No Excuses Management

by T.J. Rodgers

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How Cypress's management systems let executives monitor performance, anticipate problems, and intervene selectively – without layers of bureaucracy.

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If everyone in our company made ordinary business decisions in a commonsense way, we would be unstoppable. It turns out that very few people, at our company or anywhere else, make ordinary business decisions in a commonsense way. Most companies don't fail for lack of talent or strategic vision. They fail for lack of execution – the mundane blocking and tackling that the great companies consistently do well and strive to do better.

At Cypress, our management systems track corporate, departmental, and individual performance so regularly and in such detail that no manager, including me, can plausibly claim to be in the dark about critical problems. Our systems give managers the capacity to monitor what's happening at all levels of the organization, to anticipate problems or conflicts, to intervene when appropriate, and to identify best practices – without creating layers of bureaucracy that bog down decisions and sap morale.

Lots of companies espouse a "no surprises" philosophy. At Cypress, "no surprises" is a way of life. We operate in a treacherous and unforgiving business. An integrated circuit is the end result of a thousand multidisciplinary tasks; doing 999 of them right guarantees failure, not success. Last year, we shipped 159 different chips (56 of which were new in 1989) in 7 distinct product categories using 26 different process-technology variations. This year, we plan to add another 50 products to our portfolio. Our watchwords are discipline, accountability, and relentless attention to detail – at every level of the organization.

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How do we measure success at Cypress? By doing what we say we are going to do. We meet sales projections within a percentage point or two every quarter. We don't go over budget – ever. Our silicon wafer manufacturing plant in Round Rock, Texas, which now accounts for 70% of our sales, shipped its first revenue wafer eight months after ground breaking. That performance tied the industry record, which had been set in 1984 by our manufacturing facility in San Jose.

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Some who learn about our systems raise the specter of Big Brother or use terms like "electronic treadmill." This is nonsense. Our management systems are not designed to punish or pressure; people put enough pressure on themselves without any help from me. The systems are designed to encourage collective thinking and to force each of us to face reality every day.

At Cypress, we collect information in such detail and share it so widely that the company is virtually transparent. This works against the political infighting and bureaucratic obfuscation that cripple so many organizations. People at Cypress disagree vigorously on many things; in our management meetings, people of any rank are free (and eager) to challenge senior executives. But we disagree over substance and the best ways to make the hardheaded trade-offs that are the essence of management. Nobody gets ahead by using information selectively to win internal battles.

Technological change drives the semiconductor industry, and several of our management systems help us make decisions about technology assessment and product development that are quite specific to our business. But most of our management systems (and certainly the most important ones) address the universal challenges of business – motivating people to perform effectively and allocating resources productively. To succeed over the long term, we have to do at least four things better than our competitors:

1. Hire outstanding people and hold on to them.
2. Encourage everyone in the organization to set challenging goals and meet them.
3. Allocate key resources (people, capital, operating expenses) so as to maximize productivity.
4. Reward people in ways that encourage superior performance rather than demotivate superior performers.

Before I describe several of our most important systems, let me make three points. First, I don't use the word *systems* loosely. Each one involves holding specific meetings, maintaining databases, submitting specific reports, and securing approvals. For example, managers grant raises by using a software package that takes them step-by-step through the required performance-evaluation procedure, recommends salary increases that they can modify within limits, and alerts them if their final decisions violate company policy. A few of our systems virtually run themselves. We've developed a set of computer applications that automatically shuts down a manufacturing operation if it detects that performance has violated a critical procedure. Dubbed "killer software" by our MIS group, these applications have inspired dramatic performance improvements in our factories, and we are transferring the concept to administrative functions such as order entry and accounts receivable.

Second, we don't confuse systems with bureaucratic planning. In our business (and, I suspect, most businesses), five-year plans, even one-year plans, are obsolete 60 seconds after they are written. So we have plans, but we don't become enslaved by them at an unrealistic level of precision. Our annual marketing forecasts are probably 95% accurate, with respect to total revenues for each of our product lines. For groups of products within each line, the plans may be 70% accurate. For individual products within groups, it's not that unusual to be off by 100%.

