

Evaluation of Customer Profitability Analytics Vendors

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Executive Summary

Financial institutions are facing numerous challenges: acquisition and diversification strategies are yielding disappointing results while organic growth through de novo branches and cross-selling are proving less fruitful. Moreover, market share no longer translates into market power or profitability. Faced with these challenges, financial institutions are finding that they need to shift gears from “grow, grow, grow” to grow profitability. But do they even have the gears to shift to growing customer profitability? Most do not. The few that have built the gears state that it has been the “biggest thing they’ve ever done to improve profitability” and “the only way to become a truly customer-centric organization.” Celent believes that the ability to develop customer profitability analytics and execute strategies and tactics based on the results will differentiate financial institutions over the next decade. Financial institutions which differentiate service levels, develop segment-specific products, and implement relationship pricing based on customer profitability will excel.

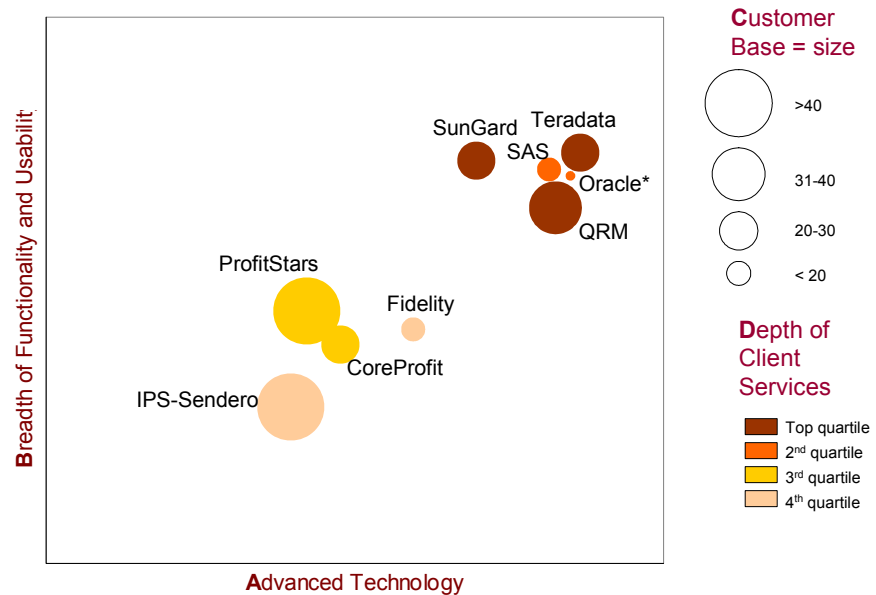
Banks have historically downshifted when faced with a slowdown in growth or a downturn in profits. They reactively slam on the cost brake pedal and close their eyes. It has always been easier for them to improve the bottom line by cutting costs than by growing revenues. The revenue lever has been trickier to manoeuvre for two reasons. First, it is a big gear that takes time to warm up and show results (unless a financial institution simply acquires business). Second, it does not guarantee profit growth. Banking economics, which are in part driven by the wild card cost-to-serve variable, are such that it is easy to grow unprofitably.

Given the growing importance of profitable growth and the maturing of customer profitability applications, Celent was inspired to undertake a vendor evaluation applying its ABCD Vendor View framework. The ABCD framework shows at a glance the relative position of each vendor in four categories: **A**dvanced technology (top factors include system architecture, flexibility, security, and performance), **B**readth of functionality and usability (also includes reporting), **C**ustomer base, and **D**epth of client services (top factors include implementation skills, customer support and training, and responsiveness). Celent examined the customer profitability offerings of nine vendors. The selection criteria included: ability to calculate profitability at the account level and at least five installations in the US. The vendors are: CorePROFIT, Fidelity National Information Services (FNIS), IPS-Sendero (a Fiserv company), Oracle, ProfitStars (a Jack Henry & Associates company), QRM, SAS, SunGard BancWare, and Teradata.

