We are seeing a renaissance of interest in culture and values in business these days\(^1\), which I view as another example of nature abhorring a vacuum: Culture and values are coming into focus now because we simply haven't given them much consideration in recent times. While revelations about errant companies and company officers continue to multiply, those who have hewn to the true path seem to be forgotten. It's always that way: The foibles and follies of rascals sell newspapers and media air time, and the honest folks don't get much publicity—even if they represent the majority.

_In this piece, we'll delve into the relationship between "culture" and "values." I'm proud to work for a company that has a strong culture, coupled with the right values. But this is not an accident. In mapping out the territory from my own perspective, it goes without saying that my own set of values aligns pretty closely with those of Rational; otherwise, I would not have spent more than sixteen years here._

We'll start by examining what a culture is and then see how values play into defining and supporting culture.

**What Is a Culture?**

We define a culture as a set of characteristics that sets one group of people apart from another. For example, we sometimes attribute differences in the way the English act as opposed to the French as the result of "cultural differences." In doing so, we take a vast number of differences and agglomerate them under one umbrella.

Some characteristics are transcultural, though. For example, we more or less expect that all children, everywhere, will grow up to love their parents. The way they express that love may depend a lot on the culture in which they are raised, but the loving feelings are culturally agnostic.

Another way to think about this is that a culture defines how a set of abstract principles is translated into day-to-day behavior. That is, we all have a set of nearly instinctive "default behaviors," programmed into us from infancy, which represent accepted norms and modes within
our local environment. Of course, we can consciously choose to behave outside these norms, which we may well do in unusual situations. For example, if we live in a culture that believes violence is bad, then when disagreements arise, our default behavior, according to that cultural norm, is to use our words and not our fists—to resolve conflict verbally. However, if it becomes clear that someone who is threatening another person's life will not "listen to reason," then the culture admits violence as a "last resort" for the potential victim—or a law enforcement officer. But this is an exceptional case. In general, there are sanctions, both formal and informal, for violating cultural norms when exceptional circumstances do not apply.

Perhaps my colleague Philippe Kruchten said it best when he wrote the following (in an unpublished paper):

Our behavior is driven by three forces:

- **Human nature:** this is inherited and is universally shared across all human cultures.
- **Culture:** our collective programming, which is learned, not inherited.
- **Personality:** the component that is the additional unique set of mental programs not shared with other human beings; it's partly inherited and partly learned.

If we're not exposed to other cultures, we have a difficult time distinguishing culture from human nature. We naturally assume that all these aspects are universal, but they are not. It is also important to distinguish those characteristics that are cultural—that is, generic to a group of individuals—as opposed to attributing such characteristics to individual personality quirks. It is somehow easier to condone someone for not having surmounted a cultural barrier than it is to forgive what we perceive as a personal deviance.

**Strong and Weak Cultures**

Continuing down the same path, I believe there are two different kinds of cultures: **strong** and **weak**. This speaks to how a culture translates its underlying principles, or values, into everyday life.

In a strong culture, the abstract principles (values) are translated very directly into people's day-to-day lives. The military, for example, has a definite set of values and a very strong culture. Whether or not you agree with these values, you have to admit that they are translated into daily use very rigorously and consistently; they are enforced through external rules and regulations, as well as education that is absorbed internally. The prevailing culture of the 1960s was also a strong one, characterized by distrust for authority and a desire to question all social conventions. Once again, whether you agree with these values or not, you have to acknowledge their powerful influence on people's behavior at the time. I remember, for example, how difficult it was to "organize" a peace march, because the participants were so anti-authority—leaders had to explain and justify every "request" they made, and "enforcement" came almost entirely from peer pressure.

Not all cultures are that strong, though. Some have a set of generally accepted abstract values, yet these do not really inform daily life. In Western culture, for example, the degree to which churchgoers apply their religious values to daily life varies widely. Some churches and sects have a very strong culture and strive to place religious tenets at the core of every act and thought, day in
and day out. Other sects, in contrast, are much more \textit{laissez faire} with respect to regulating daily behavior, and treat faith as the most important value.

The strength of a culture depends, finally, on two factors. One is the degree to which the values of the culture are codified and effectively transmitted to all. The second is the degree of pain people suffer for straying outside the cultural norms. The strongest cultures, obviously, are those in which all members clearly know and understand the "code," and also recognize that the penalties for violation are harsh. Whereas strong cultures are successful at translating their abstract principles into daily actions, weak cultures do this much less predictably and effectively.

\textbf{Defining Corporate Values}

We'll return to strong and weak cultures later, but first, I want to plant a stake in the ground on the way we define values.

