

A TYPOLOGY OF INFORMATION NEEDS

Yves-Michel Marti

ABSTRACT

One of the difficulties of business intelligence is to correctly assess the needs of your customers. This chapter presents a simple model—illustrated with many business examples—that helps making the distinction between information needs and information wants. We graphically illustrate concepts such as noise, waste, blindspots, serendipity, focused research, and focused information. This model can be used as a tool to educate your intelligence users.

MOTIVATION

All my life I will remember the following incident. Bob Margulies, the director of the Business Intelligence department at McDonnell Douglas, was a speaker at the SCIP France conference in December 1994 at Sophia Antipolis on the

Advances in Applied Business Strategy, Supplement 2A, pages 121-131.

Copyright © 1996 by JAI Press Inc.

All rights of reproduction in any form reserved.

0898-5626/96/0000-0000

French Riviera. When I publicly asked him, "You are one of the most experienced persons in our business, having spent many years in the CIA and then in industry. What do you think is the most important thing you have learned in all those years? What would you do today that you did not do in the past? What would you stop doing today that you used to do in the past?" He answered with a memorable sentence, "I wouldn't do one bit of research, data collection, or analysis, unless I am really sure that I understand the needs of decision maker I'm working for."

The more I practice business intelligence, the more I agree with what Margulies said then, and the more care I take to ensure that I am right on track in really understanding my customer's needs.

As an example, I was once called by a strategy director of a major media company. He said, "One of our major competitors has just signed an alliance with a huge publishing company in order to develop new multimedia products, making major headlines in the press. I want to have a copy of the contract they have signed." I answered, "There are only four places in the world where you can find this contract: the safes of the two managing directors, and the safes of the lawyers that worked for them. The only ways to get copies of these contracts are all illegal. However, with good background analysis, good intelligence, and a good lawyer we can reconstruct this contract for you and get quite close to what the original looks like." He agreed to the proposal and we went ahead. However, as time passed and money was spent it became clear that what really interested our customer were only his competitor's new products under development. Had we understood this much earlier, we would have saved time and money and the customer would have been happier.

This waste stemming from a lack of definition of the intelligence customer's needs is commonly found in situations where the boss says to his BI specialist, "I want to know all about competitor X." In these situations 300-page competitor profiles are written, which are a big piece of work to complete, are barely read, rarely used, and always considered incomplete: a very frustrating experience indeed for the BI specialist.

We experienced this kind of situation when we were asked to produce a very detailed analysis of a competitor's research and development center: organizational chart, resumes of all scientists and engineers, budgets and programs, equipment, and so forth. In all that work, in all that huge amount of data, what was really critical was understanding the relationship between a forceful product development director and a star electronic circuit designer. Their pet projects accounted for the majority of all funded projects.

So, understanding the intelligence customer's real needs is the foundation of any BI project. And it is also one of the hardest things to do.

The aim of this chapter is to propose a typology of customer needs. It can help you reduce the waste of efforts and resources, focus your research better, and find ways to provide more added value to your intelligence customers.

THE TYPOLOGY

Needs Are Not Questions

A common misunderstanding is to think that the questions you are asked are the real needs of your intelligence users. Paul N. Gorman (1995) recently wrote the following in a brilliant article studying the information needs of physicians: "a common approach taken in information needs research has been to equate information needs with the questions asked by physicians." Often the intelligence user will ask the wrong questions because:

- He doesn't trust you yet, so he is testing you.
- He doesn't know what you can really do.
- He is afraid that his peers in the organization will brand this study as "economic espionage."
- He is thinking aloud, and doesn't know precisely what he wants.
- The real question is too sensitive, and he is playing around it.

As an example, a client once asked us to analyze the product development practices of three competitors. It was only at the end of the study, when we presented the final report to his president, that we were told the real use of it. They were planning a major restructuring of the company and some of the solutions they wanted to implement were radical and would never be accepted by the very conservative organization and older work force. They would use our report and circulate it among the company so that their people would consider these organization options as more legitimate because they were already used by competitors. In particular, one of the options was moving from the old building with doors and corridors that hampered communication, into a custom-made building specially designed to facilitate interdisciplinary and interdepartment communication.