The maturity of the applications is evident by the clustering of vendors to mid-to-large banks in the upper right hand corner of Celent’s ABCD Vendor View: the use of advanced technology and the breadth of functionality and usability are relatively high (note the vendors are scored on a curve). Across three dimensions (ABD), three vendors stand out: Teradata, SAS, and Oracle, followed by SunGard and QRM. SunGard scores as well as the leaders in terms of breadth of functionality and usability. FNIS is an up and coming provider as it continues to add functionality. The three vendors which serve the small bank market cluster below the rest in part because several of the factors taken into consideration under each dimension (e.g., scalability under advanced technology and calculation sophistication under functionality) are geared toward mid to large bank needs. CoreProfit, the only small independent provider, scores well among the other

vendors, IPS-Sendero and ProfitStars. The immaturity of bank adoption is obvious in the small number of customers even the well-established technology firms have.

Figure 1: Celent ABCD Vendor View—Customer Profitability Vendors



Source: Celent

*Oracle does not publicly disclose the number of customers using Profitability Manager. It has over 300 financial institutions using its Financial Services Analytic Applications.

This report begins by defining customer profitability, elaborating on its importance, and discussing adoption of customer profitability analytics and best practices. It then launches into an evaluation of technology providers with an overview of the vendor landscape, provides an analysis of each of the four dimensions (ABCD) with vendor-specific details, and profiles each vendor, elaborating on their attributes.

For an in depth discussion about the key elements of customer profitability and best practices in customer value management, see the Celent report *Customer Analytics Triathlon: From Data to Knowledge to Wisdom*, June 2006. Celent has published other reports that discuss customer centricity and underlying infrastructures: *Banking on Relationships: Paving the Way for Relationship Pricing*, May 2007; *A Fresh Start To Customer-Centricity*, July 2005. In addition, Celent will publish a report in Q4 2007, *A Tale of One City: National City Core Renewal with SOA*, that discusses National City's migration from a product-centric IT infrastructure to a customer-centric one.

Overview

Because customer profitability means different things to different people, it is useful to set the stage with an overview of Celent's definition of profitability, the importance of account-level profitability, and the power of customer profitability knowledge.

