

Competitive Forces in Business Intelligence

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Abstract

Modern business intelligence is a relatively new business discipline. As such, it is evolving rapidly, and competitive forces are at work to shape it. This paper examines business intelligence from the point of view of the corporate provider of intelligence. Industry structure at a *macrocompetitive* level is defined from that point of view, following the “five forces” model proposed by Michael Porter. Then a “zoom lens” is applied, and an examination of *microcompetitive* forces, i.e., those within the corporation, is conducted. It is suggested that alliances with microcompetitive forces are essential to the survival of business intelligence as a corporate function.

Macrocompetitive Forces

Business intelligence most often appears as a business function, rather than a stand-alone industry. It is instructive, however, to analyze this function as if it were a stand-alone industry. Professor Michael Porter of Harvard Business School has proposed his “five forces” model that is helpful in analyzing industries. The five forces driving industry competition are Suppliers, Buyers, Industry Competitors, Potential Entrants, and Substitute Products/Services.¹ Graphically, this generic industry structure can be represented as in Figure 1.

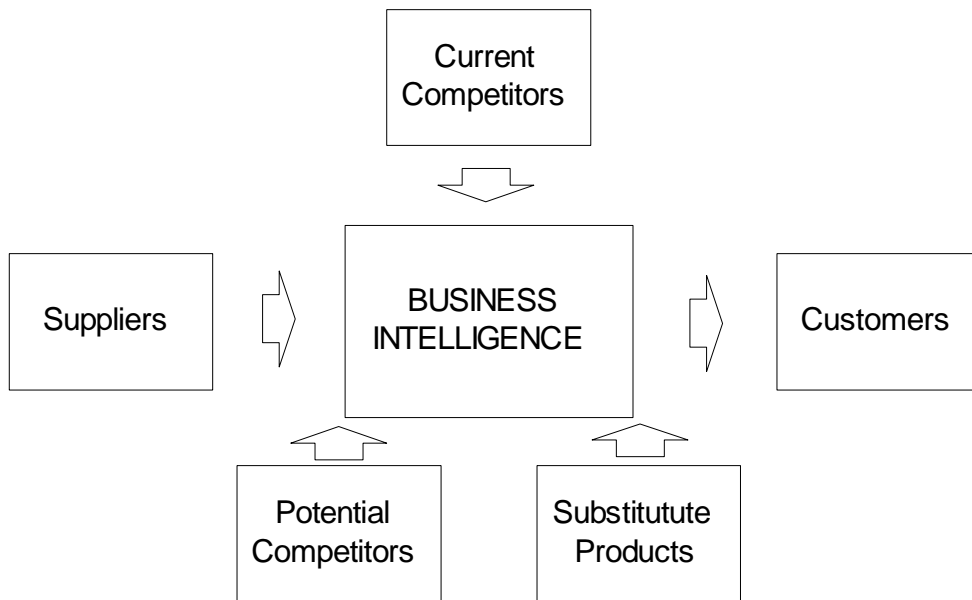


Figure 1: Macrocompetitive Forces in Industry Structure

Each one of these competitive forces is itself composed of various business sectors, each of which is in turn composed of some number of firms and/or business units. What are the competitive sectors involved in each block?

Customers

The internal “customers” of a corporate business intelligence function are typically from among the following:

- *Executive management.* Top decision-makers, including the CEO and the Board of Directors, need current information on which to base the major strategic decisions of the company.
- *Marketing.* Competitive activities are key to the marketing plan for any product or service. Pricing, channel strategies, and promotional activities should all be informed by the strategies and activities of a competitor.
- *Planning.* The design and execution of business strategies, likewise, generates a need for business intelligence. This is true whether planning is seen as an annual ritual, or whether it has evolved toward a real-time activity.

- *Research and development.* Especially in industries where R&D is a key competitive asset (pharmaceuticals, for example), knowledge of competitor activities in R&D is essential.

Suppliers

If one looks into the vendor files of the typical business intelligence analyst or executive, what kinds of firms does one find there? Probably two major classes, *content* providers and *conduit* providers. The analogy here is that, as oil is to the pipeline, so is information content to information conduit.

We note that here, as with other sectors described herein, these sectors may not be discrete activities conducted by different firms. A current strategy of conduit providers is to provide information content (Microsoft's recent introduction of an online service comes to mind), while some content providers have been buying distribution conduits (as in the Disney purchase of American Broadcasting).

