

Data profit vs. data waste

*Boosting business performance every day in the real world
with information optimization*



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Executive summary

Companies do many things to grow profits. They discover new market opportunities. They sell more effectively. They innovate. They delight their customers. They improve productivity. They find ways to cut costs and mitigate risks.

It can be difficult to do these things in today's economic environment, because revenue opportunities are not always abundant and executives are largely disinclined to make substantial investments in new business capabilities.

Despite current conditions, businesses are still finding ways to significantly improve their performance on a daily basis. One of these ways is the aggressive pursuit of data profit.

Data profit is what results when companies make economically optimized use of all the structured and unstructured data already residing in existing systems across the enterprise to get better at everything the business needs to do: discovering opportunities, selling, innovating, delighting customers, improving productivity, cutting costs, and mitigating risk.

Data profit has become an especially compelling business strategy today, because companies now suffer as never before from a specific problem that is the very opposite of data profit. That problem is data waste.

Data waste occurs when companies do not fully utilize the wealth of data that they already have. This problem has become highly prevalent because companies have implemented so many systems over the past decade or more—from high-end databases and applications to email and basic desktop productivity tools—but have not developed effective strategies for fully leveraging their collective information output.

This is not to say that these systems have not produced worthwhile results. For the most part, they have. However, these results have largely been restricted to the specific purposes for which they were each implemented. What companies need now is a practical means of tapping the potential value of all data cumulatively residing across all systems to tactically address ad hoc business challenges.

The way to tap this value is information optimization. With the right information optimization solution, companies can quickly deliver an entirely new class of actionable, high-value business insight to decision-makers and front-line employees across the company.

Equipped with this insight, companies can substantially improve business performance even in today's challenging times. And, if and when times become less challenging, companies with differentiated data profit strategies will be in an even better position than their competitors to take full advantage of any market expansion and/or new market opportunities that emerge.

Data waste

Imagine a factory where large amount of raw materials lie unused and strewn about at various points along the assembly line. Imagine too that the factory's manager allowed large numbers of finished goods to sit on the loading dock indefinitely without ever being shipped to customers.

It's hard to imagine such a situation being tolerated in any modern production facility. Yet very similar conditions exist in most corporate data environments. Massive amounts of potentially useful data remain unused and strewn about the enterprise environment. And information that could be potentially quite useful to end-users across the company never arrives on their desktops.

This was not always the case. Earlier in the development of what we now might term the Information Age, companies had a relatively small number of special-purpose systems which were each used in rather limited ways. CRM systems were used to maintain structured data on customers. Email was used on an ad hoc basis to quickly relay text messages to recipients. Four things have occurred over the years, however:

- **There are more disparate systems in place now than ever before.** The amount of data waste across the enterprise is therefore multiplied by this larger number of systems. In addition, system "sprawl" has fragmented the enterprise environment—making it less likely that any individual end-user will be a regular user of the particular system containing a particular piece of useful data. Sprawl and fragmentation also make it more difficult to successfully aggregate related, relevant data from all systems.
- Systems are being used in richer, more diverse ways. CRM systems, for example, may now include customer feedback on product quality, as well as unstructured "notes" fields that describe events of some importance. The increasing diversity of this data further fuels the phenomenon of data waste—especially given the fact that much of this new data transcends the original narrow business focus of the systems that generate it.
- **Total data volume has grown exponentially. As systems have remained in use over time**—and as end-users have become more and more comfortable utilizing these systems as an integral part of their daily work-lives—the sheer volume of data scattered across the enterprise has reached massive proportions. This has dramatically driven up the scale of the data waste problem.
- **The volume of unstructured data has grown especially fast. Unstructured data**—in Word and PowerPoint documents, in emails, in web pages, and in audio/video files scattered across the enterprise—is growing faster than structured data. In fact, IDC predicts a compound annual growth rate of 61.7 percent for unstructured data—far outpacing the 21.8 percent growth projected for transactional data. This growing volume of unstructured data is often of tremendous value to the business, yet it is much more prone to waste than structured data residing in database-driven applications.