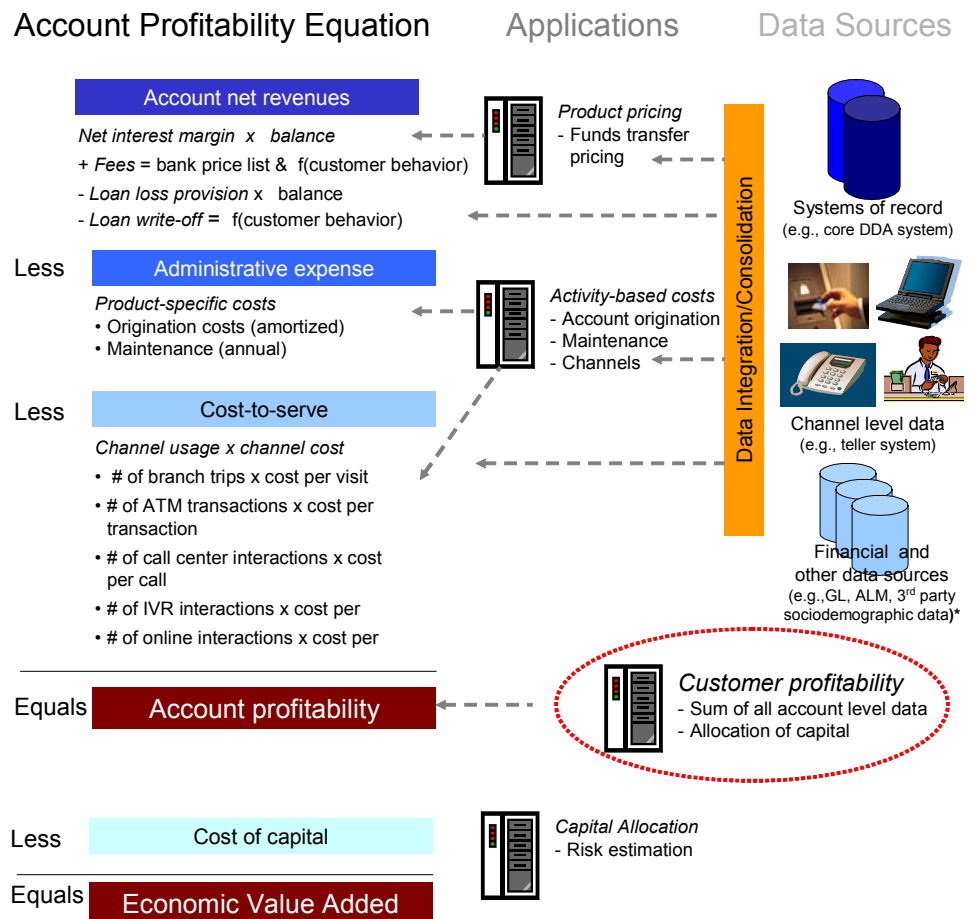
Definitions

Celent defines customer profitability as a profit and loss calculation that begins at the account level and is rolled up to the customer level. An account is any financial product or service sold to the customer. The customer begins as a single individual and can be expanded to include households, including personal and business accounts.

Customer profitability in the technology context is the engine that calculates profitability metrics from data pulled from other systems. Figure 2 diagrams the various building

blocks to calculating account-level profitability. This report focuses on the customer profitability application.

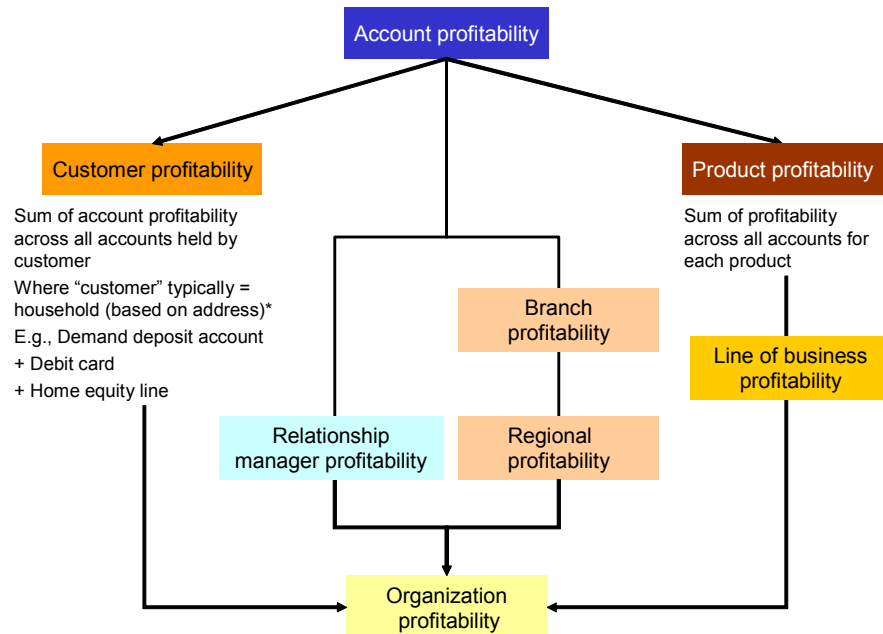
Figure 2: Building Blocks to Calculate Account Profitability



Source: Celent

Because technology vendors may have different profitability calculation engines (i.e., different platforms for different calculations), in the vendor profile section, Celent notes those that offer a single platform (i.e., a single engine is used to undertake all calculations as illustrated in Figure 3).