Content Providers

There are many types of providers of information content. Some of the largest categories include:

- *The business press.* This category provides 70-80 percent of the content of business intelligence. The business press itself divides into two categories, the general business press (for example, *Reuters*, *Wall Street Journal*, *Financial Times*) and the trade press (specific to each industry.)
- *Syndicated research providers.* Companies such as Simmons and A.C. Nielsen provide consumer purchase data of use to many industries. Others, such as J.D. Power (automobiles) and IMS (pharmaceuticals) provide data of interest mainly to one industry. Still others (Dun & Bradstreet, R.R. Donnelley) provide directories and structured listings.
- *Primary research providers.* Market research and competitive intelligence companies provide custom research, usually based on interviewing targeted samples of individuals.
- *Electronic information providers.* Most providers in the traditional "print" press sector have expanded the delivery of their data to include electronic delivery as an adjunct to print. Others (such as Bloomberg) deliver their content *primarily* through electronic means.

- *Electronic agent providers.* The electronic clipping service has evolved into an electronic agent function that can automatically find and retrieve relevant information. Sandpoint, Individual, and Desktop Data in the US provide this kind of service.
- *Information “brokers”.* This is something of a misnomer, since these companies rarely offer the true brokerage function of matching buyer and seller. They are more like value-added resellers. They typically execute customized data searches of published and public (but non-published) data. The SVP network of companies is an example.
- *Seminar and trade show companies.* For-profit seminars and trade shows are valuable sources of business intelligence. As this information goes through less filtering than some of the other sources, it can be more direct and timely.
- *Universities.* Universities supply one of the most important supply components of business intelligence—well-trained people to conduct research activities. They also supply research in the form of Ph.D. dissertations and other academic papers that may contain valuable business information.
- *Trade associations.* Trade groups also supply research of value to strategic researchers, though often this is restricted to people or companies that are members of the association.

Conduit Providers

In this age where electronic distribution of information is a necessary supplement to, and often replacement for, physical distribution, providers of electronic conduits are also important players. These include:

- *Data access providers.* Once information providers have produced an electronic content product, they still face the problem of distribution of that product. Many work through the commercial providers (like the “Big Three” consumer-oriented services, CompuServe, America Online, and Prodigy, or business-oriented services such as Dialog and Lexis/Nexis). Others are beginning to use the vast resources of the Internet for this purpose. Still others have integrated downstream to provide their own electronic distribution (Dow Jones, for example).
- *Software providers.* Desktop computer software plays an important role in data retrieval, in data analysis, and in the communication of the information that results from data analysis.

- *Hardware providers.* Makers of computers, modems, printers, CD ROM readers, and a host of other peripheral devices are an integral part of the modern business intelligence operation.
- *Telecommunications providers.* The “wires” that carry this information may be common carrier telephone providers (AT&T and the regional Bell companies in the US), or they may be “value-added networks” such as Advantis or the CompuServe network.
- *Systems integrators.* There is a need for the purchase and setting up of all the products, services and vendor relationships, in both the content and the conduit areas.

Current Competitors

This is where things get interesting. Currently the only serious competition to the business intelligence function *from outside the company* are full-service business intelligence providers that can supply strategic information directly to decision-makers in any number of corporate functions. Some companies have identified the business intelligence function—along with other staff functions—as a candidate for “outsourcing”, and have begun to let contracts that will shift the complexity, cost, and risk to an outside supplier.

Internally to the company, there is also serious competition to the business intelligence function. These are detailed below in the section on “Microcompetitive Forces”.

Potential Competitors

Virtually any provider on the supply side of the industry is a potential competitor for the business intelligence function. These providers would in most cases prefer selling directly to an executive decision-maker than to an intermediary, for a number of reasons (direct relationships, command higher prices, etc.) The reality today is, though, that due to the complexity of the information supply side, and to the lack of training that most business executives have in managing the information supply side, such “disintermediation” of the flow of business information is unlikely to occur soon.

The confluence of two current trends could change this:

- the increasing ease with which information sources can be manipulated without specialized training, and
- the training that managers-to-be are increasingly receiving in these disciplines.

Substitute Products/Services

Changes in information technology are occurring at such a rapid pace that it would be unwise to discount the threat from new sources that may initially seem insignificant. For example, few business intelligence experts had even heard of the Internet as recently as 1993. Now virtually all of them know about it and most are using it. The deployment of high-capacity digital phone lines, which is occurring now in the US, although slowly, will only enhance this trend.

