CUSTOMER INFORMATION IN A COMPETITIVE ENVIRONMENT: PRESERVING ADVANTAGE OR DIVIDING THE SPOILS

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Introduction

There are significant tensions in the utility industry today as new rules are being drawn up in over fifty regulatory arenas across North America. The actors in one particular area under dispute are electric utilities, ESCOs, marketers, ratepayers, and energy-efficiency support organizations. All of these groups have vested interests in the means by which utility customer information is handled during the re-regulation period we are now entering.

The utilities wish to hold onto their investments of staff time, money and management attention by maintaining control of the customer list and the other information they have carefully assembled to complement it. The ESCOs and marketers want access to this information to reduce their efforts and costs in marketing to their target customers. The energy-efficiency support organizations want continued access to aggregated information to keep their market research costs down, and to enable continuation of the substantial activity in the area, based on "free" public information. The ratepayers want the information protected so that they are not barraged by marketers and ESCOs, and so that their competitors do not find out production cost or other competitive information concerning their facilities. Intervenors, regulatory agencies, state governments, and other interested bodies are also pushing their particular views as the regulatory landscape is reshaped.

How big is this issue, what types of information are under dispute, and how will this issue be resolved? These are the questions this paper will endeavour to address. The authors of this paper are from a large, publicly owned utility and while we have attempted to be dispassionate in our analysis, we realize that we may be bringing a utility bias to this discussion.

Background

As the North American utility industry moves towards a more competitive structure at various levels, utility staff and consultants need to be aware of issues relating to the confidentiality of customer, utility and marketplace information; and to the structuring of information in an environment where the assemblers of the information may in some areas be required later to give parts of it to their new competitors. With the marketplace structure of the retail area of the industry still uncertain, and likely both to vary by state and province and to evolve over time, this is no simple challenge. We have seen in early retail access pilots such as the New Hampshire pilot, disputes over information availability and accuracy.

Some of the key features defining the future business environment will likely be the following:

- our definition of utilities will change, and their business components will likely be some combination of (or a combination of parts of): genco, transco, disco, meterco, billco, contactco, and retailco operations;
- there will be fewer generating and distribution electric utilities, and in some geographic areas consolidation may be significant;
- there will be a wider range of energy service providers;
- some retailers will be primarily commodity suppliers, while others will offer a range of products and services;
- energy services previously offered through demand-side management (DSM) programs may be new revenue sources (Freedman, 1995).

While some of these issues have been investigated separately in recent works (Fryer 1996, Kristov 1997, Schultz 1996, Vine 1996), this new area is still relatively unexplored in a time where the issue of "stranded mistakes" takes center stage. We face the risk of different regulations and procedures evolving independently in each of the regulatory territories, and of merchants in the business facing a myriad of conflicting rules. Unfortunately, at a time when we are still somewhat unclear as to how the buyers will buy, and the sellers will sell, clarity over the potential dispersion of customer information has not received the attention it would get in a more competitive business.

New Utility Needs

The utility customer information under discussion comes from a variety of sources. Utility monthly energy and demand billing data, load shape/rates metering studies, end-use and facilities as well as behavioral market research, focus group findings, load management and strategic conservation program evaluations, in-depth analysis of other applicable data, and purchased databases

make up just some of the sources of the information potentially under dispute.

Even without the concern over who might endeavor to claim access or title to information of this type, the evolving marketplace drives the utility staff towards new practices in the areas of confidentiality and security.

Five years ago utility customer information was of little strategic importance as no one could do much with it competitively and it was likely not assembled in a particularly useful format. In short it had little value, and as DSM program evaluators have learned, it was often accidentally structured in such a way as to ensure that it had virtually no value. Today integrated marketing information systems are based on data warehouses with off-the-shelf, powerful, and versatile text management tools; and data mining software that can easily be customized. Staff who seldom thought of confidentiality from a competitive or business perspective now are being told that they are handling information that has exceptional value to competitors and therefore to departing employees. A remarkable new tension is discovered - we are trying to supply our staff with an incredible amount of confidential information, but only in the areas where they have a need to know.

We are now restricting employees from seeing much of what they were accustomed to having available, as well as withholding information from the public and various businesses and trade allies that we formerly dispensed information to freely. Information on a need to know basis - welcome to the new order.

It is one matter to re-write the rules as to what information might be available to your staff and outsiders, it is quite another to secure that information. In an environment where photocopiers outnumber support staff, security is an issue. As we assemble massive amounts of information which are both of value competitively and are also of concern to the firms they pertain to for their individual competitive situations, security takes on a new priority.

Ownership of the Customer Information

The ownership question has many aspects. There is ownership of the responsibility for supplying public aggregated information which is needed in many areas, there is ownership of the right to assemble and use the energy sales data in the re-regulated environment, there is the question of who owns the current databases resident in the integrated utilities of today, and there is the question of how that information moves to the new "unregulated" subsidiaries over time. The old adage may be true "information is power".