Figure 3: Single Calculation Engine



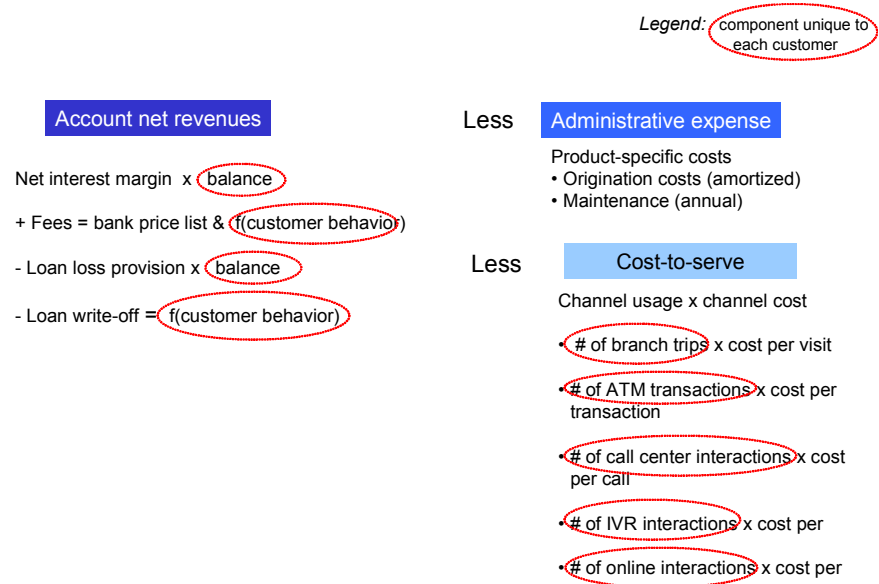
Source: Celent

*While household is commonly used, some advanced practitioners argue that within a household differentiation can be necessary. For example, if one household member runs a small business and another runs a nonprofit, and both use their home address.

The Ultimate Calculation: Account Profitability

The most accurate profitability metric is at the account level (e.g., Betsy Customer's demand deposit account). Only at the account level are all the levers in the customer profitability equation included, enabling a bank to determine what it needs to do to improve the profitability equation. Most of these levers are driven by individual customer behavior, as indicated by the ovals in Figure 4. Balances and customer behavior (e.g., how often a customer overdraws an account or makes a late loan payment) drive net revenues, while channel usage drives cost-to-serve. Account level profitability, however, is also the most challenging to calculate, necessitating sophisticated cost allocation and channel data integration. Hence, it is not a ubiquitous metric on a financial institution's performance dashboard.

Figure 4: Account Level Profitability Equation



Source: Celent

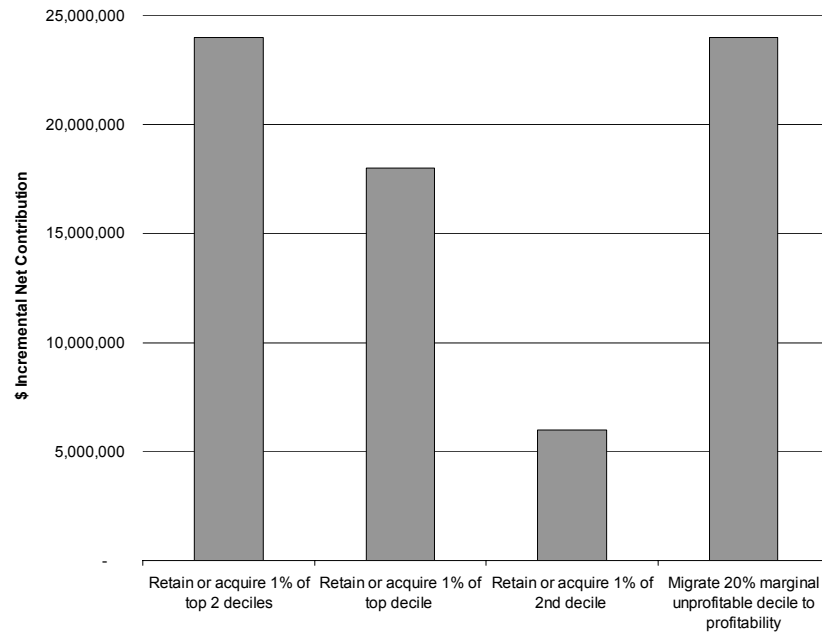
Profitability Knowledge: Why It Matters

To put it succinctly, the ability to calculate customer profitability and effectively develop and execute a customer centric strategy and tactics based on this knowledge have a substantive impact on both the top and bottom lines. And it is an advantage that few financial institutions share. Despite the clear economic advantage of knowing and understanding customer profitability, most financial institutions are not far down the learning curve. While a majority of midsize plus banks (assets greater than US\$5 billion) have succeeded at amassing and consolidating customer data, a small fraction have translated the data into actionable metrics (e.g., customer profitability segments). Fewer yet have developed and executed strategies and tactics to improve customer profitability.