Local storage technology is another area where major developments are under way. CD ROMs will soon undergo quantum-leap increases in storage capacity, and read-write drives will come down in price and become more common. This could affect the way business information is accessed.

Microcompetitive Forces

The most serious competitive threat to the business intelligence function comes from other functions *within* the company—hence the term “microcompetitive”. Noting first that the business intelligence function in many companies exists as part of one of these, the functions are:

- *Planning.* A function whose heyday is 20 years behind us, due partly to its heritage in the conglomerate-building activities of the 1960s and 1970s. Increasingly seen as neither bottom-line oriented nor sufficiently fast-paced for the modern world. Often the richest repository of analytic techniques and talent in the corporation.
- *Market Research.* Another discipline that is past its prime, due to its extreme reliance on esoteric quantitative methods that few decision-makers feel comfortable with. As a result it is often relegated to more routine research issues—should the box be blue or red?
- *Management Information Systems.* Though recent efforts to gain officer-level status for this function have largely faltered, the function has gained considerably in status—and budgets—since it first appeared in the 1960s. The recent move to client-server technologies has created major opportunities for the business intelligence function.
- *Corporate Information Center.* What used to be the library has taken on the purchase and management of electronic products and the providing of research services. Frequently hampered by relatively modest budgets, lack of contact with top decision-makers, and a lack of business experience among its practitioners.

- *Informal sources.* Several studies² have shown that executives rely heavily on informal sources for information – no matter how sophisticated the formal sources in their companies may be. These sources usually (by definition) have high credibility with the decision-maker – and it is human nature to pay the most attention to those you trust the most. The downside is that too often these sources convey anecdotal information that is not based on a rigorous examination of facts. Over time, this tends to have negative impact on the quality of decision-making.

Each of these internal functions represents, or could represent, serious rivalry for the business intelligence function. Each of these functions has primary responsibility for a different aspect of the information coming into a company.

Business Intelligence Industry Structure

Industry structure for the business intelligence function, then, appears something as follows:

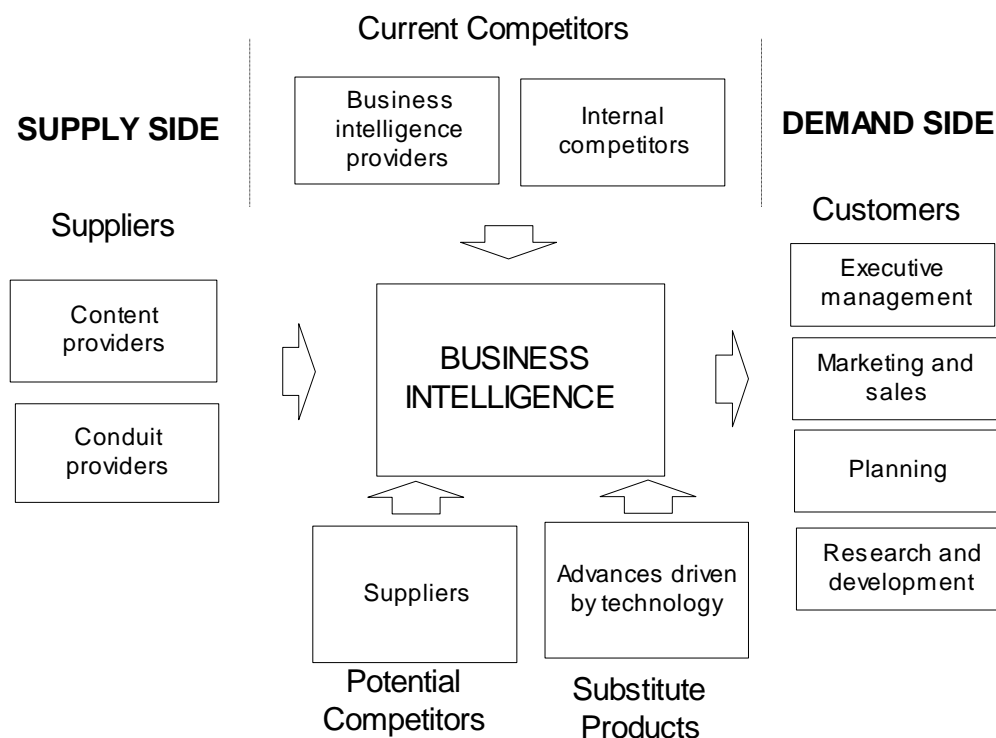


Figure 2: Industry Structure for the Business Intelligence Function

Observations

The preceding analysis of competitive forces in the business intelligence function has revealed certain key findings:

- Current customers for the business intelligence function are grouped in a small number of corporate functions.
- There is a significant amount of competition for the business intelligence function.
- Current competitors for the business intelligence function come mainly from inside the company, not from outside.
- Potential competitors, however, could come from any of several sectors within the supply side.
- Substitute products could develop rapidly as a result of shifts in information technologies.

