

Eureka! Why Analysts Should Invent Requirements

James Robertson

We often hear the complaint “The customer didn’t tell us the requirements that he wanted.” Here, James Robertson takes the opposite view and encourages requirements analysts to create more valuable and competitive products by inventing requirements rather than expecting customers to ask for them.—Suzanne Robertson

The traditional job of the requirements analyst is to talk to users, find out how they work, ask them what they want, specify what is required, and have it built. But something’s missing: this activity doesn’t improve anything. We need a step in the requirements activity called “invent something better.” This column is about how to go about doing that.



Reinventing your role

Software designer Dewys Lasdon puts it simply: “Our job is to give the client, on time and on cost, not what he wants, but what he never dreamed he wanted; and when he gets it, he recognizes it as something he wanted all the time.” (Read more about Lasdon in T.J. Peters, T. Peters, and D. LeBaron, *The Circle of Innovation: You Can’t Shrink from Greatness*, Knopf, 1997.) This applies to you, even if you’re working on yet another inventory control system or the 18th incarnation of your management information system. To be successful in today’s software world, you must add the title “inventor” to your portfolio. Let me explain why, and suggest how you might become an inventor.

The user interface you look at whenever you use your personal computer is an invention, but when the team at Xerox PARC was

inventing it, nobody was asking for it. What about your mobile telephone? Before it was invented, people didn’t go around saying, “I really wish I had a telephone that I could carry in my pocket.” What about the cool personal digital assistant you bought recently? Before you knew it existed, did you think to ask for one? But now that you have it, and a mobile telephone, could you get along without them?

Paradoxically, we must avoid becoming victims of our customers. Our task is not to provide every button and pull-down menu enhancement that they ask for, but to invent a completely new way of working—one that will thrill and amaze them. Once users see it, they will wonder how they got along before. If you confine yourself to making marginal improvements, someone else will make the inspirational leap and take your customer along for the ride.

A new list of requirements

In the IT world, there are guides about what we should invent and how to go about inventing something better for the client. Consider the following partial list as potential requirements. At least one of them represents an area where you can invent something to make a difference to your organization.

Service is a requirement

In today’s commoditized world, quality

of service separates one business from another. If all banks charge the same fee, you will give your business to the one that provides the best service. Federal Express started asking people to pay \$21 for what formerly cost 21 cents. Enough people valued guaranteed next-day service to make FedEx the second largest airline (in number of airplanes) in the US.

Service means understanding what your customers will value if you give it to them. In the UK, unlike continental Europe, we drive on the right-hand side of the road. To overcome this obstacle for continental vacations, Hertz offers “Le Swap.” You rent a car in England, drive it to Folkestone, and put it on Le Shuttle train to France (the price of Le Shuttle ticket is included in the rental cost). On the French side of the tunnel at Calais, you drive to the Hertz depot, and they give you a French car with left-hand drive. On the way back, you reverse the process. Hertz realized that this is a service people would value. Someone at Hertz invented a better way of renting a car.

What service could your organization provide that your customers would value? For example, can you do something for them that they currently do for themselves? Can you provide a service that will make your customer value you over your competitors?

Some products are ideas

Post-it notes are an idea. The inventor had the idea that bits of paper with removable adhesive would be useful. When they saw Post-its, everybody in the 3M offices wanted them. The rest is history.

eBay is an idea. Meg Whitman had the simple idea of putting auctions on the Internet. eBay registered 10 million users in its first five years—not bad for an idea that in retrospect is pretty simple. Napster took less than one year to get to one million users, and estimates of music downloads from it today run into the tens of billions. I know that the product was free, but look at the idea: peer-to-peer networking by strangers. Abstract a little. Can you come up with some-

thing else from these ideas or better still, make one of your own? How does your organization handle its ideas? Does it have a way of hearing them? How could you listen harder and avoid missing the next eBay idea?

Information is a requirement

Put another way, it is a requirement to provide information. Today’s consumers and customers are far better informed than they were a generation ago. If an organization refuses to provide information, it can look forward to a departing customer.

Your customers already have lots of information, and they expect more of it, which means that you must give them access to your company’s information. Do you provide all your rates and prices? Do you also provide your competitors’ rates? Do you provide all the information your customer needs to make a buying decision? What is it that your organization knows, or could know, that your customers would also like to know? In other words, invent some way of getting more information to the outside world.

