

Viewpoint

What Executives Need to Learn

Peter F. Drucker

Executives who understand their work in terms of a flow of information are still a very small minority. Most of us continue to use computers primarily to do things we have always done – that is, to crunch numbers. Information – which means the right knowledge to take effective action – is still something more talked about than used, partly because one cannot simply convert data into information. Data are just one source of information.

But our relationship to information – and its tool, the computer – is changing. Younger people are growing up in a very different kind of world. The invention of the printed book 500 years ago released the biggest explosion in the love of learning recorded in history. But the book basically led to the learning of adults. The book is adult-friendly. The book is not really child-friendly. But the computer is unbelievably child-friendly. It is very exciting to see a nine-year-old work with a computer, because the computer very quickly becomes an extension of that child.

Although those kids are not yet in our organizations, a lot of people are now coming in to whom the computer is a tool for their own work rather than – as in most businesses – a tool for other people's work. Computer applications in the areas of payroll, inventory, and credit, for example, are other people's work. But attitudes and applications are changing very fast, and we are moving rapidly toward the information-based organization.

Change in this area has not always come so quickly. I started work as an apprentice clerk in a woolen export house in Bradford in Yorkshire in 1927. I am very likely the only man you'll ever meet who started with a quill pen. We worked with 80-pound brass-bound ledgers chained to the desk. It happens that we were the first group of apprentices in the history of the woolen trade to have finished secondary school, and we were brash. One day one of us went up to the old bookkeeper – he was the seventh-generation bookkeeper in that company, that was the way it was – and one of us said, „Mr. Vandameir, why don't we use loose-leaf books?“ And Mr. Vandameir said, „If the Lord had intended us to, my boy, he would have created them.“ And Tony Brandon, that colleague who later became England's most distinguished brain surgeon, said, „Mr. Vandameir, has the good Lord created brassbound ledgers?“ And Mr. Vandameir said, „Without a shadow of a doubt,“ and meant it.

But the point of this story is that the boss, Sir William Ralph, who was in his late seventies, never approved of brassbound ledgers because he had no use for double-entry bookkeeping. He said, „When I began, that single-entry bookkeeping, it was plenty good enough. If I need to know how we are doing, I count the cash in the till on Saturday.“ That was 70 years ago, and you'd be surprised how many people are still around with his mentality.

Let me make a bold prediction: This attitude is going to change very drastically. Today, the big thing to learn is not how to use the computer, or even how to organize information, but how to organize one's own work in the information-based organization. This idea is something that we are just beginning to nibble on. I know a few places where it's taken seriously, but, frankly, I don't know a single place where it's yet done.

We are now only beginning to ask the question: What does information mean, both for the organization and for the individual executive? What do executives now need to learn?

Accepting Information Responsibility

The first thing we will have to learn is to take information responsibility. We will have to learn, before understanding any task, to first ask the question, „What information do I need, and in what form, and when?“ Most of my friends, not just in industry but in all organizations, still believe that information specialists can tell them what information they need. This approach is very much like asking the traffic cop, „Where should I be going?“

We are beginning to learn to take information responsibility, but it's slow. These are questions that we have never asked before. For thousands of years we have lived in the world inhabited by that old boss of mine in Bradford in Yorkshire. That old gentleman, who was a very good merchant, sold woolens all over the world. His idea of information was the traditional one. That was all the information you got, and the rest was experience. That old gentleman knew every manufacturer of woolens in Europe. He knew that one of them did an excellent job if your order was small, but if it was big the quality suffered; and another was fine as long as you ordered one color only. He knew about every manufacturer and about all our customers worldwide. And he knew quality. He didn't think in terms of quantities, and he had never seen or heard of information as we now define it. For thousands of years, that was the way it was.

Now we have the capacity to produce some information. Executives and others will have to learn that information is their tool, and that they must think through what they need and make sure that the people on whom they

depend to get it understand it. It becomes the role of the information specialist, to a large extent, to say, „Look, my friend, this is the form in which you are going to get your information because this is the form and the logic in which we can produce it.“

People do not understand that there is no such thing as free-form information. Most people are used to receiving information anecdotally, and anecdotes are free-form. But we are now going to exchange information as logic, and no logic is free-form. You have to make choices in logic. Many of us still don't know that you cannot mix logics in one sentence, or in one paragraph, or in one system. And, so far, schools don't teach this basic fact. Even management information systems schools still essentially teach technique rather than anatomy, and we need good anatomy.

The next question people have to learn to ask is, „To whom do I owe which information, and when and where?“ They must also learn not just to guess, but to go and ask and find out. After all, who builds the information-based organization? Information is a two-way stream. People will have to learn to take information responsibility both for what they need and for what they owe.