In some jurisdictions it has been proposed to make public the mailing or contact lists of customers, as the telcos had to do in some areas. Balancing the desire of the marketers and ESCOs to get this information is the desire of the customers for privacy, competitive security, and the desire to not face a barrage of marketing efforts which after the telco experience, they really don't feel a need for. Others have talked of moving the whole of the utility customer data out of the utility's hands, thus hamstringing the retail arm, or unregulated subsidiary. In the case of one particular utility it is estimated that the combination of the utility name and the mailing list (marketing information system) is worth in excess of $100,000,000. This is a resource to be dealt with carefully, and why should the shareholders lose this asset? Should this asset not be balanced against the so called stranded assets (i.e. selling it to the unregulated subsidiary), as opposed to giving it to the marketers who have not contributed to the collection of this information?

The current plans in California (affiliate transaction guidelines) contain a variety of points, but those most relevant to this discussion are:

- any customer-related information held by the regulated UDC (Utility Distribution Company) to be shared with the affiliate is subject to customer consent - same for non-affiliates
- transactions between the two entities be limited to tariff items
- the affiliate should operate independent of the IOU (Investor Owned Utility)
- no UDC discrimination between its own affiliate(s) and non-affiliate electric service providers (EEnergy, June 1997)

This approach may well end up with a variety of marketers having a little information, and stranded assets as big as ever.

Structure of Utility Data

There are many significant types of customer information. Exhibit 1 lists ten of these types, and describes each of them. Each utility will hold a unique inventory of information, with some having information in only a few of the categories, and others possibly having even more types of customer information.

Although greater use is now being made of purchased, externally produced databases, most customer information is collected in one of three ways. First there is information collected as part of a routine business transaction, or which is built from the analyses of these transactions. These include customer contact information, billing data/load shapes and billing analysis. Second, there is information collected through or based on activities in the customer's home or business premises. These include end-use metering and modeling, building audits and installation and evaluation of customer cost reduction measures, including energy-efficiency measures and

others. Third, there is information collected through qualitative and quantitative research. These include customer needs and segmentation data and modeling, service incident tracking, customer satisfaction and value measurement and loyalty/switching behaviour surveying.

Exhibit 1: Key Customer Information Areas

1.	Customer contact	• customer home address, phone number, key decision-makers
2.	Billing data/load shapes	• consumption and demand by billing period, amounts billed, payment/credit history, premise load shape
3.	Billing analysis	• historical comparisons, comparison with average/best practice (benchmarking), outlier / problem identification
4.	End-use consumption	• metered, modeled or estimated consumption by end-use, including load shape by end-use
5.	Building audit	• building characteristics, appliance and equipment saturation, energy management practices, recommended improvements
6.	Customer cost reductions (Energy-efficiency measures)	• energy efficient measures installed, energy and demand impacts, cost effectiveness, untapped potential
7.	Customer needs/segmentation	• customer needs and expectations, market segmentation
8.	Service incident tracking	• tracking of services provided for new connections, billing, outages, energy information and general inquiries
9.	Satisfaction and value	• perceived importance and performance of key service quality attributes, perception of product value
10.	Loyalty/switching	• perceived propensity to switch/stay, branding and brand equity

Each type of information has different costs of collecting/assembling and storing/accessing. Estimates of these costs are noted in Exhibit 2. These are estimates for both their Operations, Maintenance, and Administration (OMA) and capital components. Information collected as part of a routine transaction tends to be relatively inexpensive; information collected through a focus group, interview or survey tends to occupy the middle ground cost-wise; and information collected through on-site visits, metering and/or modeling tends to be expensive. The value of information to the various suppliers is different. In Exhibit 2 the authors' judgment of the value is described for three generic types of suppliers; those supplying just energy, those supplying cost reduction or energy-efficiency services, and those supplying other related services, such as electric vault maintenance, security services and smart-house / smart-office products.

Future Homes for Utility Data

In a market situation where retailcos are separate from discos, the customer information should form part of the asset base of the retailco. Other parts of what used to be the integrated utility have no real use for the basic data, and only need access to those parts of the current data which are needed to allocate costs and revenues related to energy and ancillary activity transactions and selected special reports.

In situations where bundled discos are permitted, the data will stay in the disco, with access available to the appropriate groups to facilitate allocations of costs and revenues associated with transmission, generation and ancillary services.

The option of moving this information to an outside group simply depreciates the value (significantly) of the retail arm of the utility, and results in an asset being discarded, instead of valued and used to offset stranded costs. However, it is important that utilities receive fair monetarization of the value and not use this as an undue barrier to market entry by new players. Such barriers could defeat the competitive objectives of market restructuring.

Outside Access Recommendations

Handling of each of the ten listed types of information will differ. Exhibit 3 presents the authors' recommended handling for each type. In making these recommendations, we have tried to balance the rights and needs of various actors in the market. However, our judgments are tentative and we would welcome the perceptions of others on this issue. The rights of the customer, the value of the firm, and the needs of public service organizations all need to be considered.

