The Messyware Advantage

The precipitous rise of the middleman.

WHY IS YAHOO! WORTH SEVERAL BILLION DOLLARS? THE SOPHISTICATED EXPLANATION has to do with brands, image, and hype. A simpler explanation is that Yahoo! provides a very useful service, cataloging and indexing information on the Web, which attracts users to its Web site repeatedly. That Yahoo! was among the first to provide this service of course helps. A more interesting question than whether the company is fairly valued at several billion dollars, is why does it exist at all. Why do we need a cataloging service? Why is it that users do not have a InfoBot on their desktop that will analyze their information needs, scour the Web and get them exactly what they need? The Web was supposed to eliminate the middleman and provide for the hyperefficient flow of information and commerce. Why then are so many middleman companies successful?

Why do we need an Amazon.com? Should not efficiency dictate that readers buy books directly from publishers on the Web? In fact, why involve publishers? Why not have readers buy books directly from authors? Why do we need the *Wall Street Journal Interactive* on the Web? If journalists and columnists all struck out for themselves and published their material on the Web, I could assemble my virtual *Wall Street Journal Interactive* of exactly what I wanted. I would pay less, the hard-working journalists would get paid more, and the laws of market efficiency would not have to be circumvented! Why do we need banks? Why do not all our MoneyBots scour the Web, talk to each other, and match up lenders and borrowers?

Thinking about these questions leads one to two rather distinct visions for the future. One is a software-centric vision in which the Internet renders traditional distributors obsolete. Cool Software on the user's PC will talk to Cool Software of corporations and users, and the distributors will all disappear. The world would then, of course, be ruled by the people who write Cool Software!

A competing vision is based on what I call "messyware." This view of the world is that there is a lot more to the "middleman function" than meets the eye. What is this messyware? It is hard to define, but it is the sum of the institutional subject area knowledge, experienced human capital, core business practices, service, quality focus and IT assets required to run any business. It is not the core product or service but everything surrounding the core service that makes the service viable.

A seemingly simple example might make "messyware" clearer. Ask most people to associate a word with the word "library" and they will say "books." If a library is a collection of books, then a digital library is a collection of digital books. The distributed nature of the Web where information is kept largely at its source has made collections of digital books obsolete. So are digital libraries obsolete? No. Collecting information from many sources and keeping them in one digital collection is obsolete, but there is more to a library than books. There is the invaluable card catalog, the indispensable librarian and the functions the library staff performs—book selection, cataloging, stocking, and so forth. If books are the

RAVI GANESAN

software of the library, these other functions are what we call the messyware of the library. A blind adaptation of a library to an electronic medium would have required everyone to ship digital information to a single source from which it would be made available. Such a "Yahoo!brary" would have failed, because it does not keep information in a distributed fashion and works against the natural efficiencies of the Internet. A Cool Software-centric view of the world would have focused on developing a "Yahoo!bot" that would run on a user's PC and organize the Web for each user. I suspect that "Yahoo!bot Inc." would not be worth several billion dollars. Instead, I believe that Yahoo! has succeeded by providing the library messyware needed to make information on the Web useful. There is nothing particularly unique or novel about the software Yahoo! uses at its site for its core service—its advantage stems from the company's investment in the messyware functionality of "library organization." Yahoo! had no initial technology advantage as a start-up company, and their site (looking in from the outside) seemed almost to eschew the razzle-dazzle of fancy technology, and leaned instead on efficiency and ease of use.

What Is the "Messyware Advantage"?

In the preceding example, a start-up like Yahoo! came out of nowhere, recognized that digital libraries were developing without messyware, provided that messyware and the rest is history. For most other business, where the messyware is even more messy, I believe that the traditional distributors are the logical players who may have the "messyware advantage." Every business looks easy from the outside. How hard can it be to edit and publish the *Wall Street Journal*? Run the articles through spell- and grammar-checking software. Use page layout software to size and position articles. Randomly remove paragraphs from articles until they fit the size requirements and that's it! If I am going to publish it on the Net, I do not have to worry about printing presses, so it must be really easy to publish a newspaper on the Web, correct?

From the inside, however, a more complex picture typically emerges. There are usually key functions the traditional distributor provides that the Internet makes superfluous. There are also sets of key industry-specific messy functions that those distributors have the "messyware advantage" to solve. While it looks easy to code the functions into "Cool Software," as the true messiness of the problem emerges, things become more complex.

There is a more subtle point, namely the realization that while the Internet often greatly streamlines the process when things work as they should, it does not do much for you when things go wrong. On the other hand, much messyware is focused on exactly this part of the business. Companies focused on the messyware recognize that computers and people are imperfect, that things will go wrong, and consequently prepare for problems and react speedily to fix them. A technology-centric view often rests on the conceit that systems are perfect (or will be in the next release) and does not provide a safety net. Consequently, at companies with messyware, the customer care staff are key elements, not afterthoughts tacked on until such time that systems attain perfection. This affects the very culture of a company. A software company's focus is largely on product functionality, whereas a messyware company lives and dies by product quality and customer satisfaction. This is another part of the "messyware advantage" that traditional distributors have.