The power of executing on customer profitability data is illustrated in Figure 5. If a financial institution (with 10 million retail customers) knows which customers are in the top two profit deciles, it can develop strategies to stem attrition; if it were to succeed at retaining an additional 1% of those customers, it stands to gain US\$24 million (based on annual net contributions of US\$1,800 and US\$600, respectively). An equivalent amount

could be gained if it were able to migrate 20% of the first decile of unprofitable customers to next decile of profitable customers.

Figure 5: The Profitability Bang—Four Scenarios



Source: Celent

Note: Pro forma for a top tier bank with 10 million customers, of which 20% generate 100% of total net contribution. Top tier customers' net contribution = US\$1,800 per customer; Second tier = US\$600; marginally profitable = US\$120.

Table 1 summarizes the initiatives and results of a best practice player, Royal Bank of Canada.

Table 1: Royal Bank of Canada, a Gold Medalist in Customer Profitability Analysis

Project Phase	Description
Background	<p>RBC Canadian Personal and Business segment (RBC CP&B) embarked on implementing a behavior-based customer profitability model within personal banking in 1998. It chose to work with Teradata (it had already implemented Teradata Warehouse) to codevelop a number crunching workhorse, which would later be commercialized as Teradata Value Analyzer.</p> <p>RBC Canadian P&B expanded from assigning customers to three profitability buckets based on average costs to calculating account-level profitability. Today, RBC Canadian P&B runs a profitability model for four of its five business lines (personal banking, business and commercial banking, cards and payment solutions, and wealth management; it is currently building a model for its global insurance business).</p> <p>In addition, it developed a segmentation framework composed of strategic and tactical models. Over the years, it has built over 80 proprietary customer models, which score each eligible customer on a monthly basis and identify strategies and tactics to improve customer profitability.</p>
Early takeaway	<p>All the sweat and resources expended proved worthwhile, for the results of these models were startling. RBC found that 101% of its profitability comes from 20% of its Canadian retail customers. Furthermore, it discovered that 75% of its customers shifted two or more profitability deciles under the new approach, proving—what it had suspected—that its old model based on averages was inaccurate and would not be an effective tool for customer value management.</p> <p>While the customer intelligence that RBC CP&B has gleaned is in and of itself valuable, the greatest return from RBC’s efforts is found in its ability to act on the knowledge and better serve its retail and business customers within RBC Canadian P&B. It can optimize its use of resources, whether they be human, infrastructure, or capital, by directing them to strategies and tactics that improve customer experience and customer value.</p>
Results	<p>The success of RBC CP&B’s retail customer intelligence efforts is seen in the growth in customer profitability. Over the past two years, on average, customer profitability has increased 11% per annum. Its long-run objectives are to continue improving the accuracy of its models and profitability calculations and to refine its enterprisewide view of customers. It is coming close to the pinnacle of customer value management: aligning the value it brings customers with shareholder value by adding models and product groups.</p>

Source: RBC, Celent research

Note: For more detail see the Celent report, *Customer Analytics Triathlon: From Data to Knowledge to Wisdom*, June 2006.

Despite the benefits of customer profitability analysis, embracing the concept of managing for customer profitability can still be a great challenge for financial institutions because it requires shedding conventional wisdom. First and foremost, they must recognize that market share, whether it is based on deposits and/or loans, is no guarantee of profitability. Second, they have to acknowledge that the old 80/20 rule does not apply, and that because customers’ usage drives cost-to-serve and cost to-serve

influences customer profitability, more significant profitability skews exist. Third, cross-selling can be unprofitable, or, in other words, blanket cross-selling is foolish. For example, cross-selling an unprofitable customer can lead to a greater profit drain. Even cross-selling a profitable customer can result in cannibalizing the customer's profitability (e.g., a customer might open a home equity line of credit to use in lieu of his credit card). Financial institutions that can get beyond the conventional wisdom will excel in the new competitive landscape.