We sometimes refer to \textit{core values}, as though these particular values transcended other, less worthy, values. But then I get lost when I read that a company has seventeen core values. This does not make sense to me. There can't be that much room at the "core."

Still, I believe that some values do transcend others, and we get to pick which ones run our lives. Maybe some people can keep a hierarchy of values straight in their minds and hearts, but I'm too simple for that. I have a very small set that I try to hold myself to and evaluate others by. I keep the set small so that I don't have to worry about order and priority, or about balancing one value against another.

I've also learned that it's not helpful to label as "values" those qualities that everyone endorses. Take "citizenship," for example; who is going to argue that we \textit{shouldn't} be good citizens? The problem is, this word is always interpreted according to more "local" values that define the behavior of a good citizen within a given culture. So, paradoxically, the more general and vague the term, the closer it gets to being a universal "value," but the narrower and more culture-bound its interpretation becomes.\textsuperscript{3} The value of such a value is really very small.

In defining a set of desirable values for a corporate culture, then, we will choose terms \textit{not} for their relative popularity, but rather for their utility in describing a company that is worth working for. I want to work with people who share these values. If others don't, I hope they will gravitate to another organization that has values more to their liking. We will all be happier in the long run.

My list has three items, few enough that I can keep them in "registers" at all times.\textsuperscript{4} They are: integrity, customer focus, and results.

\textbf{Integrity}

The cornerstone of all that is honorable, "integrity" is a value that requires us--in all our relationships, both internally and externally, with colleagues and customers--to conduct ourselves in an honest, truthful, and straightforward way. There may be dishonest people in the world, but we don't have to admit them into our company. We can choose to associate only with those whose conduct meets our standards.
Integrity is a high standard, but it is exceedingly easy to know whether or not you have acted with integrity. It is as easy as knowing right from wrong. It is not complicated.

Many desirable characteristics of corporate culture that I have written about in past articles are based on integrity: a high-trust environment, honoring commitments, an absence of noxious politics, true teamwork, and an open interchange of ideas. Without integrity, we cannot hope to achieve or implement any of these. Later, I will discuss why these characteristics are so crucial in a software development organization.

Customer Focus

Anyone working in the business world is torn over and over again by having to make difficult choices. Sometimes the choice is obvious; we usually have no problem doing something that is clearly required or rejecting behaviors that are clearly wrong. It gets tricky, however, when there are conflicting requirements, a gray area, or something that involves reasoning on the margin. At these times, success means getting a higher percentage of these choices right than we might otherwise do by flipping a coin.

I'm not talking about technical decisions here. Instead, these are judgment calls such as, "Do we ship the product today or work on it for a few more weeks to get it to a better state?" There is usually no single, unambiguous answer. But is there a simple criterion you can use to help frame the decision?

I believe there is. The question I always ask is, "What is right for the customer?"

To further complicate matters, however, there is rarely a single customer. So you must visualize the customer base as a distribution, and try to reason what is best for the mainstream group of customers--the greatest good for the greatest number. If you can put yourself in the customers' shoes and reason through what is right for them, my belief is that you will get many more of these decisions right.

Note that doing the right thing for the customer may sometimes cause a great deal of internal pain. But if you don't do that, then all you are doing is deferring the pain to a later date. And, most likely, that deferred pain would be far worse than the pain you'd have to bear early on to create a responsible, responsive solution.

Customer focus has many cultural manifestations: a drive to release products on time, a passion for creativity and quality, and products that are genuinely fit for use. But it all starts with having the courage to ask the question, first and foremost, "What is best for the customer?"

Results

This third value has to do with results. I believe in results, not excuses.

Today, people seem to expend a lot of time and effort on excuses. It is almost as though they believe that a good explanation for failure is a legitimate replacement for the desired result. But this is not something you can build on.
The simplest way to differentiate the good from the bad is to evaluate results. Not intentions. Not effort. Not "does what he's told to do." Not "easy to work with." All these are irrelevant if results are not achieved. Note, however, that I am not saying "success at any cost" or "the end justifies the means." That kind of Machiavellian perversion means you are willing to act without integrity, and that is not allowed.

Finally, we must realize that most goals worth achieving are not accomplished in sprint mode, but in marathon fashion. Persistence counts. For those people for whom "failure is not an option," we salute you.

**And the Applicability to Software Is...**

I'm sometimes accused of making very general observations under the guise of writing articles on software development. I plead not guilty! It's simply that the principles I believe in are universal, and their value is not limited to the realm of software. On the other hand, I can show why the particular values I've identified are relevant to software—why, unless you observe them, software products and companies degrade.