We have never done this before, and it won't come easily, but the time has come when it can be done. We know enough now. And information specialists can help people to think through these key questions, but we can't come up with the answers for them. They have to do it themselves.

Information as a Tool of Understanding

Another challenging aspect of implementing an information-based organization is that the information system within an organization must run on one logic, and yet it must be able to accommodate a number of what I call different „languages.“ In other words, an individual cannot just think, „What information do I need and what information do I owe?“ He or she has to consider the meaning of, for example, a piece of engineering information for the marketing people, or vice versa.

Today, we are simply providing data and leaving the interpretation of its meaning to the users, who are notoriously poor interpreters. Instead, we need to look at the information from our own area of activity and ask, „What should this mean to people in other areas? What kind of action implications are there?“ For example, if I receive information from Market Research about changes in distribution systems – which are changing faster today than anything else, much faster than technology – I need to think about what this means for the design of the product, the service of the product, and other efforts that are not within my area but that nonetheless have a direct impact on how well I can do my job.

This is a whole new area of thinking for me. I have only recently formulated the question, „What is the meaning of this information for my work, and what is the meaning of my information for other people's work?“ Please don't expect that I yet know how to answer it; as a matter of fact, I'm by no means sure I yet know how to ask it. This question goes beyond information responsibility. It assumes responsibility for making information a tool of understanding, which in turn is the basis for common action.

Balancing Internal and External Information

Another major challenge for the information-based organization is to make sure that the information on hand does not become misleading. Most of the information capacity we have is internal. In fact, fundamentally, the only database we have is internal. External data are very poor, very abstract, and very late. And yet our internal data can provide no results, only costs. Although I invented the term „profit center“ 40 years ago – one of my lesser contributions – a subsidiary of a division is not a profit center, but a cost center. The only profit center is the customer. Until the customer has paid his bill, there are only costs, and until the customer has come back with a repeat order there is no customer.

The outside figures will always remain unsatisfactory for the simple reason that the important things that happen outside the business happen at the margin, and so they are not expressed in figures until it's too late. They are qualitative changes. You can quantify them, but you don't really understand the relationship quantitatively. I've been struggling with this for 40 years, and I'm not the only one. There is basically no solid geometry to early qualitative changes that can tell you whether they are significant or not. You cannot easily convert a qualitative change – let's say, an incipient change in a distribution system – into quantities.

How do you tell whether a given qualitative change is meaningful or purely anecdotal? By the time 30 percent of your distribution has changed – which is the point where the whole system changes overnight – it's a little late. And so how do we prevent that incredible increase in our ability to have inside information from misleading people into managing the inside and forgetting the outside? You will say we have to get more information to them, and you are right. But the information they really need is not easy to get, and by the time they get it, it's obsolete, or at least so late that they are running behind the parade.

Basically we have become internally focused, and that's very dangerous. Our new data-processing capacity, though not the cause of this imbalance, aggravates it by giving people the illusion that they have information, when in fact crucial pieces are missing.

And so we will have to learn to balance the increasing accessibility of and increasing dependence on information from the inside with increasing experience and exposure to the outside. For example, last year I worked on productivity and quality issues with the joint productivity committees of two large automobile manufacturers at the UAW. These committees consist of very able people working very hard, and, as you know, the results are not terribly impressive.

If you want to know why, it is very simple. They cannot see that what they mean by quality means nothing to the customer. They are manufacturing people – the UAW even more so than the company – and they love to show you lovely figures that demonstrate that the American-made car when it leaves the factory now has fewer defects than the Japanese-made car. (This is not true of all American models, but of quite a few.) Yet, customers are deserting the Americans in droves, switching to the likes of Honda, Nissan, Toyota, and Mazda.

And the reason is that what the engineers mean by quality and what the customer means are two different things. I live in southern California. Once a year my wife and I drive to our summer home in Colorado, which is about 1,300 miles each way through lots of desert. And in Delta, Colorado, which is a little south of Grand Junction, our car breaks down. What we mean by quality is not the shape the car was in when it came out of the factory, but the service we get in Delta, Colorado. No automotive manufacturer understands that because they're not out there listening to their customers.

In the 1930s, when I first knew the automotive industry, Alfred Sloan, who ran General Motors, would disappear from Detroit once every six weeks. Next morning he would walk into a dealership in Cincinnati or Kansas City and say, „I am Mr. Sloan from Detroit. Would you allow me to work for two days as your assistant service manager?“ When he left, customers always said, „Who was that incompetent clunk?“, but that wasn't the point of the exercise.