At the same time, we are absolute sticklers about meeting quarterly revenue and profit targets. Precisely because we understand that detailed long-term forecasts are so unreliable, we track product shipments and revenues on a *daily* basis, evaluate how they measure up against the plan, and identify what adjustments we have to make to meet the plan in the aggregate. We worry less about meeting product-by-product forecasts than about reacting instantaneously to unforeseen competitive developments.

Our "killer software" automatically shuts down a manufacturing operation if it violates critical procedures.

Finally, top management cannot manage without a thorough mastery of the details of its business. To my mind, no CEO can claim to be in charge of the organization unless within 15 minutes – and I mean this literally – he or she can answer the following questions. What are the company's revenues per employee? How do the figures compare with the competition's? What are the revenue-per-employee figures for each of the company's leading product lines? What explains recent trends in each line? What is the average outgoing quality level in each product line? How many orders are delinquent? Which of the company's top 20 executives are standouts, which are low performers, and why? Which departments could recover from a major competitive shock, and which are vulnerable to change? What are the yields, costs, and cycle times at every manufacturing operation? What explains the company's stock market valuation relative to its competitors'?

By now, I suspect, readers are ready to protest: Isn't this a formula for "micromanagement" by the CEO? Won't top executives get lost in the thicket of details and lose sight of broader strategic imperatives? Being in command of detail *doesn't* mean interfering where you don't belong. Collecting information, reviewing it regularly, and sharing it widely allows me to practice management by exception in the truest sense. So long as we stick to our systems, this organization virtually runs itself. I intervene only to solve problems and champion urgent projects.

How to Hire Outstanding People

Great people alone don't guarantee corporate success – but no company can succeed without them. Sounds like a truism, right? Yet how many companies are as scientific about hiring as they are about designing new products or perfecting the latest market-research techniques? Hiring is one of the most bureaucratic, passive, and arbitrary parts of corporate life. The day we founded Cypress we understood that our greatest proprietary advantage would be to do a better job of hiring than the big companies against which we would compete. We think we've sustained that advantage.

Cypress now employs more than 1,400 people. Our philosophy of hiring (and the system that puts the philosophy into practice) hasn't changed much since we founded the company in 1982. I know the entire organization is implementing the system because no one can bring in a new employee, no matter the rank, without submitting a "hiring book" that documents the entire process and gives comprehensive results of interviews and reference checks. Until we reached 400 employees, I read every one of those books before we made a job offer. I now share that task with six other senior managers. In no more than 15 minutes, with no verbal communication whatsoever, one of us can determine whether or not a hiring manager has followed our procedures. When the system has been followed, we make the hire. When it hasn't, we don't.

Recently, for example, one of our vice presidents submitted a hiring book that violated a cardinal rule not to offer big raises to job candidates. His explanation was familiar: "At my old company, we had to give big raises to convince people to sign on." My response was unequivocal: "We've hired 1,400 people with this system. Is there any reason we can't hire number 1,401 the same way?" The vice president resubmitted the hiring book two weeks later, and it still contained an out-of-policy raise. To emphasize my point, I tracked down a big pair of scissors, cut the book in half, and mailed it back to him. He now does it right the first time.

The hiring book serves another purpose. When people don't work out, it helps us go back and evaluate what went wrong. Hiring the wrong people is a very expensive mistake. We give no raises to about 3% of our employees every year, a sign that they are low performers. This company would die if 3% of the products we shipped were defective. We strive for 100% quality in manufacturing; we have the same goal for hiring. In many cases, when an employee leaves because of poor performance, we send his or her manager the hiring book, ask how we might have spotted the problem earlier, and use the departure as an opportunity to improve our hiring procedures.