Let's go back to integrity, one of our basic values: We never lie to our customers, and we never lie to ourselves. We deliver a quality product in exchange for a sum of money, and the customer has a right to expect value for that money. Nothing specific to software in that simple equation.

Yet the production of a software product that customers will be able to use over an extended period requires integrity. First, the product must be sustainable in the field for many release cycles; it can't just be cobbled together for the next release and then forgotten. In order to achieve this, the product must have a maintainable underlying architecture that can be modified over time to suit new, emerging requirements. Also, the product must be supported, so that as questions and defects arise, the organization can cope with them and provide solutions for customers. It takes considerable infrastructure to support and evolve a product over many years, and making that investment requires the integrity of a long-term view. Companies that "ship it and forget it" will not be around for long.

A high-trust environment and teamwork are essential for the production of any large software product. Why is this? The answer is simple: Software is by nature a very complex product. Many individuals on the team make many thousands of decisions every day; some are large, some are small, and all may have an impact on customers. If we were to depend on a system of permissions and checks to ensure that each and every decision was "correct," progress would grind to a halt. What we need instead is everyone making good decisions on one's own most of the time. Large, critical decisions need to be reviewed, of course, but the majority should be made promptly and implemented effectively and efficiently. This is impossible without integrity at every level of the organization.

Now let's think a little bit more about customer focus. The quality mavens are always getting up on their soapbox and lecturing us about the need to improve the quality of the software we ship. But it's a bit more complex than that. Quality is a very subjective objective. Some people measure it by defect counts; others talk about usability ("fitness for use" for some, performance for others); still
others have different metrics entirely. But none of these can be evaluated in the abstract; there is always, always, a tradeoff between quality and some combination of cost and timeliness.

That is why I think customer focus is the right value, and the cultural manifestation of this value is that everyone in the organization thinks about the customer: developers, testers, writers, product managers, support, field technical people, salespeople, marketing folk--yes, everyone. The customer is no one single group's responsibility; it is everyone's responsibility. If you have both a high-trust environment and everyone focusing on the customers, then you have a potent combination.

And what about results? Well, systems need to be architected, coded, documented, tested along many dimensions, and then built, packaged, and shipped. Without an intense focus on results, the product just doesn't get out the door. Too many things depend on too many other things. The lesson of the old folk tale, "For the want of a nailÂ” was never more true than for software development. Most projects slip because of an accumulation of intermediate tasks that are delayed, deferred, or simply not completed. Individually, none of these small slips seems important, but the cascade is devastating.

On the flip side, there is a hidden danger in striving for "perfect" results in all the details. Everyone needs to be clear on the most important result: timely shipment of a high-quality piece of software. Creating a perfect Software Requirements Specification along the way will be irrelevant if the customer-visible result--the product--is wanting.

**Building a Strong Culture**

How can we in the software world implement these three values and build a strong culture around them?

First, we need leadership by example. As a leader, it is part of your job to reinforce and propagate the culture and values of the enterprise, starting with integrity. Our leaders should be held to an even higher standard of integrity than the one to which we hold everyone else. And here I mean all our leaders, not just the folks at the very top. Leadership is part of the company culture, and regardless of where you are in the corporate hierarchy, being a leader means heightened responsibility. The only way to demonstrate integrity as a leader is to act with integrity in everything you do.

It's shocking that the US Congress has felt the need to pass legislation requiring American CEOs to swear to the veracity of their financial statements. Shouldn't we just expect these statements to be accurate? "Cooking the books" is the moral equivalent of counterfeiting, and Dante put counterfeiters in the bottom of the eighth circle of Hell for good reason. His conception of Hell consisted of nine concentric circles, so being at the bottom of the eighth was almost as low as you could go.

Second, to develop a customer-focused culture, our leaders need to spend time with customers to gain an acute sense of what the customers need. Only then can they translate that into direction for the rest of the organization.
Finally, we need leadership in the area of pay for performance. Managers at software companies need to be able to objectively evaluate performance and compensate people for their contribution to the organization—and nothing else.  

In addition, we need *continuity*. Cultural propagation of values is meaningful only if it survives all the varieties of change that occur in the business world. Let's have a look at some of the phenomena that threaten continuity in software companies.

**That Old Devil, Growth**

Inevitably, successful companies grow, however small they are at first. Their culture needs to be nurtured so that these organizations do not abandon the very values and traditions that made them successful in the first place. But it is not easy to do this right.