Leveraging the "Messyware Advantage"

Having a messyware advantage and leveraging it successfully on the Internet are two entirely different things. The steps I see in leveraging this advantage successfully are the following:

1. Recognize the traditional assets of your business, which the Internet renders obsolete. For instance, do not try to force fit a centralized digital library concept onto the inherently distributed Web.

2. Look at your business and recognize the intangible messyware that allows you to provide a quality service. Focus on how your organization handles events when things go wrong. Focus on the value added and institutional knowledge your customer care infrastructure has. Focus on quality. Focus on your IT assets. Somewhere in all this is your "messyware advantage."

3. Find a way to provide this messyware itself as an Internet service. It might often be the case that in doing so, you seemingly put yourself in a position of weakness. If some reliable Cool Software got written at your suppliers and customers, it may seem that you can be completely bypassed. Persevere, a reliable service at a fair cost leveraging your messyware advantage likely will win. It may well be that your Internet-based messyware service cannibalizes your traditional business. Eating your young before others do is a characteristic of the migration of services to the Internet.

Let us walk through this scenario using electronic bill presentment as an example. In the physical world billers send their bills to the post office, which deliv-

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ers them to the customers' post office, which delivers a bill to each customer's mailbox. Along comes the Internet and the customer wants to receive the bill electronically. How should this scenario work?

Well, we could have the biller create an electronic bill, send it to their electronic post office, which would forward the bill to the customer's electronic post office, which in turn would forward the bill to the customer's electronic mailbox. "Wait a minute," someone says: "on the Internet the customer's browser is one click away from the biller's Web site. Why not just put the bills on the biller's Web site and cut out the inefficient middlemen?"

This is an absolutely valid point. Shipping bills all around the Internet instead of moving them directly between the source and the destination simply does not leverage the Internet, is inefficient, and likely will create quality problems. In fact, most billers will want to present bills to their customers directly and would not like a post office separating them from their customers. The traditional middleman post office function of shipping bills from point to point is no longer relevant.

We then look for possible messyware in electronic bill presentment.

1. If every biller presents bills directly to the customer, each month customers have to remember to go from Web site to Web site to find and pay their bills. What is the probability that this will be viewed favorably by consumers? In the physical world, the customer's mailbox performs a useful function we do not often think about. It provides a consistent point of aggregation, where customers get all of their bills, and with one consistent user interface (go to mailbox, take out bills, close mailbox). The customer wants this consistency and aggregation on the Internet too. To do this involves taking care of details like enrolling users, figuring out whom they have bills from, figur-

ing out when a new bill is ready for them to see, reminding them to go see the bills if they forget, and on and on.

2. In the physical world when the customers are done looking at their bills, they fish out their checkbooks. The customer will want this on the Internet too. Providing a consistent payment interface is critical.

3. While Cool Software could do some of the preceding activities, there is one type of critical event that needs to be anticipated: What happens when a customer recalls seeing a bill and clicking on a payment button. One month later the customer gets a "late fee for nonpayment of bill" and a threat to report the customer to a collection agency. What happens now? Who is at fault? Did the customer click the correct buttons? Did the biller make a mistake? Did the Internet swallow up the check? Does the Cool Software have a bug that will (of course) be fixed in the next release? It doesn't matter. The net result is an angry customer and an unhappy biller.

Having identified the messyware inherent in electronic bill presentment, the next step is to provide all of the preceding messyware functions as an Internet service for billers. Enter the middleman with his messyware services. The middleman who tracks all events as they happen, knows what did happen and what did not, who provides customers with status tracking information, who can track down a sequence of events and resolve issues for customers and who maintains "aggregation information" so that users can be presented with the illusion of getting all of their bills at one site, when in fact the bills are located all over the Internet.

This example simply scratches the surface of the amount of messyware needed to make electronic bill presentment a viable service in the real world. It also illustrates how starting from the valid premise that the

Internet renders the traditional function of the post office irrelevant, one can quickly jump to the utterly invalid premise that there are no middleman functions required. Different traditional middlemen have different amounts of added value they provide but most if not all of them—the bank, the travel agent, the insurance broker, the car dealer, and yes, the newspaper—all provide middleman-type value that the Internet simply does not replace.

ANOTHER SITUATION IN WHICH THE MESSYWARE advantage is relevant is in financial services. The recent Citicorp and Traveler's merger generated talk of the relevance of a financial behemoth that provided one-stop shopping for a variety of financial products. After all on the Internet, could not customers virtually assemble the same package in an efficient fashion? For reasons already discussed we are highly skeptical of the Cool Software "BankBot" approach. A more practical approach might be the notion of a virtual financial superstore that assembles products from a variety of sources. This is more reasonable. Who is best equipped to create such a financial superstore? Someone with skills in retailing widgets? While these skills would be helpful for other reasons, we believe that financial products tend to be financial services, with a considerable amount of messyware inherent in the business. So the entities best equipped to create such financial superstores are those with the messyware needed to provide financial services, namely existing financial services companies. While the fact that they also manufacture the financial products may work for or against them, the fact that they have the messyware advantage is a tremendous asset. The Internet may have made their brick-and-mortar branch offices less relevant, but far from becoming obsolete, these companies have an early lead in the new Internet world, *if* they recognize and leverage their messyware advantage.