Had we known this beforehand, we would have changed the focus of our efforts. Instead of trying to understand the logic and the competitiveness of the competitors' organization, we would have focused more on specific organization features and would have tried to document them in more detail.

Needs Are Not Wants

The information one wants is not always the information one needs. One of the foundations of marketing is the difference between needs and wants (Kotler, 1988). This is more commonly expressed by "need to know, nice to know." Many people say that they need a specific piece of information, are willing to pay for it, say that they cannot do their job without it, but in fact

WANT **NEED**

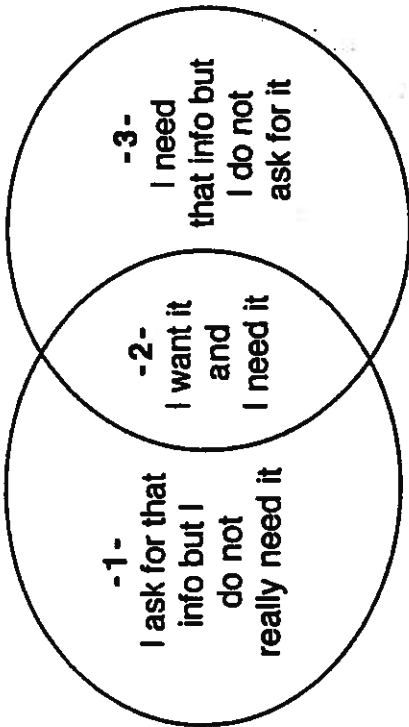


Figure 1

they do not really need it. We know of a company vice president that subscribes to the *Financial Times* (even though he doesn't speak English), and to a half a dozen specialized newsletters he never reads.

Figure 1 illustrates this point. The left circle represents the information that is wanted. The right circle represents the information that is needed. They are not necessarily identical. In a sane world, there should be some overlap between the two circles.

The zone on the left (1) is information that we want, but that we do not really need. It is a waste of money when we try to collect or buy it, when we analyze it, process it, and disseminate it. Some examples:

- A study among managers of documentation centers in France shows that about a third of the magazine subscriptions belong to the "status category." The information has no value to the company, but receiving a nominative subscription to a magazine aiming at upper management flatters the middle managers' ego.
- We have seen managers go to big trade shows, not because they needed to be there, or because they were even interested in going there, but because they felt it came with their job, and that going overseas from time to time was a perk. They should have sent, instead, the young sales representative or product manager that would have benefited from it more and created more value out of it.
- Some BI specialists work on reports with an unnecessary high level of detail, when the information maker really needs only a rough and quick answer.

- Need priorities are not well understood. I once witnessed a BI specialist so thrilled that the CEO in person asked him a minor piece of information, that for a few days he was not at all responsive to the demands of salespeople working on a competitive bid.

The zone in the middle (2) is the most visible part of BI work. It is what we are usually paid for. The money spent in this activity is considered as legitimate and focused on the priorities of the company. When we do not have the information, we are in a state of *educated ignorance* (we know what we do not know). A little effort will get us there. As examples:

- A successful database search with the right keywords.
- Operational support information such as the price positioning of competitors.
- In a big construction company, every strategic issue in the annual strategic plan activates a related intelligence activity.

The zone on the right (3) is the information we need, but we do not know it, we do not want it, and we do not ask for it. It is the kind of information that is often a big surprise when we get it, because we never thought of looking for it. For example:

- *Ignoring the small:* Companies usually monitor their two or three biggest competitors, and they do not pay enough attention to the small players. Business history shows that it is very rare that a company goes bankrupt because of its direct competitors. It usually happens because of something that happens that came out of their zone of surveillance.
- *Unexpected regulation:* In the cement industry some companies have been in head to head competition with stable market shares for decades. Some of their markets will completely disappear in a few years as ceramics will be the substitute that can satisfy new antipollution regulation.
- *New technology:* International calls represent a big percentage of the revenue today of telecoms operators. A new technology like telephone on the Internet means that international calls will soon cost nearly the same as local calls, thus completely changing the economics of the business of the operators that will be obliged to charge much higher for local calls.
- *Just luck:* You read a professional magazine and you jump to page 22 where there is an interesting article. It happens that just on page 21 there is a recruitment ad from one of your competitors that may signal new developments. Or you go and visit a supplier's booth in a trade show and right next to it you discover a new Asian competitor that has good

products much cheaper than yours. Or you phone your new year greetings to a friend, and you learn that he has just been hired by a big client.

