too many plant closures. Imagine how much knowledge and skill is lost? What a waste!

Care must be taken when upgrading plants and their processes. If the equipment you are retiring or switching out is fundamental to your secret sauce or core processes, best to destroy it and not try to recoup some of the investment by salvaging it. If you sell your slightly old and slightly used to someone, you are basically setting up a competitor who can zone in on your sweet spot. They will not have past customers and past service to deal with. They might also start with new employees and they will not have to worry about pensioners, legacy benefits, and similar. They can hit

the 20 percent of your product line that makes 80 percent of your profit. The accountants will want the equipment sold off, but this is very short sighted.

The human capital element has the same issue. If you lay off or terminate skilled workers, what might happen? They will likely be hired by your competitor and your former skilled factory workers will help your competitor close the gap in processes, methods, and quality. There have been many examples of this over the centuries and you cannot blame the workers. They must eat, provide shelter, and live. If you do not want their skills, others will. Do not be surprised. This pattern of companies aiding or creating their competition has occurred for at least three centuries.

So, waste collection, rejuvenating, and upgrading must be carefully done and you have to consider all kinds of waste, not just manufacturing, direct waste. You will also have waste after you stop a relationship with a supplier. You have built up communication, shared knowledge, and many other things. Some companies know about this potential waste and create long-term structures with key suppliers. Waste also occurs when you have to find a new customer. Less effort and waste to keep the customers you have. Yes, add new ones, but you should also care about the ones you have.

There are many types of waste that people do not talk about or recognize. Look at what you have and what potential it has. Whenever you are about to lose something or terminate something, also think about what might be lost.

## CHAPTER 25

---

# MENTORING

This is our third theme for the book. Teamwork is about how you can use what you have and how to use it better. Waste and reclamation is about how to reduce your knowledge, intellectual, and cultural losses. Use it better, waste less. The mentoring theme is about how to create and use some of the organizational skill, intellectual capital, and culture you have in your company. You cannot succeed just by using better and avoiding waste. You also have to grow and invest in growth.

The strategic mentoring we advocate at the facility level uses a team approach; the team working on learning and growing the factory's cognitive capacity and assets. It is not just about the actual products and processes in the factory. It can be that, but it is also more than that.

As noted in the story, there are several elements to successful mentoring. The mentor must know how to mentor. The mentor will need a mentor and will need training and guidance on how to mentor. That is the first thing. Second, they must be able to work with a target and if necessary help them learn how to be mentored. Do not take these for granted. Not everyone can mentor and not everyone understands how to work with a mentor.

The mentor must have the support and help of the company and other mentors. It is not a single person activity. For example, does the company have a fund and budget that would allow the mentor to take the mentoree on a little field trip or visit to a museum for discussions? Will a part of their workload include this time, or do they have to find time before work or after work? If the company does not value the process, do not expect to have any great results. You might get lucky with some of the cases, and you might get some lightweight training done, but you will not get the full benefit of mentoring.

The mentoree must also have a peer group, and get and give help to the peers. The peer group must understand that everyone should try

something for themselves first. The peers should not just jump in at the first opportunity and solve the problem. You might be able to do it quicker and better, but that might not be the plan. The mentor might have given more time and the activity might not be on the critical path. The mentor might know what they are doing (not always, but they might occasionally). The mentoree must be allowed to take risks, fail, and learn from their mistakes.

# CAST—IN ALPHABETICAL ORDER

- Aetna
  - Automotive manufacturer, multiple assembly plants
  - Possibly a new customer of GAFFER factory
  - Chapter 2
- Ajax
  - HVAC factory down the road from the GAFFER facility
  - Chapter 4
- Allen
  - Manager of the tool crib at the GAFFER factory
  - Being considered to be the Aetna line manager if GAFFER gets the contract
  - Chapter 4
- Ben
  - A retired planner at a factory supplying parts to GAFFER factory
  - The oracle or interpreter of Jake's tale
  - Chapter 1
- Ben's Daughter
  - Is plant manager somewhere
  - Chapter 13
- Bill
  - Long time operations manager at GAFFER factory
  - Chapter 2
- David
  - Mr. Big
  - Chapter 19
- Fabride
  - A supplier to the factory where Ben worked
  - Moved, outsourced a whole subassembly line
  - Chapter 6



- Fran
  - Union steward at GAFFER, friend of Jake
  - Chapter 6
- GAFFER—local plant
  - Aging factory in the middle of the automotive supply chain, undergoing a transformation
  - Part of the GAFFER division, which is part of a larger international corporation
  - The GAFFER division is headquartered in the UK
  - Chapter 1
- Jake
  - Retired Master Scheduler at GAFFER factory
  - The story teller
  - Chapter 1
- Jasmine
  - Worked at Fabride
  - Chapter 6
- Jennifer
  - Quality control inspector at the factory Ben worked at
  - Chapter 2
- Jochen
  - Worked at Fabride
  - Chapter 6
- Joe
  - Old friend of Ben's who worked at a factory that tried to split apart and failed
  - Production manager at that factory, now looking after the night shift at the GAFFER factory
  - Chapter 3
- John
  - The overhauling guru at GAFFER HQ—trained Rosco, Mr. Big, others.
- Karen
  - Manager of production control at GAFFER factory
  - Long time GAFFER factory employee
  - Chapter 2
- Lucia
  - Area manager of a submodule area for the assembly line at the GAFFER factory
  - A recent hire from outside, several years of experience at the GAFFER factory
  - Chapter 4

- Mike
  - Former plant manager of GAFFER factory
  - Chapter 2
- Mr. Big
  - Senior executive at GAFFER corporate, vice president (VP) for the division
  - Boss of Raul and Saeed
  - Chapter 6
- Nancy
  - Current quality manager at GAFFER factory
  - Recently hired from outside of GAFFER
  - Chapter 2
- Ralph
  - Millwright in the GAFFER plant, a friend of Jake's
  - Chapter 5
- Raul
  - New plant manager of GAFFER
  - Long time GAFFER corporation employee
  - Chapter 2
- Rosco
  - New plant manager at GAFFER
  - Brought in from corporate
  - Chapter 9
- Saeed
  - New VP of GAFFER factory from a European competitor
  - Chapter 2
- Sally
  - Former quality manager at GAFFER factory
  - Chapter 2
- Sam
  - Worked in shipping at the factory Ben worked at
  - Chapter 2



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**Kenneth N. McKay • Vincent C.S. Wiers**

Hello, I'm Jake, a retired production planner. I've been talking to my coffee mate Ben about the factory where I have spent the better part of my life. Believe me, I have seen things go well and even more go very wrong. I'm outside the gate now, but the grapevine is keeping me up to date. Which is why I know that the factory is heading into oblivion, as management does not seem to understand common sense principles and they are testing the patience of their main customer. But wait, things look like they might change when new management is brought in. This new plant manager might change things around, and thanks to my old friends we can keep on top of things. Do you want to hear my story?

The concepts imbedded in the factory's journey capture the leading practices in progressive and proactive management. The common sense concepts embody the philosophy of collaboration, shared fate, mutual respect, and leveraging the intellectual capital that exists in each and every factory. This book is for you if you want your factory to survive and thrive!

**Kenneth N. McKay** is a professor of management sciences at the University of Waterloo, Waterloo Canada. He has several decades of research and consulting experience in manufacturing management including such topics as Lean, quality processes, supply chain management and production control. Since 2003 he has been focusing on Japanese manufacturing management techniques and the next stage in Japan's manufacturing journey.

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