The Vendor Landscape

Celent has examined the customer profitability offerings of nine vendors (Table 2): CorePROFIT, Fidelity National Information Services (FNIS), IPS-Sendero (a Fiserv company), Oracle, ProfitStars (a Jack Henry & Associates company), QRM, SAS, SunGard BancWare, and Teradata. The selection criteria included: ability to calculate profitability at the account level and at least five installations in the US. Eight of these vendors offer a commercialized customer profitability application, which calculates profitability at the account level. One, QRM, does not sell packaged applications but rather provides an application toolkit along with profitability and funds transfer pricing advisory services.

Table 2: Customer Profitability Vendors Reviewed

Vendor	Parent Company	Profitability Application (Cost Allocation App.)	Version/ Release Date/ Customers Installed (%)	Next Major Release Date
CorePROFIT	N/A	PROFITwise Profitability (PROFITwise Costing)	3.3 3/07 100% (ASP*)	2008
FNIS	N/A	TouchPoint Profitability (TruProfit and TruABC)	TruProfit 6.1 9/2007 (just released)	EOY 2007
IPS-Sendero	Fiserv	Relationship Profitability Manager** (Product Profitability)	2.2 5/07 40%	EOY 2007
Oracle	N/A	OFSA (Profitability Manager)	11.0.3 4/07	N/A
ProfitStars	Jack Henry & Associates	Relationship Profitability Management (PROFITability)	7.8 3/07 1%	5/2008
QRM	N/A	QRM Profitability & Funds Transfer Pricing***	2007	2008
SAS	N/A	SAS Profitability Management (SAS ABM)	1.2 10/06 97%	6/2008
SunGard BancWare	SunGard	BancWare Profitability (same)	5.2 4/07 50%	11/2007
Teradata	N/A	Teradata Value Analyzer (same)	3.0 Q2 2004 31%	10/2007

Source: Vendors and Celent

*CorePROFIT's behavior-based costing application can be run in-house.

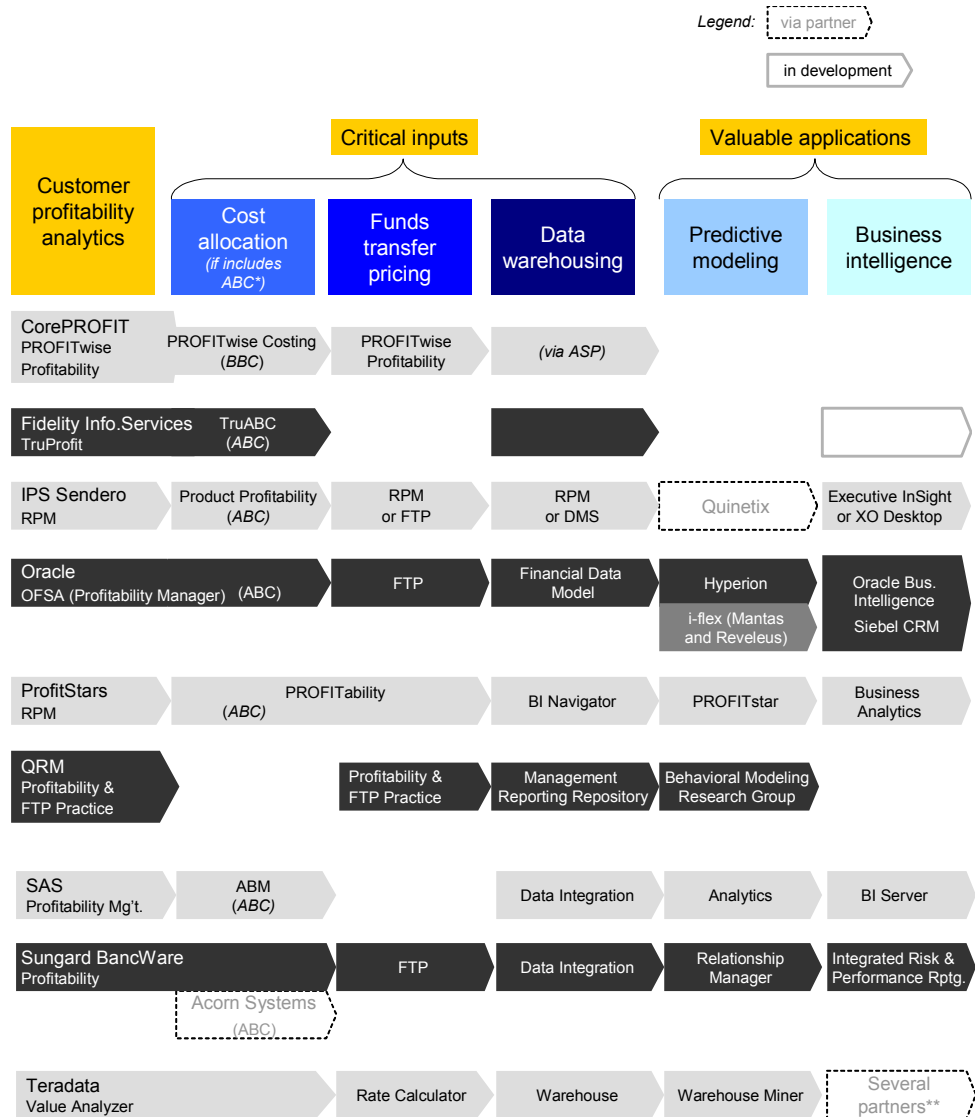
**Formerly Customer Profitability System.