Customers want choices

Your customers want more choices to suit their own particular requirements. Charles Schwab (www.schwab.com) lets customers make choices online or via telephone that were formerly made only by brokers and certified financial advisors.

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Dell and Gateway encourage customers to configure their own computers (and place their own orders). There is a competitive advantage to providing better choices than the other guy. Do you provide your customers with all the information you have so that they can make their own choice? Do you show them all their choices? The National Association of Realtors (www.realtor.com) offers the choice of over 1.5 million properties on its Web site and gets 30 million hits per month.

People also want to do more of the work themselves. FedEx, DHL, and UPS spent millions on systems that let customers participate in the delivery process. Visit FedEx’s Web site (www.fedex.com/us/tracking), and look at the options it provides. People are happy to do more of the work themselves, and if they’re doing the work themselves, they are far less likely to complain about the service.

People do not want to sit back and be told how they should deal with your company. They want to decide for themselves. Do your customers participate in your business? If not, invent some way to make your customers part of it.

The real origin of the use case is outside your organization

If you want to invent a better product, start by thinking outside the box. I find it dismaying when I talk to analysts who only draw use case models in which the actor is someone who works inside the organization. This approach prevents the analyst from understanding the real business problem.

Imagine that we’re dealing with a business use case. That is, it starts outside your organization. Now, what happened before the internal actor became involved? Who was doing what to trigger this business use case? Progressive Insurance (www.progressive.com) has a fleet of Immediate Response Vehicles. If you have an accident (and you are insured with Progressive), an IRV comes to the accident scene. The driver is a trained insurance assessor who can

Recommended Reading

C. Christensen, *The Innovator's Dilemma*, Harvard Business School Press, Cambridge, Mass., 1997.

N. Gershenfeld, *When Things Start to Think*, Henry Holt & Co., New York, 1999.

T. Kelley, *The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm*, Doubleday, New York, 2000.

T. Peters, *The Circle of Innovation*, Alfred A Knopf, New York, 1997.

J. Robertson and S. Robertson, *Mastering the Requirements Process*, Addison-Wesley, Reading Mass., 1999.

M. Schrage, *Serious Play*, Harvard Business School Press, Cambridge, Mass., 2000.

immediately assess the damage to your car and (if you choose) pay your claim and give you a check on the spot. In other words, Progressive has realized that the real origin of the business use case is the accident, not the filling out of the claim, and decidedly not the actor in the insurance company who starts to enter the claim into a computer system.

For any use case, consider the following: what was the person (there is usually a person involved, and it could well be your customer) doing when the business use case started? A use case does not start when the bank customer reaches the ATM and inserts a card. What was the customer doing before that? Why did he or she come to the ATM? If it was for money, what was that money for? Could you (the bank) invent something that would help the customer avoid having to go to the ATM at all? And if he or she does reach the ATM,

what else can you do? Add more time to a prepaid cell phone? Make a transfer to pay for an eBay purchase? Offer to send details of your special mortgage rates or new savings accounts? You could even put up an ATM screen that says, "If you would you like us to (e)mail you information on our new brokerage service, touch here."

Amazon.com has links all over the Web on other peoples' sites. It recognizes that the origin of the book-buying business use case is when a reader decides that he or she wants a book. Amazon's Associates program provides an incentive for sites to add a "Buy it from Amazon.com" link. This captures the real actor at the real point of origin. I don't know how much revenue Amazon's Associates links generate, but I imagine it is a healthy chunk of their earnings.

What can you do? Look at any use case. Now, back away from the computer system, back past the employee who operates the computer, back past the incoming paper or telephone call to the employee, and go back to the outside world where real people (probably your customers) live. What are those people doing at the time of initiating the business use case? Can you do it for them? Can you invent something that will make it easier for them to use your organization's resources? If you know what they are doing, then you can do it for them. When you invent something that gets to the use case's true origin, you capture—and keep—a loyal customer.

FILL?

What sets you apart from your competitors? The difference is invention. That spark, that idea, that moment of human thought that makes the difference between a great product or service and one that is merely adequate.

We might not need any more software, but we will certainly buy it if it is appealing and innovative—that is, if it promises to add some compelling new value to the way we work, live, travel, and go about our lives. In other words, we will buy inventions. ☛