The sequence of these three priorities is carefully selected. The customers' rights must come first. They have a "right" to an efficient, low cost supply of electricity, which might be improved via the planned re-regulation across the continent. For smaller customers it might be necessary to provide some basic contact information to potential competitive suppliers. There are at least three ways to do this;

- via universal distribution of basic contact data
- via an opt-in approach whereby customers ask their utility to provide certain types of information to selected prospective vendors.
- via an opt-out option where the utility provides information unless the customer directs otherwise

The value of the firm comes second. Shareholders have made large investments under the assumption of a degree of market stability. The proper distribution of customer information will preserve the asset value of the

Exhibit 2: Collection Costs and Competitive Value of Key Customer Information

	Information Areas	**Collection Costs**	**Supplier Value**		
		(OMA/ Capital)	**Energy**	**Energy-efficient services**	**Other services**
1.	Customer contact	Low / Med.	Medium	Medium	Medium
2.	Billing data/ load shapes	Med.[1] / High	Low (Res.) to High (Ind.)	Medium	Medium
3.	Billing analysis	Med. / Low	Low (Res.) to High (Ind.)	Medium	Medium
4.	End-use consumption	Med. / High	Medium	Low	Low
5.	Building audit	High / Low	Low	High	Medium
6.	Customer cost reductions (Energy-efficient measures)	High / Low	Low	High	Medium
7.	Customer needs/segment	Med. / Low	High	High	High
8.	Service incident	Med. / Low	Medium	Low	Low
9.	Satisfaction and value	Med. / Low	High	High	High
10.	Loyalty/switching	Med. / Low	High	Low	Low

[1] Costs for billing data are low, but for load shape data they are high with traditional technologies.

Exhibit 3: Recommended Actions by Customer Information Area

	Information Area	Recommendation
1.	Customer contact	• basic customer information could be released on a one-time basis as competition is opened up.
2.	Billing data / load shapes	• only aggregated or averaged information should be released, perhaps with limited sector disaggregation. Customers can authorize release of specific information to specific vendors at minimal cost.
3.	Billing analysis	• this is a value-added product and should not be released
4.	End-use consumption	• only aggregated or averaged information should be released, perhaps with limited sector disaggregation. Customers can authorize release of specific information to specific vendors at minimal cost.
5.	Building audits	• this is a value-added product and should not be released
6.	Customer cost reductions (Energy-efficient measures)	• released in monitoring and evaluation reports as required by regulator
7.	Customer needs / segmentation	• proprietary market information which should not be released
8.	Service incident tracking	• relevant to firm and internal processes and should not be released
9.	Satisfaction and value	• proprietary market information which should not be released
10.	Loyalty	• proprietary market information which should not be released

retail operation, thereby reducing stranded costs and benefiting all ratepayers.

The aggregation of valuable planning information for public service organizations comes third. These organizations play a key role in defending the public interest, but their rights should come behind those of the ratepayers/customers and shareholders who have paid for information collection and analysis.

In the free enterprise world there is no "free lunch". Given that the customer information has asset value, it should not be distributed freely, unless it can be clearly demonstrated that the social benefits of disclosure outweigh the social costs of widespread sharing of business information. These costs include the fact that expensive information collection and analysis will not be undertaken if there are no implicit property rights attached to the information. The new and existing market players should both earn their way.

Security Recommendations

"If it's not confidential why are you investing time in it?" [2]

Some areas of the utility's marketing function are less open than they used to be. The future of security and confidentiality in the modern utility will be in the electronic format. With more photocopiers than support staff, paper is too hard to control. Within the electronic format security is still very difficult and must always be focused on minimizing the effects of an employee leaving, to work for the competitor, as the security standard to develop to. While it is almost impossible to keep departing employees who work in sensitive areas from being able to take valuable information, the objective must be to limit the potential damage. Screen saver passwords are needed on most if not all utility computer monitors to protect the confidentiality of customer information, and to secure this information from intruders or other staff. Passwords are

[2] Poster on the wall in the B.C. Hydro Market Analysis Department, June 1996.

always required for local area network (LAN) access initially, but once the employee is signed on the screen saver password is the only line of security. If valuable files are kept on the local computer's hard drive, boot-up passwords are needed to prevent access by anyone with a DOS diskette. Files being transferred through LANs or diskettes need to be protected by passwords as well, so that only the intended recipient gains access. With programs such as Lotus Notes which have various levels of security of access, and encryption capabilities, whole databases can be securely encrypted. Specially assembled databases are used to restrict the breadth of information flow through enabling access to only the needed areas for each staff member.

Information in hard copy/paper format needs to have clear policies relating to confidentiality and security, and procedures governing the use of the new "confidential" stamps, and the distribution of information. Access to buildings is now more of a concern, not only for the protection of employees and their possessions, but also for the protection of customer and marketplace information. The new work environment will indeed have different priorities.

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