***QRM does not sell packaged applications but rather provides an application toolkit along with profitability and funds transfer pricing advisory services. The toolkit, called QRM Risk Framework, enables banks to build the infrastructure to calculate account profitability.

Vendor Scope

It is useful to set the vendor stage at the product scope level. Figure 6 on page 14 arrays all components relevant to calculating and disseminating customer profitability metrics and each vendor's capabilities. Most of the vendors cover the spectrum either directly or through partners. Oracle through several acquisitions has filled in its menu over the past five years. Two other vendors that serve the mid-to-large market, SAS and Teradata, have an extensive application suite. In the midsize financial institution market, SunGard BancWare has a comprehensive offering. For small banks, which tend to one-stop shop, IPS-Sendero and ProfitStars have all the boxes checked. CorePROFIT focuses on the critical inputs.

Figure 6: Scope of Offering by Vendor



Source: Vendors, Celent

*ABC = Activity-based costing; BBC = Behavior-based costing.

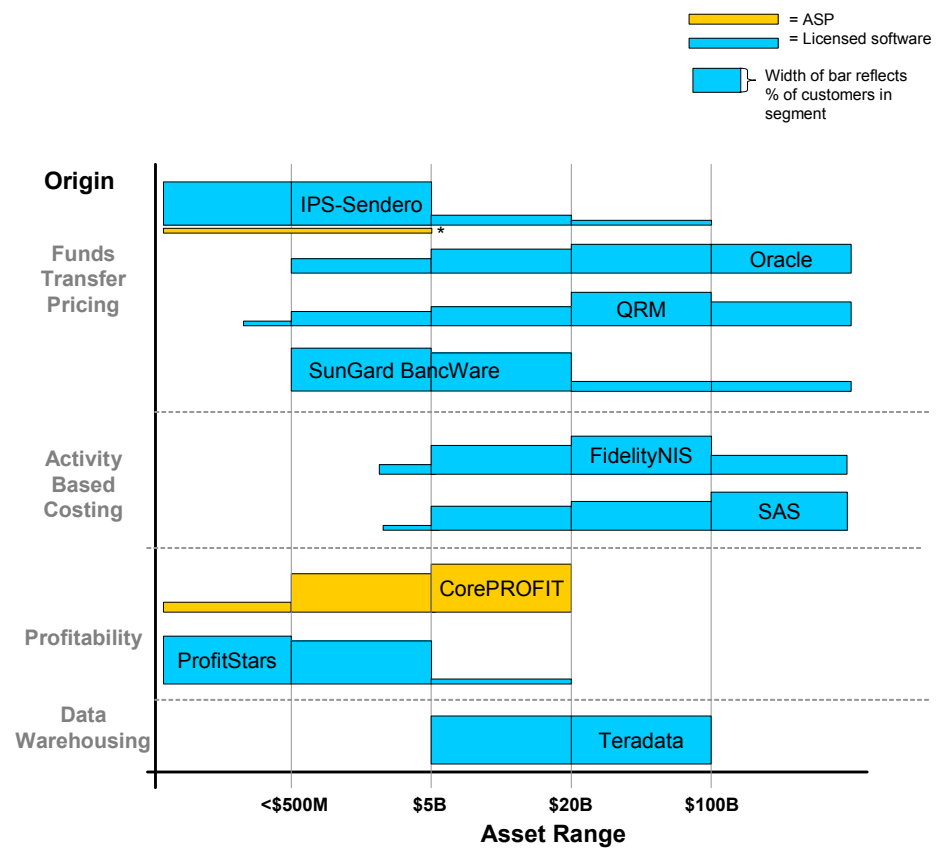
**Business Objects, Cognos, Oracle (Hyperion), and Microstrategy

Market Segment Coverage

Customer profitability application vendors have blanketed the market. There is a vendor for every segment (see Figure 7). Nearly half of the vendors originated in the funds transfer pricing arena, while two came from the world of activity-based costing (ABC), two sprung with a profitability focus, and one came from the data warehouse arena. The top tier market (assets > US\$100 billion) is dominated by SAS, Oracle, QRM, and FNIS, while

the second tier (US\$20-100 billion) is led by Teradata, FNIS, SAS, QRM, and Oracle. The regional bank market (US\$5–20 billion) has the greatest density of providers with Teradata and CorePROFIT being the most reliant on this segment. The first tier of community banks (US\$500 million to \$5 billion) also have a wide variety of providers to choose from with SunGard, IPS-Sendero, CorePROFIT, and ProfitStars having the greatest share of clients in this segment. In the second tier of community banks, IPS-Sendero and ProfitStars are most prevalent. Only CorePROFIT relies solely on ASP deployment. Other vendors, however, are considering the ASP opportunity.