Strategies for any of these sectors must take account of the strategic positioning of the other sectors. Any supply-side provider, for example, must be aware of shifts occurring in the demand side for business intelligence. The demand side, in turn, must monitor developments on the supply side in order to remain competitive with rival firms' capabilities.

Business intelligence professionals are in an ideal position to mediate both of these sets of awareness-building activities. They would do well, in fact, to play active roles here.

The Business Intelligence Network

What are the implications of all this for the business intelligence professional? First, it is essential to recognize that it is entirely possible that business intelligence will disappear as a corporate function staffed internally, and be replaced by outside vendors who serve as sole outsourcing agencies for this type of work. Historians of business will recall that this is exactly what happened with advertising earlier this century – it evolved from a function usually staffed internally, to one usually handled by an outside agency. Some major corporations in the US have begun to outsource significant portions of their business intelligence activities.

If, however, business intelligence is to survive and thrive as an internal function, it must itself take note of the competitive pressures facing it. In short, *business intelligence must use its own resources to design its own future*, just as it helps the company design *its* future.

How can it do this? A reasonable first step is to “round up the wagons” internally, that is, to create alliances with those internal forces that appear to be rivals or even threats. By this I do not mean to suggest the model of the ad hoc task force, whose life as an entity ends when its work schedule has been executed. I mean something more like the kind of strategic alliance a company itself would have, that is, an agreement that is good forever, or at least until canceled with the consent of both parties.

This would consist of a *network* of professionals in the various disciplines listed, all of whom have some involvement with business intelligence. Note that the primary interests and competencies of these rivals, far from being directly in competition with each other, are in fact *complementary*, as shown in the table below.

CORPORATE FUNCTION	PRIMARY COMPETENCY
Planning	Environmental scans
Market Research	Primary and syndicated research
Information Center/Library	Published information and secondary research
Management Information Systems	Hardware, software, and connectivity
Informal Sources	Credibility

Though they all deal in some fashion with business intelligence—bringing value-added information to bear on corporate decisions and strategies—they typically all lie in different boxes on the corporate organizational chart. As a result, they typically communicate with each other only sporadically.

An alliance between these forces would create a virtual entity stronger—and far more “intelligent”—than the sum of the individual parts. Duplications and overlaps could be eliminated, and as a result the combined costs of these functions could be reduced. At the same time, it is likely that the quality and quantity of service to internal clients would actually improve.

This network could initially be built through task-force type meetings, but could then be sustained through the regular communication of an electronic network. Again, this is already happening in some leading US corporations.

The Business Intelligence Super-Agency

The management of corporate knowledge is too important to float among boxes on the organization chart, as it does in many modern corporations.³ The virtual entity or network described above, though it moves in the right direction, is likely to be a transition leading to the final organizational phase of business intelligence. This is the *super-agency* phase, wherein a new organizational entity will arise that will combine those core elements listed in the table above.

This super-agency will have as its mission the coordination and centralization of business intelligence that now exists as a string of islands in the corporate ocean. This evolution is analogous to the creation during World War II of the US Central Intelligence Agency, whose primary role was to coordinate the activities of the various military intelligence agencies.⁴

Whether it is an internal organizational unit or an outside agency, its basic structure and the competencies it requires will be much the same. The design of this intelligence super-agency will be detailed in a future paper.

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¹ Michael Porter, *Competitive Strategy*, Free Press, 1980, p.4

² For example, Sharon M. McKinnon and William J. Bruns, *The Information Mosaic*, Harvard Business School Press, 1992.

³ Timothy Powell, "The Information Metabolism", *Competitive Intelligence Review*, upcoming Fall 1995.

⁴ William E. Colby, "Privatizing Intelligence", address to the Planning Forum and Society of Intelligence Professionals New Jersey Chapters, September, 1995.