Data waste is not just more of a problem today because there is more data across the enterprise that is being wasted. The problem has also become more egregious because the potential value of this wasted data has also grown so much. Businesses depend more and more on information to succeed. So the more data they waste, the more they compromise their performance. Key areas of concern for the business as they relate to data waste include:

- **Missed opportunities**—Companies discover opportunities through exposure to diverse types of data: industry news, market research, feedback from customers and salespeople, sales trends, etc. If this information doesn't get to the right people at the right time, companies can miss these opportunities and cede them to better-informed competitors.
- **Weaker customer relationships**—Salespeople, account managers, and other customer-facing staff can more effectively serve customers when they have access to any and all relevant data—whether that data is a bit of corporate intelligence someone picked up via email or a major article in last week's Wall Street Journal. Poor use of this data can therefore have an ongoing, adverse impact on a company's current and long-term relationships with its customers.
- **Poor strategic and tactical decisions**—Executives are constantly called upon to make decisions about markets, personnel, resource allocation, technologies, and partnerships. They don't always need more data to make better decisions—but they always need the right data. If they can't find that data or don't even know it exists, their decision-making will suffer.
- **Legal and regulatory risk**—The ability to mitigate exposure to legal and regulatory risks is largely contingent upon ready access to all data relevant to those risks. Both the courts and regulatory agencies have a very high expectation that companies will have, use, and be able to produce data about all types of business processes and events. Companies that suffer from data waste, however, do not adequately use and cannot readily provide the data that they actually have.
- **Higher operating costs**—Companies that waste data spend money they don't need to spend. They buy reports that have already been purchased by someone in another division or location. Their employees make twenty phone calls looking for the answer to a question that could have been found with a few keystrokes. The result is substantial lost productivity and higher costs at a time when few companies can afford either.

Companies invest a lot of money in applications, processing power, storage, and the people who keep it all running. Data waste severely undermines the return on these investments. In doing so, it also severely undermines business performance in multiple ways. Companies should therefore protect themselves against data waste with the same vigilance as they protect themselves against waste in manufacturing processes, wasteful energy consumption, wasteful use of staff time, and the waste of money.

Data profit

The opposite of data waste is data profit. Data profit occurs when a company starts to consistently extract the full potential business value from the data assets dispersed across the organization—and when it begins to successfully minimize instances of data waste.

Data profit is not an abstract or esoteric concept. It is an extremely pragmatic phenomenon that has substantial impact on day-to-day business performance. The following real-world examples illustrate how companies experience data profit in concrete terms:

- **A leading healthcare provider**—A leading healthcare provider substantially enhanced its compliance position by automating the capture of new compliance-related data from all sources—including internal memos, web page updates, and regulatory bulletins—as well as the selective distribution of that data to targeted staff members. This significantly reduced the company's exposure to fines, injunctions and other compliance-related risks. More effective and automated use of its existing unstructured data assets also enabled the company to reduce its knowledge worker headcount by 140 FTEs, resulting in labor savings of \$11.2 million annually.
- **A leading aircraft manufacturer**—A leading aircraft manufacturer implemented a portal that gave its employees vastly improved visibility into all unstructured data relating to the supply chain for a major new model. The speed with which supply-chain managers were able to retrieve critical data from spec sheets, bills of lading, and other documents allowed them to repeatedly avoid parts delivery delays and errors—saving the company millions. The company also estimated that it was able to reduce knowledge worker headcount on the project by 9 percent and realize another \$1 million savings on the printing, distribution, and storage of paper documents alone.
- **A leading market analysis firm**—A leading market analysis firm was able to cut its R&D spend 22 percent annually by making better use of existing research and avoiding duplicate purchases of similar reports. The firm was also able to cut the cost of training new knowledge workers in half by creating complete, concise packages of all unstructured data assets on the topics relevant to their specific roles and responsibilities.
- **A leading supplier of electrical power management solutions**—A leading supplier of electrical power management solutions faced a particularly challenging data waste problem, because its unstructured data included both collaboration/brainstorming documents and authoritative content on product specifications, business controls, and operational best practices. Re-purposing of the former was important to eliminate duplicate effort during the research phase of various projects. However, it was also important to make sure that the latter data was always used by employees looking for reference material. By properly distinguishing the two types of data, the company was able to accelerate time-to-market, avoid having its employees repeatedly “reinvent the wheel,” and more rigorously maintain consistent standards across multiple business units.