Three strongly held beliefs drive our hiring system. First, the only way to hire outstanding people is for managers themselves to find the people they need. Hiring, like most everything else in business, is an acquired skill. The more people you interview, evaluate, and select, the better you get at interviewing, evaluating, and selecting. Thus if 1 of my 12 direct reports (8 vice presidents and 4 subsidiary presidents) is authorized to hire a new manager, or 1 of our 72 managers is authorized to hire an individual contributor, it is up to *that manager*, not the human resource staff, to locate desirable candidates, prescreen them before they enter the formal evaluation process, and monitor the process as it unfolds. We make almost no use of executive recruiters. The human resource department plays a modest role in suggesting candidates but no role in evaluating them. Indeed, prospective employees don't see anyone in human resources until they report to work and fill out their insurance applications.

Most companies – and certainly most big companies – do just the opposite. Managers sit behind their desks and wait for personnel to parade candidates through their office. Of course, personnel is never as motivated as the hiring manager is to fill an open slot. As the hiring schedule falls behind, the manager grows increasingly desperate and makes an offer to the first warm body that meets rudimentary requirements. This approach guarantees that the quality of the company's work force will nicely (and disastrously) mirror the quality of

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the available labor pool. The organization drifts toward average.

In our system, managers have only themselves to blame if they can't fill open slots. After eight years, we have a good feel for the employment "hit rate." It takes ten prescreen telephone interviews to find one person good enough to qualify for the formal evaluation process. We make offers to about 25% of the people who go through our evaluation, and about 85% of the people to whom we make offers accept. If our managers do their math, they quickly understand that quality hiring takes a lot of work. They'll need to make about 100 telephone calls to find two great people. By the way, if they don't fill their open slots by the end of the quarter, they lose the hiring requisition and have to justify the new position again.

Another weakness with most companies' passive approach to hiring is that executives lose touch with the job market. Regular interaction with the job market provides insights on marketplace dynamics. A few years ago, in a memo explaining our hiring system to a new top manager, I wrote down what I had learned as a result of my own job-related calls and interviews. For example, people didn't like Intel's 8 A.M. sign-in policy, which the company has since eliminated. Intel and National Semiconductor were paying 15% premiums to layout designers on the night shift while Cypress paid none. But most layout designers cared less about shift differentials than about the kinds of chips they were designing. The market value of plasma engineers ranged from $20,000 a year to $50,000 a year, with little variation of price with quality. The list could have gone on for several pages.

We have a second inviolate principle of hiring: We don't buy employees. This is uncommon in Silicon Valley, but it serves as an excellent screen. Someone who will join Cypress for a few percentage points more in salary or a better dental plan is not the kind of career-oriented person we want. Good people want to be paid fairly, in a way that reflects the organization's success over the long term. They are rarely concerned with earning an excessive amount of money relative to their peers. What drives them is the desire to win.

Until 1986, therefore, we had a very simple policy: A candidate who had received a raise from a previous employer within the last four months came to Cypress without a raise. We now offer an 8% prorated increase, but the basic premise holds. We do not bid for great talent; people with great talent come to Cypress because they want to win. Members of our team are rewarded with stock options and the highest percentage raises in the industry. Everyone at the company, from the receptionists to the CEO, participates in an aggressive stock-option program. (We recently repurchased two million shares to fund that option program.) As for raises, our formal policy is to survey the competition, calculate the average of the three companies that grant the highest raises and add one-half a percentage point or more to determine the Cypress raise budget.

We have a third principle: The interview and evaluation process should be tough, fair, and expeditious. Quality interviewing is the most important part of the hiring process – and something most managers are terrible at. We've developed several interview techniques to keep these sessions productive. (See the insert "The Science of Interviewing.") Although the interview and evaluation process is demanding, it need not take forever. There's no reason a manager can't prescreen a candidate by telephone, bring him or her in for two rounds of interviews, and make an offer within one week. We're not there yet; we meet the one-week target about 75% of the time. We also expect the hiring manager to be in *daily* contact with the candidate as the process unfolds.

Set Goals – Then Measure and Meet Them

All of Cypress's 1,400 employees have goals, which, in theory, makes them no different from employees at most other companies. What does make our people different is that every week they set their own goals, commit to achieving them by a specific date, enter them into a database, and report whether or not they completed prior goals. Cypress's computerized goal system is an important part of our managerial infrastructure. It is a detailed guide to the future and an objective record of the past. In any given week, some 6,000 goals in the database come due. Our ability to meet those goals ultimately determines our success or failure.