Challenges with the Cool Software Approach

This article has exuded skepticism about solving problems with "Cool Software." This should not be interpreted as the ravings of a modern-day Luddite. In fact, reliable, useful software is one of the greatest advantages any company, even a messyware company, has. Why then do I believe that Cool Software will not replace all the messyware needed anytime soon?

Obviously, the answer depends on the nature of the service and in some services it might well be the case that Cool Software can replace much of the middleman's added value. However, two universal factors stand out that are worth keeping in mind. First, software engineering is still a relatively young and immature science. Great strides have been made in the field, but there is little doubt that the complexity of the problems to be solved is growing faster than our ability to produce quality software in a timely fashion. This hardly means we should give up trying to code increasingly complex business rules into software, it simply means we should not lose perspective on just how soon complex functions provided by middlemen can be supplanted by Cool Software.

The second reason is that even on the Internet, where everyone is connected, it is often efficient to use a middleman. I've argued that a middleman can still add value, but now I am actually claiming they can be more efficient. How can this be? Think back to the last time you attended a meeting with people you had not previously met. As the group sat down, you engaged in a ritualistic business card shuffle. Twenty cards flew back and forth across the table. It took a few seconds. At the next meeting there were 10 people and 90 cards flew across the table. You finally sorted it out, but you probably got two of one person's cards, none of another's, and were not sure whether everyone got your card. So at your next meeting, when 20 people were present, you decided that it would be absurd to have about 400 cards flying about, so you decided to walk around the table, give your card to each person and take their card too. Unfortunately, the other 19 people had the same idea, and so you were all wandering around the conference room in confusion. Fed up, for your next meeting you had an assistant come in and do the honors: a pack of business cards was collected from each person at the beginning of the meeting, sorted into one set for each attendee, and distributed to meeting participants.

The moral of the story is that simply because the Internet makes connectivity between any two parties possible, it does not mean it makes it efficient. A very practical example will be exchanging electronic commerce transactions with your trading partners. The Internet makes it possible for you to do this with all your trading partners. But if you have thousands of trading partners, rather then maintain thousands of relationships, you'd probably want to end up dealing with one middleman and let him worry about dealing with the others. You'd then have one number to call when the inevitable problems arise when a transaction that was supposedly sent was supposedly not received. The middleman can always perform this function more efficiently than you can, because that's all he does for a living, so it's his core competency and he can amortize his cost of a connection to a company across all the companies to whom he links that com-

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pany. It is crucial for the middleman to recognize that, unlike in the past, the service he is now selling is not data transfer, so charging for the amount of data moved on the Internet will be short-sighted. But, by taking care of the messy stuff surrounding each transaction, the middleman can add value.

I concede that there may come a day when Cool Software can perform all this in a quality fashion and genuinely make the middleman irrelevant. This will happen sooner for some industries and later for others, but in most cases we are nowhere near that point.

Conclusion

The case being made here is that the middleman is not dead. Far from it, he has an advantage, the "messyware advantage" that gives him an early lead in adjusting his business to the Internet. The Cool Software companies also have a natural role—providing Cool Tools to enable the messyware providers to run their businesses better. Some Cool Software companies are indeed taking this path. Others, however, are leaving the tools business and getting into the business of providing services.

There are several reasons for this, but the single largest reason is that the Web threatens the shrink-wrapped software business. Customers who would once have gone to a retail software outlet to buy a piece of software to do vacation planning at home, now simply go to the Web and check out sites on vacation planning. The company providing the core technology for the PC-based vacation planning program might well be the best-positioned company to create an online vacation planning site. But instead of packaging vacation planning software and charging $50 a copy, the company is suddenly in the business of providing a vacation planning service and probably charging per vacation actually planned. In several cases like this customers no longer want to pay one-time fees for software, they want to pay a per-use fee for the service! To deal with this long-term threat to the packaged software business, some companies believe that they have to get into the services business, which in some scenarios has them competing with the traditional middlemen. Instead of the "tools for the middleman" business, they are in the middleman business itself.

In some cases, marriages of convenience spring up between companies with Cool Software and the traditional distributors. Such marriages of companies with complementary skills, which seem ideal in theory, have not always succeeded in practice. It is hard enough to bring together very similar companies, let alone companies with disparate goals and cultures. However, it does, in theory, offer the potential of bringing together the skill sets needed for a successful Internet service.

This article has tried to make the case that the traditional distributors, whether a travel agent or a bank, have a "messyware advantage" that gives them a significant strategic advantage. As always, however, victory will not necessarily go to those who started with a strategic advantage, but to those who execute the strategy the best. **C**

RAVI GANESAN (rganesan@checkfree.com) is Chief Technology Officer at CheckFree Corporation in Norcross, GA.