These examples highlight the fact that data profit is achieved by different companies in different industries in different ways. For some, data regarding supply chains and manufacturing may possess the most potential business value. For others, it may be data about customers, research, or regulatory mandates. What all “data profitable” companies have in common, however, is the ability to fully utilize existing assets and avoid egregious data waste.

It is worth noting that data profit often generates a virtuous circle. Unlike raw materials, any given piece of data can be used over and over again for business advantage. And, experience teaches that once a piece of data is found to be useful by a user anywhere in the organization, it is more likely to be effectively used by others. So the business value of a piece of data actually grows with each successive use.

Conversely, as companies generate more data waste, it becomes harder for them to make good use of the valuable data that they have—because the waste creates more “haystack” in which any given “needle” has to be found. This is a vicious circle that undermines business performance and creates greater exposure to risk.

It is therefore incumbent on organizations of all kinds to aggressively pursue the virtuous circle of data profit and avoid the vicious circle of data waste.

Information optimization

Companies minimize data waste and achieve data profit through information optimization—which is a set of technology-enabled disciplines that enable users across the organization to make optimum use of any and all structured and unstructured data assets that are relevant to whatever business challenge is at hand. Information optimization can be generally understood in terms of three primary disciplines:

Access to structured and unstructured data

To use data effectively, people obviously have to be able to get access to it. So any successful information optimization solution has to include a robust set of data access mechanisms. Search is a core element of this essential data access. Users must be able to find relevant data regardless of where it resides and what form it is in. And they must be able to do this on an ad hoc basis using plain language and the kinds of logical operators commonly associated with search engines.

Plain “vanilla” search alone, however, is typically insufficient to provide a strong data access foundation for information optimization. Other key aspects of data access that help contribute to effective information optimization include:

- **Relevance**—Superior relevance calculation is critical for effective information optimization. The return of too many search results will make it difficult for users to pinpoint data of real value to the business. The omission of relevant data, on the other hand, will simply lead to more data waste.

- **Freshness**—In today’s real-time business environment, the data that is most useful to people is often that which is the most recent. So whatever mechanism is used to provide users with relevant data must be especially able to quickly index and return results from brand-new documents that have just been created or updated.
- **Security**—Data access can never be allowed to compromise data security. So special precautions must be taken to preserve restrictions to access and maintain consistent security and compliance policies even as access to relevant data sources across the enterprise is facilitated through search and other access tools.

Putting data and data sources in their business context

In addition to providing users with ready access to any and all non-confidential data relevant to their needs, effective information optimization requires an applied understanding of the business context of each data inquiry. The use-case of the power management solutions supplier in the previous section offers a prime example of this. In that case, it was essential to differentiate the business context of research from the business contexts of policy conformance and product standards. In other cases, context may be related to an information taxonomy—for example, that a given model is associated with a particular product line and that the product line is associated with a particular line of business. Context can also be associated with specific set of data sources, such as “all email attachments sent out by the sales department in the last two weeks of the quarter.”

Context adds substantial insight and business value to data. For example, a transactional system will indicate that sales in a given territory spiked suddenly last month. With access to the right data properly contextualized, however, a sales manager might quickly realize that a major competitor faced a major legal problem in that same territory—and that this may have been a contributing factor to the spike in sales volume.

Information optimization is therefore not just a matter of indexing and searching data. It is also about placing that data in the context of the business problems and objectives that users are trying to address on a daily basis.

Making data active

Effective information optimization requires that data do more than just sit there passively waiting for users to find it. It also requires relevant data to be “pushed” to users where and when it’s appropriate to do so—and that data is more aggressively utilized as part of automated workflows and business processes.