The type of information in zone 3 fills our *deep ignorance* (we do not know what we do not know). It is the realm of surprises, of shattered assumptions, and of blindspot identification and recognition (for a brilliant discussion about blindspots, see Gilad, 1994).

The Information Tank

Now, it is not only sufficient to ask oneself the questions of "What information do I want?" and "What information do I need?" One should also ask oneself: "What information do I already have?" Companies are bulging with information. There is a wealth of information in the desks, drawers, and cupboards of the employees of your company. Identifying it and activating it could be the topic of a separate paper.

We can visualize the amount of information that we already have as the quantity of liquid in a tank where we would plunge our two circles of needs and wants as in Figure 2.

Figure 2 makes immediately visible that having more information doesn't necessarily mean that you are better informed. You may get information that you want but that is not useful, and a lot of noise as well.

Let's explore the meaning of the zones in Figure 2:

Zone 1 represents the information that we do not need nor want, but that we receive anyway. It is pure **NOISE**, the junk we throw away all the time. It may be junk mail, unsolicited advertisements, irrelevant reports, and so on.

Zone 2 is the same *Zone 1*, but we haven't received it yet. It may be the magazine subscriptions we did not dare stop, or the expert we are obliged to work with because he is a pal of the big boss. It is **FUTURE NOISE**. Badly defined needs today mean more noise and more work in the future.

Zone 3 is the information we want that we do not have yet, but that is not needed. It is a **WASTE** of time and resources. An example is commissioning a study or an audit as an excuse to delay action.

In *Zone 4*, we got the information we wanted, but we do not really need it. It is **NOISE**. As an example, many companies in the pharmaceutical industry are flooded with market statistics. They have rooms full of binders and computers to store the information. They rarely use it but they never throw it away.

Zone 5 is the information that we need, that we should have, but we have not asked for it. There is little chance that we will get it, except by chance. It is a **BLINDSPOT** or a **POTENTIAL SURPRISE**. As an example, a few years ago, there was a scramble of the European retail distribution firms to invest in Eastern Europe. Most invested big bucks and lost a fortune. One of these firms took the contrary option of investing in Spain instead. They were

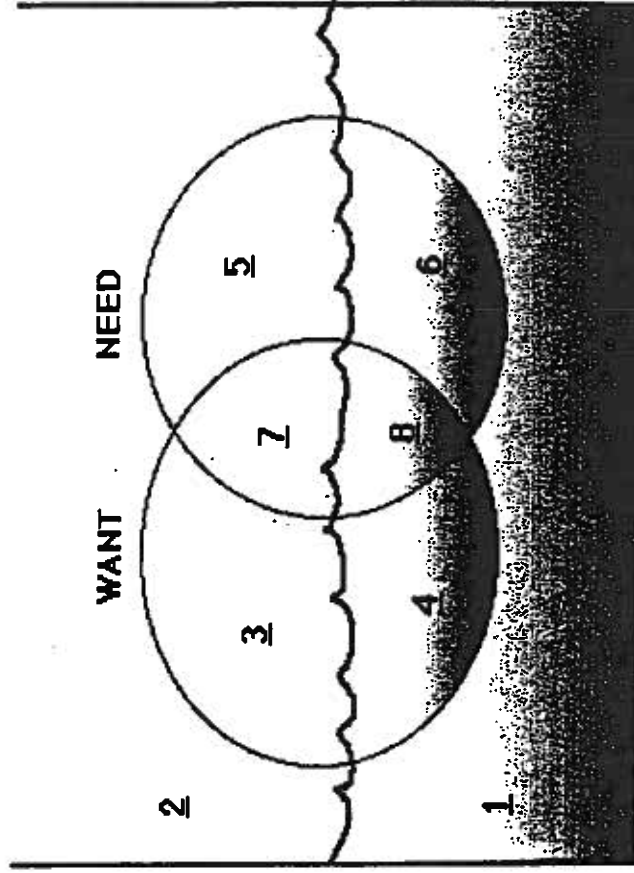


Figure 2

doing very fat profits and building new stores, but spent their time complaining that they were losing big money just like the others. Most of their competitors were focusing their intelligence efforts on Eastern Europe or on what their competitors were doing there. Apparently they did not check well enough what was happening in Spain.