Most of the work in our company is organized by project rather than along strict functional lines. Members of a project team may be (and usually are) from different parts of the organization. Project managers need not be (and often aren't) the highest ranking member of the group. Likewise, the goal system is organized by project and function. In Monday project meetings, employees set short-term goals and rank them in priority order. Short-term goals take from one to six weeks to complete, and different employees have different numbers of goals. At the beginning of a typical week, for example, a member of our production-control staff initiated seven new goals in connection with three different projects. He said he would, among other

The Science of Interviewing

You can't hire quality people without a systematic approach to interviewing. Four basic rules guide our interview and evaluation process.

1. *Use the big guns.* If you want job prospects to know that you are serious, high-ranking executives should take the time to get involved in the interview process. At Cypress, all candidates for exempt positions, whether or not they are senior enough to report to vice presidents, interview with two vice presidents. I interview all candidates who would report to vice presidents as well as many important individual contributors who report to managers. This is the technique Jerry Sanders used on me when I was considering joining Advanced Micro Devices. The first day I walked in the door, the receptionist in a building of 2,000 people smiled and said, "Oh yes, Dr. Rodgers, Jerry is waiting for you." She took me right upstairs – no waiting in the lobby – and our session began. That's the way to communicate to job prospects how valuable they are.

2. *Make interviews tough and technically demanding – even for people you know you want.* We are a hard-charging company in a tough business and have a no-nonsense way of communicating. People should know that before they sign on. At the beginning of the evaluation process, candidates receive a form that lists the technical skills the position requires, with whom they'll be interviewing, and the questions they will be asked. This focuses the interviews and alerts the candidates to how rigorous the sessions will be.

After several "technical" interviews and the interviews with two vice presidents, candidates go through what we call the "pack of wolves" session. The applicant sits in a conference room where senior technical people pose difficult questions that the candidate does not know in advance. Some of the questions are virtually impossible to answer, and they come in rapid succession. When the candidate makes a mistake, the interviewers point it out and give the correct answer. The tone of this session is aggressive but not abusive. It is an excellent way to weed out qualified managers and engineers who can't take the pressures of our business.

3. *Interviews should lead to detailed assessments of strengths and weaknesses, not vague impressions.* Our interview evaluation forms include numerical scores (on a scale of zero to five) that mirror the technical qualifications on the requisition. Our people are tough graders. I also insist that the hiring vice president write an interview strategy before my session with a managerial candidate. That strategy highlights the specific strengths and weaknesses of the candidate, particular concerns he or she has expressed about the job or the company, and other critical issues. I'm not reluctant to share the numerical evaluations with a candidate, especially one who has been assessed as weak in a particular area. This candid feedback is usually a positive experience. Good people know their weaknesses and are eager to improve them.

4. *Check for cultural fit.* Most companies claim to do this, but few are very systematic. We probe work attitudes and career goals through a questionnaire that requires brief but direct answers to open-ended questions. The questionnaire forces candidates to be as specific as possible about hard-to-quantify issues that are addressed only obliquely, if at all, in most evaluation processes. Among the questions are: How is the morale in your company or department? Why? What do you expect Cypress has to offer you in the way of a work environment that your employer doesn't offer? What would your boss say is your best attribute? What would the "needs improvement" section of your performance review address? Can you describe your personal experience with a difficult boss, peer, or subordinate?

things, report on progress with certain minicomputer problems (two weeks), monitor and report on quality rejection rates for certain products (three weeks), update killer software for the assembly department (two weeks), and assist a marketing executive with a forecasting software enhancement (four weeks).

On Monday night, the project goals are fed back into a central computer. On Tuesday mornings, functional managers receive a printout of their direct reports' new and pending project goals. These printouts are the basis of Tuesday afternoon meetings in which managers work with their people to anticipate overload and conflicting goals, sort out priorities, organize work, and make mutual commitments about what's going to get done. This is a critical step. The failure mode in our company (and I suspect in most growing companies) is that people overcommit themselves rather than establish unchallenging goals. By 5 P.M. Tuesday, the revised schedule is fed back into the central database.