If your company grows slowly enough, there is hope. You can recruit very selectively, working hard to find people who are "good cultural fits" for the existing organization. Rapid growth, on the other hand, is a double whammy. In the scramble to "fill open positions," it is easy to lose discipline and get sloppy. On the margin, we hire people we probably wouldn't if we weren't in such a hurry. Then, to make matters worse, we don't explain to them the cultural milieu into which they are about to be thrust because we are too busy hiring the next batch of folks.

Notice that we are not necessarily recruiting people with the wrong values. No, what typically happens is an overall weakening of the culture as the organization expands. Occasionally forgetting to put the customer first may not draw sharp criticism any more. Over time, Gresham's Law takes over: The bad money drives the good money out of circulation. Those living by the old values become the minority, viewed at first with curiosity, then with derision, and finally ignored.

What replaces the strong culture is often a bureaucratic system designed to check on and enforce a wide range of policies and procedures that never quite capture the previous spirit of "do the right thing." In the absence of cultural strength, organizations fall back on meticulous attention to detail, as if we could recapture the spirit of the law by increasing the number of its letters. Leaders assume that everyone else will make the wrong default decisions, so they impose lots of rules to guide and correct them. It's a sure sign that bureaucracy has set in when the Ten Commandments are replaced by a 247-page handbook that sits on a shelf gathering dust.

**Mergers and Acquisitions**

After growth, the second most destructive force for a strong culture is a merger or acquisition. The software industry periodically goes through cycles of consolidation; many companies, Rational among them, grow "organically" for many years, and then use mergers and acquisitions as a way of continuing or accelerating growth. Unfortunately, we (software companies) seem to be much worse at this than other industries, perhaps because software companies have such a wide spectrum of cultures and values. The largest single reason for failure when two software companies combine is cultural incompatibility. Even if the two cultures are similar, merging them can be difficult for a vast variety of technical reasons. Plus, if the two companies are located some
distance from one another, there is insularity because of the separation. Whatever the root cause, in the face of fundamental incompatibility, most software mergers fail, plain and simple.\footnote{14}

There is a solution. When our pioneer great-grandmothers crossed the prairie in their Conestoga wagons, they always carried a lump of "starter dough" so they could bake the same kind of bread in their new home that they did in their old location. The starter dough contained a yeast culture\footnote{15} that could spawn new loaves; every time they baked, they saved a bit of that dough to mix with new dough later.

Similarly by transferring one or more people, preferably senior people, to the new location, software companies can provide "starter dough" to transmit the company culture and values to the newly merged or acquired company. Any merger or acquisition that forgets to transmit cultural messages early and often is a disaster waiting to happen.

**The Single Big Customer or Partner**

Another interesting threat comes from having a single large customer or partner with a very strong culture. In this case, both subtle and not-so-subtle influences can permeate your organization. For example, the customer's or partner's style of reporting results--nature, frequency, and so on--may be imposed upon certain projects; gradually, it may spread through the ranks, so that all internal divisions start reporting in the same way.

Sometimes this can be good; we can always learn from others. On the other hand, we do need to be careful that the customer or partner shares our values, and that what morphs is the cultural manifestation of those shared values, not the values themselves.

Finally, it is an unfortunate fact of life that partnerships in the software business world are complicated. Today's partner may be tomorrow's competitor, and vice versa. Figuring out the implications of that one is an exercise left to the reader.

**New Efforts**

Yet another threat to a strong culture is the startup of a new effort, such as a new product line or a facility in an overseas country. Here the "starter dough" principle is crucial. I have personally witnessed a new organization built from the ground up halfway around the world that faithfully reproduced the "mother culture," simply because it started with one person who thoroughly understood the original recipe. He hired and trained every single addition. Nine years later, through slow but steady growth, this organization was one of the strongest in the company, both culturally and in terms of productivity, even though they were geographically farthest of all from the home office.

Be especially wary of efforts to start new groups whose express purpose is to launch a radical cultural change; these are almost always doomed to failure. Here's why: If the change is that important to make, hitch up your pants and do the hard work to make it across the entire organization. If you don't, the new organization will always be on the outside, resented by the rest of the company. If they are successful, they will be resented even more. As they grow in power and influence, civil war will loom, and the only solution may be to spin them off. In so doing, all
the benefit to the original organization will be lost. On the other hand, if the experiment fails, it will likely be because the splinter group felt orphaned.