Or he would appear in Albany, New York. I know about this from the Albany dealer, who complained about it very volubly. The old man had been there and said, „Mr. Yeager, do you mind if I work for you as a salesman for three days? I don't want any commission.“ And Mr. Yeager said, „Alfred Sloan cost me more sales than I can possibly tell you.“ The point is that when Alfred Sloan went back to Detroit from these forays, he knew customers. Since World War II, nobody in Detroit has done that. But two weeks after I took my Japanese-made car in for its routine inspection, I got a telephone call from Nissan, asking, „Were you satisfied?“ That has never happened with my Oldsmobile.

I have not been able to get this idea across to people, even people who have been my friends for 40 years. They don't get it because not one of them has gone to work as an assistant service manager for two days. They look at statistics; they look at „information.“

Their data show them that cars are complex. There are 38,000 parts, more or less, and something has got to go wrong. What matters to the customer is, „Do I get it fixed, and do they care?“ That's customer service – not ensuring that the car was in perfect shape when it left the factory. It's irrelevant to the customer what caused the problem – whether it was a pebble from the road that knocked the pipe galley west, or whether that bolt wasn't fastened. We will have to learn to balance the increasing hard information with meaningful market experience, especially as distribution channels are changing so fast.

Defining Information Precisely

Information specialists will increasingly be hearing – from the CEO and every other executive – the question, „What information do we need?“, not, „What data do we need?“ And given the fact that our present technology does not enable us to get information from the outside in most cases (because it's not in a form in which we can capture it until it's very late), information specialists may find themselves spending two days as assistant service managers in Cincinnati. That may be the only way they can get the critical information that is embodied in attitudes, expectations, and events.

The need for critical but unquantifiable information applies not only to markets but to technologies, which are changing just as fast and are becoming equally unstructured. It's no longer adequate for people in the paper industry, for example, to know all about paper chemistry and paper mechanics. Their industry will be affected by discoveries in solid state physics that no paper maker has ever heard of. Businesses need information on technologies that are being developed far beyond their narrow areas, and in most cases they don't know how to get it.

Some companies are better at getting technology information than marketing information. Quite a few companies no longer subscribe to the belief that „only what goes on in our lab is technology; the rest is not relevant to us.“ But determining what is relevant is not easy. So the next big step is to define information.

Information is not what the computer delivers, but what executives need to take effective action.

For example, one branch of the U.S. armed services recently faced a serious supply problem when the workers in a critical plant went on strike. The strike came as a shock to senior management because they had always looked at personnel data over the whole system of plants, and they were very happy. Absenteeism was very low and accident rates were low. But the aggregated data failed to reveal that one of their smallest plants had absenteeism rates of 80 percent and extremely high turnover. To anybody in Personnel, these are clear indications that things are very wrong, especially at a plant in the middle of the desert where there are no other jobs and the work population consists of men aged 50, who should have no absenteeism and no turnover. This was a grotesquely mismanaged plant, and senior management had no inkling of that fact because the information that would have revealed years of neglect was masked by the wrong presentation of data.

So a key part of the job is to make sure that data are presented in the form in which they are capable of giving information. One has to ask not just, „Are the data reliable?“, but, „Is this the right way of presenting them?“

In that light, you must also take into consideration the recipient of your information. Please accept the fact that the human race is split three ways: some people can take in information by looking at figures, some by looking at graphs, and a third group only by touching it, feeling it, or writing it.

I learned a very valuable lesson about presenting information in April, 1942, when I was working for the Pentagon. I made my first appearance before a Congressional committee, which was headed by an obscure politician of whom nobody had ever heard, whose name was Harry Truman. He cut me into tiny little pieces and fed me to the fish. And then he became a kindly old gentleman and invited me to his chambers. I am not a drinker, but he poured a bottle of bourbon into me without any noticeable effect. And when I thought I would survive – though I didn't yet enjoy the prospect – he said, „Sonny, don't you ever do again what you did today.“ And I said, „Sir, what did I do?“ He said, „You quoted fractions to senators. If we understood fractions, what would we be doing in the Senate?“ And then he said, „Go back to that so-and-so General of yours and tell him never to do again what he did.“ I said, „What did General Jones do, Sir?“ He said, „He did something that needs to be explained; there is nothing you can explain to a U.S. Senator.“ From that moment on I was the first Truman booster. He was absolutely right. This is wisdom.

So you need to know in what form your people can receive information. If you talk to me, for example, don't give me graphs covered with little colored men or I crawl up the wall. Give me solid black numbers, and don't carry them out to the seventh decimal, because I'm better than you at forging and faking figures, and I know that the less reliable the information, the more decimals. Give me numbers and let me work through them, because I like doing it.

Most executives are not yet thinking about the form in which they convey information, because they have not yet addressed the problem of marketing their output, which always starts with the customer and not with the product. We are just beginning to raise the vital question „What information do I need, and in what form, and when?“ I am not suggesting that we ignore developments in hardware and software. But I am saying that, increasingly, hardware and software are going to be less important than the use we make of them in defining and exploiting information.

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