This "two pass" system generates the work program that coordinates the mostly self-imposed activities of every Cypress employee. It allows the organization to be project driven, which helps us emphasize speed and agility, as well as functionally accurate, which works against burnout and failure to execute. On Wednesday morning, our eight vice presidents receive goal printouts for their people and the people below them – another conflict-resolution mechanism.

In the early days of the company, until we hit about 100 employees, I read every employee's goals every week. I knew what every person in the company was doing on a week-to-week basis. That's not the role of the CEO in a company with more than 1,400 people, so my approach to the goal system has changed. Today my job is to anticipate problems, largely by sorting through the goal system looking for patterns. I use the system as a kind of organizational speedometer that not only tells me how fast we're traveling but also helps explain what's holding us back.

On Wednesday afternoons at my weekly staff meeting, I review various database reports with my vice presidents. We talk about what's going wrong and how to help managers who are running into problems. The following reports typically serve as the basis for discussion: progress with goals on critical projects; percentage of delinquent goals sorted by managers (their goals plus those of their subordinates); percentage of delinquent goals sorted by vice president (the percentage of pending goals that are delinquent for all people reporting up the chain of command to each vice president); all employees without goals (something I do not tolerate); all goals five or more weeks delinquent; and all employees with two or more delinquent goals, sorted by manager.

As we've refined the goal system and used it more extensively, I've developed some general principles. First, people are going to have goals they don't achieve on time; the key is to sense when a vice president or a manager is losing control of the operation. My rule of thumb is that vice presidents should not have delinquency rates above 20%, and managers should not let more than 30% of their goals become delinquent. When managers do have a delinquency problem, I usually intervene with a short note: "Your delinquency rate is running at 35%, what can I do to help?" I often get back requests for specific assistance. Part of my role is to hold people accountable. But it is also to identify problems before they become crises and to provide help in getting them fixed.

Second, people need positive feedback. Every month we issue a Completed Goal Report for every person in the company. The report lists all goals completed over the past four weeks as well as those that have yet to come due.

The completed goal report is also a valuable tool for performance evaluation. Like most companies, we use annual reviews to set salary increases. The trouble with annual reviews is that managers succumb to the "proximity effect." An employee who performs outstandingly for the first ten months of the year but has a subpar two months just before the review is more likely to get a poor evaluation than is a colleague who had a lousy ten months but did a great job in the two months just before the evaluation. At Cypress, the completed goal report triggers a performance minireview; every month managers read through their people's printouts and prepare brief, factual evaluations. At year end, managers have a dozen such objective reviews to refresh their memories and fight the proximity effect.

The goal system doesn't require big computer investments. I used to manage it with a blackboard.

It's important to note that the goal system does not require big investments in computer hardware and software. Indeed, we have no equipment dedicated exclusively to the goal system. We use personal computers and a DEC minicomputer that also handles the company's administrative tasks. The software is Lotus 1-2-3 and Paradox – two of the most common microcomputer applications. Much of the system still runs on "sneakernet" – people pass disks back and forth rather than use networking systems, although we are in the process of networking the entire company more effectively.

Indeed, I developed the goal system long before personal computers existed. It has its roots in management-by-objectives techniques I learned in the mid-1970s at American Microsystems (AMI), where I ran the random access memory (RAM) group.[1] Back then my hardware was a blackboard, and my software was chalk. In a typical year, we would develop as many as ten new chips, and tracking each project became a nightmare. So I got a blackboard, wrote down everything that had to be done before each

1. Several of Cypress's systems are enhancements of best practices among our competitors or companies with which our executives have been affiliated. For example, the goal system traces its origins to management-by-objectives techniques I learned from former AMI chief executive Glenn Penisten, who brought them over from Texas Instruments. Our expense-control system draws on techniques practiced at Mostek.

product could ship, and attached names and due dates to each task. My update routine was an eraser.