A typical example of this is the healthcare provider reference in the previous section. Here, alerts concerning new compliance content are being distributed to users’ desktops on a daily basis. Alerts can be appropriately filtered for each user, and users can modify their alerts as necessary so that they don’t get either too much or too little information on a daily basis.

This raises another issue about effective information optimization. Users must be empowered with intuitive tools to customize searches, filters, distribution rules, and other information optimization parameters. Business needs are always changing—as are individuals' roles and responsibilities. So the effectiveness of any information optimization strategy is at least in part contingent on how readily tools and systems can be adapted to new challenges and objectives as they arise.

This adaptability goes hand-in-hand with the idea of “data democratization.” While many conventional Business Intelligence (BI) solutions are designed to support decision-making in the executive suite, such a limited approach allows a massive amount of data waste to continue unabated. Large-scale data profit can only occur when information optimization is extended to all levels of the organization. Improvements in the insight and behavior of knowledge workers in sales, customer service, manufacturing, purchasing, finance, and other departments can cumulatively have a tremendous positive impact on business performance. Conversely, errors and inefficiencies in these areas can seriously undermine that performance. It is therefore highly advisable to implement an information optimization strategy that is readily extensible to everyone who could potentially benefit from getting just the right piece of data at just the right time.

Critical advantages in tough times

Given current constraints on technology budgets—and the fact that depressed market conditions may cause some pessimism regarding the extent to which business performance can really be improved in the near term—corporate decision-makers have to be very cautious about which initiatives they green-light and which ones they put on hold.

So, while data profit is clearly better than data waste, the real question is why any organization should specifically prioritize an information optimization initiative today over the other investments that are competing for limited corporate resources. There are actually several compelling reasons why information optimization warrants priority consideration in today's market environment:

- **Business opportunities are more precious than ever**—In a sluggish marketplace, every single business opportunity is precious. Companies that use their data to maximum advantage are much better able to spot these opportunities than those that don't—and they are much less likely to overlook opportunities because of inadequate market insight.
- **Customer relationships are more valuable than ever**—When customers with money to spend are fewer and farther between, it becomes even more essential to keep the ones you already have. The visibility that information optimization provides into customers' needs, preferences, and behaviors is thus especially valuable today.

- **Informed Decision-making is more critical than ever**— In a down economy, there is less room than ever for bad decisions. And the ability to make good decisions that elude the competition can result in even greater performance differentiation. Companies can therefore achieve significant sustainable advantages by consistently delivering better information to strategic and tactical decision-makers now.
- **Big mistakes are more dangerous than ever**— Activist regulators, an aggressive business media, sensitized shareholders, and skittish customers are all raising the stakes when it comes to errors of both omission and commission. Few companies can afford the consequences of these groups' ire—which can include fines, damage to reputation and brand, legal injunctions, a reduced stock price, and even jail time for top executives. By minimizing both individual and institutional ignorance, information optimization drastically reduces the likelihood that such errors will occur.
- **Inefficiency is less tolerable than ever**— When it's difficult to drive revenue up, it's that much more important to drive expenses down. Information optimization saves companies millions of dollars in knowledge worker salaries by making them more productive and eliminating duplications of effort and purchasing.

Perhaps what makes information optimization most compelling as an immediate investment under present conditions is the breadth of its impact on the business. While various projects under consideration by management may promise to boost sales or streamline supply chains, information optimization can have a pervasive positive impact on virtually every aspect of a company's operations—improving performance and productivity, while reducing cost and risk across the enterprise.

In fact, because the scale of data waste at most companies continues to grow along with the relentless growth in volume of both structured and unstructured data, the decision not to initiate at least some type of pilot information optimization program can itself be considered an extremely risky one.

Every company looking for a practical way to improve top and bottom-line business performance in today's challenging economy should therefore strongly consider adoption of information optimization technology and best practices. By doing so, they will be able to out-perform competitors that continue to suffer from data waste in the near term—while at the same time positioning themselves to further distance themselves from the competition for when regional economies regain their footing.



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