Zone 6 is the happy zone. It happens sometimes that we get, by chance, a very interesting bit of information. It is **SERENDIPITY**. For example one of my friends once received a fax from a competitor that had dialed a wrong number. Instead of sending his proposal to his client, the competitor had sent it to its direct competitor. No need to say that my friend was very happy. Another example: Once at a school reunion, I met the wife of a fellow student who worked for a competitor. She was very frustrated because she hadn't been granted the promotion she was expecting. She happily gave me all the details about a key project over a three-hour dinner, as she was asking me about employment opportunities in our industry.

Zone 7 is the daily grind of information researchers. It is information that we need and that we want, but that we do not have yet. It is **FOCUSED RESEARCH**. It is an information search that is driven by the expressed needs of the intelligence customers. It is user-driven intelligence.

Zone 8 is FOCUSED INFORMATION. We've been asked information that was needed, and we got it. It is the pride of the information specialist that keeps a score of the questions he was asked and of the answers he gave. It is usually what justifies the budgets of the BI departments. It is obtained information that satisfies the expressed needs of the intelligence customers.

CHANCE INFORMATION AND SERENDIPITY

My experience is that companies usually do a pretty good job in Zones 7 and 8 (focused information and research), and that they get useful information that has, however, a low strategic impact. I think that Zones 5 and 6, where companies have strategic surprises that shatter their assumptions and blindspots have a higher strategic value. This can be summarized in Figure 3 where the arrow indicates an increasing value of the information.

It is quite remarkable that we spend so much time and effort on the central zone (focused information and research, or user-driven information), and so little in reducing waste or finding "surprise" information. How can we account for this? We can only offer a few tentative explanations:

- It is difficult to reduce waste. It means being able to discriminate between wants and needs. People that have information wants that are not real needs are often confused. Conversely if the information is needed for status reasons, people are very good at finding good reasons why they need it.
- It is easier to sell to management the rational approach of user-driven information. It is also intellectually more comfortable and satisfying. When one brings home this kind of information, its tally can be used as a performance measure for the BI professional.
- It is hard to convince people to look for surprise information. For example, Japanese employees traveling abroad often write "ingenuity reports" or "surprise reports" about all the things they think to be surprising, new, or unexpected. Quite a few French companies tried to implement this procedure and they mostly met failure. Employees were afraid that by demonstrating "surprise" they would, in fact, prove that they were naive or poorly informed.
- Most people have lost the ability to fall in awe and wonder since they were kids. They have narrowed their attention span to a few things, and they rarely put into question their established mental models. Some of the best BI professionals I know are like kids, enthusiastic about everything, open to all ideas and people, easy to reach by telephone (their secretary doesn't do much call filtering). They look for people that are stimulating and challenge their assumptions. In French we call this attitude "donner la chance à la chance" (give chance a chance).

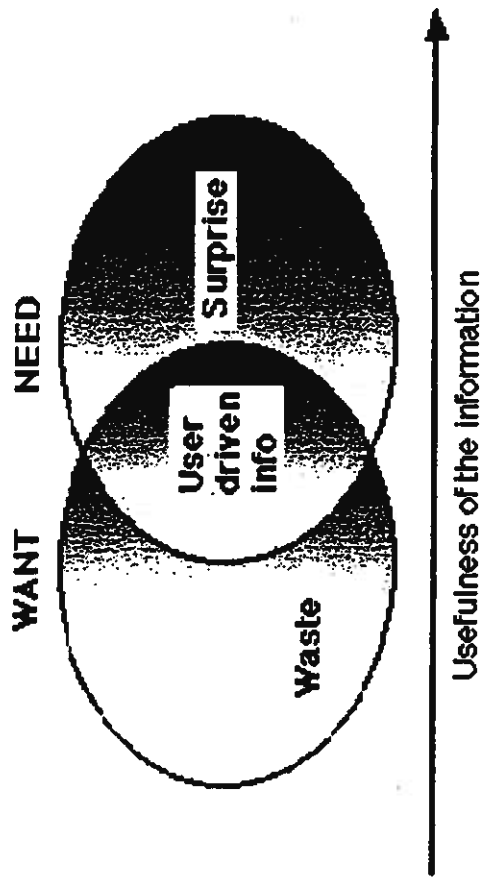


Figure 3

IMPACT ON ORGANIZATIONS AND PROCESSES

A director of a major European petrochemical company once told me the following story:

My 16-year-old daughter once came home after school one Friday evening, telling me that she had to write an essay about a little known English philosopher (I do not remember his name, so let's call him Mr. X). She had no information about him. We looked in all the dictionaries and encyclopedias we have at home without finding anything more than a 10-line biography. We then made a search on the Internet. In a short time we found quite a lot of material, more than enough for her to start working on her essay. As I looked on the hits we got from the Internet search engine, I found that there was a Mr. X in the biology department of a major American university. Since biotechnology is one of my strategic concerns, I clicked on his name and landed on the Web home page of the research department. I browsed through it, and found that they had some joint research projects with a Swiss university. It was not one of the universities with which we have established relationships, so I clicked again with my mouse to learn some things about it. I quickly found the list of their research projects. To my surprise, one of the projects listed was very similar to one that we are currently following. When I came to the details, I was amazed to learn that they were more advanced than we were, and that they were funded by our direct competitor! Now I am very glad I found this information, and we have acted on it. However, the way I have found it scares me. Our BI department did not know about it, and if it were not for my daughter's philosophy essay and my home Internet connection maybe I would have never learned about it.

The question is: now that we recognize the value of chance information and serendipity, what systems can we put in place to capture them and benefit from

them? The answer to this question is outside the scope of this chapter, so I will just give a few examples.

- At 3M employees can spend 10 percent of their time on personal research projects, even if these projects do not have a direct relationship to their company's interests.
- IBM has IBM fellows. They are scientists that have proven their worth. They are given a budget with which they can do what they choose: travel, do their own research, and so on.
- A French service company pays 10 percent of the cost of any employee trip (vacation, visiting family, etc.), as long as they can produce information that is somewhat relevant to the company. For example, an employee identified savings in processing food by watching the organization of a sushi bar in Japan.
- One British electronics company systematically interviews all the employees that have resigned, a few months after they have left the company, in order to get from them an unbiased and uncompromising view of the company's position and strategy. The president personally reads all these reports.
- One European company does systematic intelligence gathering at conferences. Their rule is "do not plan for more than 50 percent of people's time, and leave the other 50 percent free for unplanned things and personal intuition of the person."
- One British company systematically gathers all available published information at Asian trade shows. They regularly receive 200 pounds of luggage filled with documents. The person in charge told me, "We are trying to diversify outside of our usual business. We are looking for ideas. We want to have an open mind. The last thing we want is filtered information."
- Some companies systematically look for shifts in their environment by scanning online databases with keywords such as "change," "surprise," "unexpected," "contrary," "break through," "upset," and so on.
- A French dataprocessing company monitors all newsgroups and Web sites on the Internet that split, that are newly created or that have a high level of dissent.
- Hiring foreign blood in your organization. These people will view your business with different cultural glasses. In that respect, Spanish people are well known for exploring wild tracks (Dall, Gaudi, Cervantes,...and...Colombus!).

WHAT CAN YOU USE THIS MODEL FOR?

First, it can be a good tool for educating your customers of intelligence. It may help them to understand that having more information doesn't necessarily

mean being better informed. It may be used to induce them to discriminate between the information they want and the information they need.

Second, the model can be used as a tool to position your BI department activity. For every question asked, one can try to tell whether it was wasteful or useful. For every significant information obtained, one can try to position it in terms of user-directed information or chance information. The results can be surprising. We get more chance information than we think, chance information has often more value than expected, and we actually do very little to get more of it.

CONCLUSION

User-directed intelligence is very respectable, but it is not enough. In order to avoid strategic surprises, and to shatter our blindspots, we need to be more proactive in looking for chance information.

REFERENCES

- Gilad, B. (1994). *Business Blindspots*. New York: Probus Publishing Company.
 Gorman, P.N. (1995). Information needs of physicians. *Journal of the American Society for Information Science*, 46 (10), 729-736.
 Kotler, P. (1988). *Marketing management*. Englewood Cliffs, NJ: Prentice Hall.