After I left for Advanced Micro Devices (AMD), where I was responsible for RAM manufacturing as well as design, it became a bit harder to keep score. So I covered my walls with blackboards, used masking tape to divide them into project panels, and transported the system from AMI. Once a week, my assistant would wheel in an electric typewriter, record the schedule, and send it out to the troops. If people in my organization wanted to know where things stood, all they had to do was come into my office and look at the blackboards.

The Cypress system is just an enhanced, electronic version of what I've been doing for 15 years. The computer record on each goal includes a description of the task, when the goal was set, when it is due, what priority it is, who has agreed to complete it, to what manager that person reports, and to what vice president the manager reports. We are now enhancing the system by recording long-term goals (which we call "strategic" goals) and all quality-oriented goals. Of course, recording that information means I can sort by each of those fields and create special-exception reports. With a few keystrokes, I can check on the performance of any one of my vice presidents, see how a manager is relating to subordinates, or check on the progress of a particular project.

No one can accuse me of not "knowing the details" of my business. Yet I don't have to intervene where I don't belong or try to be in a hundred places at once. The goal system provides warnings when something goes wrong and offers instant access to data in any area that I am concerned about. I'm a big advocate of management by walking around, and I regularly block out time on my calendar to visit our facilities. The goal system lets me practice MBWA all the more effectively. By sorting through the database and following up with telephone calls, I can get up to speed on an operation before I arrive.

I don't want to give the impression that the goal system is strictly a support mechanism. It does give me the ammunition I need to cut through bureaucratic obfuscation. My access to the details means vice presidents and managers know they can't snow me. For example, we recently shafted a valued customer by delivering an emergency shipment of parts one day late. (I learned about the problem because every officer at Cypress is "godfather" to one strategic customer and I happened to be godfather to this customer.) I spent 15 minutes at my computer screen reviewing relevant goal reports and data from a few other systems. With a follow-up telephone call or two, I discovered what went wrong. Shipping was overloaded on the day the parts were scheduled to go out; the parts were not marked as a "JIT order," so they weren't shipped immediately. By the time the department shipped the parts, they were a day late. With another call, I learned that certain people in marketing did not understand the shipping department's priority system. I called the relevant people into my office and asked them to change our procedures so that the problem would never happen again.

Individual Monthly Goal Report

Workweek	Date	Manager	Dept.	Project	Begin	End	Delinquent	Status	Who	Goal
8945	11/08/89	RF	310	OPLN	35	45		C	GB	DEFINE DIE KIT REQUEST QUEUE TIME; REQUEST SCREEN [DEV/PKG/GRADE]
8945	11/08/89	RF	310	OPLN	38	45		C	GB	KILLER FOR PURCHASING: SHUTDOWN PURCHASING IF RECEIPTS LATER THAN COMMIT
8945	11/08/89	RF	310	OPLN	40	44	45	C	GB	TURN ON KILLER SOFTWARE FOR "IQA"
8945	11/08/89	RF	310	OPLN	41	45		C	GB	ACTION REQUEST #3561: SCHEDULE FOR REMOTE ORDER ENTRY
8945	11/08/89	RF	310	OPLN	44	45		C	GB	IGNORE 7C34x DEVICES IN THE KILLER FOR SORT
8945	11/08/89	RF	310	OPLN	44	45		C	GB	PRINTOUT OF 3Q89 SHIPS FOR RF
8945	11/08/89	RF	310	OPLN	44	45		C	GB	PUBLISH WEEKLY MIS SUMMARY
8945	11/08/89	RF	310	OPLN	44	45		C	GB	VERIFY THAT FAB 2 SHIPREVIEW DATA IS UPDATED (NOT SINCE WW33)
8945	11/08/89	RF	310	OREN	44	45		C	GB	TRAIN MARKETING ON ED1 FORMS AND GETTING CUSTOMERS INTO SYSTEM

This excerpt lists all the goals one production-control staffer completed in workweek 45. The entire report consisted of 49 completed and pending goals.

NOTE

This case continues, but for the purposes of our program, what you have just read is all that is required.