**When You're Looking for a Job**

The last item on my agenda is advice about what to do when you are looking for a job. I believe, strongly, that the biggest single factor contributing to your happiness and success in any company is how comfortable you feel with its culture and values. Almost every other variable in the equation can and will change over time: your role, your responsibilities, your direct supervisor, your organization, and your compensation. Problems in any of these areas can be addressed and fixed over time. But if there is a fundamental incompatibility between the existing culture and your idea of what constitutes a good culture and healthy values, you will be working against something that will nag at you every day in good times and totally sink you in bad times. Remember that cultures and values change very, very, slowly. The odds are better that you will gradually adapt to the culture than that the culture will change in a direction to your liking. So unless you really enjoy swimming against the tide, look for compatibility.

How do you discover a company's true culture and values? The best way is to talk with current employees and recent ex-employees. Ask them to speak candidly about what they like and don't like. And during your formal interviewing process with the company, do two things. First, calibrate how important culture and values are by seeing whether your interviewers ask questions to determine the fit between you and their organization. If they never ask you one question in this area, beware. It means that either they are sloppy in their recruiting, or the corporate culture is extremely weak.

Second, when it is your turn to ask questions, spend as much time as you can getting them to talk about culture and values. Don't be afraid to put them on the spot; for example, ask them flat-out what is the single most important value in the company, or what is the defining attribute of the most successful employee in the company. If they have the right culture and values, they will understand why you are asking, and will interpret your efforts as "serious buying" questions. If you get a consistent, coherent story from almost all the people you talk to, there is reason to believe that the culture is strong: The "code" is visible to all and understood in the same way by most. Once you have established that there is a strong culture, seeing whether your own values align with it should be somewhat easier.

If you are hired, it's a good idea to begin the process of gaining an in-depth understanding of your new company's culture and values immediately. Ask lots of questions. The more quickly you can assimilate the default behaviors that represent the cultural norms of your new company, the fewer blunders you will make, and the more productive you will be. This advice also applies if you are in a company that merges with another, or is acquired.

**The Bottom Line**

I believe in a culture that strongly transmits the values of integrity, customer focus, and results. Software can best be produced and supported by talented, creative, competent individuals who collectively function as true teams in such a context. Strong cultures are maintained over time both through leadership by example and careful attention to transmitting values in the face of
growth, mergers and acquisitions, requirements imposed by large customers and partners, and new startup efforts. Just as education is what remains after all else has been forgotten, culture and values are what govern when no one else is looking. Better get them right.

Notes


2 Yet, ironically, the members of this culture had "non-negotiable" demands. We lived in interesting times.

3 It is sometimes said that it is impossible to be all things to all people, but some values are bland enough to fit that bill. The American colloquialism for such values is "apple pie and motherhood"--things everyone is in favor of.

4 In the olden days of programming, we could specify things we wanted to keep in fast memory so we could access them rapidly, on the principle that we would be using them often. Such locations were called registers.

5 This content is no longer available.

6 And even if there were just one, there would be conflicting priorities in that person's organization as well.

7 Needless to say, this means you have to know who your customers are and what problems they face. I can't conceive of running a business, let alone a software business, absent this knowledge.

8 Attributed to Gene Krantz of NASA, during the Apollo 13 rescue mission.

9 The tale starts out with a missing nail leading to a missing horseshoe, then a missing horse, and so on--all the way up to losing the battle "for the want of a nail."

10 This content is no longer available.

11 A tradition is a cultural artifact that becomes ingrained, so that people observe the tradition without even remembering the underlying value that created it.

12 One of my least favorite expressions in the business world.

13 This needs some explanation. Sir Thomas Gresham, advisor to Queen Elizabeth I, noted that when a new currency is introduced to replace an older, debased one, people tend to hoard
the new currency while trying to spend as much as possible of the old. This is the origin of the expression, "Bad money drives out good." In a business context, though, we can borrow this old saw to describe what happens when a small company with a strong culture undergoes the transition to becoming a large company with a weak culture. The newer, weaker, more diffuse and less desirable culture is shared by many more people, so that, over time, the older, stronger, more valuable culture is marginalized to a smaller and smaller number of adherents, eventually dying out. The "tyranny of numbers," unfortunately, wins out.

14 Wall Street confirms this almost every time a software merger is announced. The typical response is a decline in the share price of both companies prior to the accomplishment of the merger. Only after the merger has proven its value does the share price of the combined company recover. While this phenomenon is also observed in other mergers (even non-technical ones), it seems to be more severe in the case of software companies.

15 Curious coincidence. Or is it?

16 You may have to discount for certain opinions, based on the circumstances. Some current employees may be overly zealous; some recent ex-employees may be bitter without legitimate cause. But the raw data is always useful.