Figure 7: Market Reach by Vendor—Profitability Offering



Source: Vendors and Celent estimates

*IPS-Sendero offers ASP deployment through its core processor partners.

Celent's ABCD Vendor Analysis

Celent has undertaken a three-part research process to evaluate customer profitability vendors and then transferred its findings into an evaluation framework called the Celent ABCD Vendor View. The three parts are:

- A detailed questionnaire sent to vendors to gather market data and information on factors included in the framework
- Demonstrations and vendor interviews
- Customer interviews

The results of all three exercises were used to score vendors along the four dimensions of the ABCD framework. The framework is designed to show at a glance the relative position of each vendor in: **A**dvanced technology, **B**readth of functionality and usability, **C**ustomer base, and **D**epth of client services. Each vendor solution is judged relative to the others in the group. The factors used to evaluate each vendor are described in Table 3.

Table 3: Celent's ABCD Framework

Dimension	Indicator of:	Factors Included:
Advanced technology	Sophistication and flexibility	<ul style="list-style-type: none"> • Type of architecture • System flexibility • Integration/interoperability • Performance, including scalability • Security
Breadth of functionality	Utility Usability	<ul style="list-style-type: none"> • Types of calculations • Ease of use • Reporting options
Customer base	Experience	<ul style="list-style-type: none"> • Number of customers • Implementation skills
Depth of Client services	Understanding of financial institution needs Quality of support	<ul style="list-style-type: none"> • Ability to assist an FI in maximizing the use and utility of customer profitability data (includes support and training) • Responsiveness to and understanding of FIs' needs • Ability to provide a list of client references available for interviews

Source: Celent

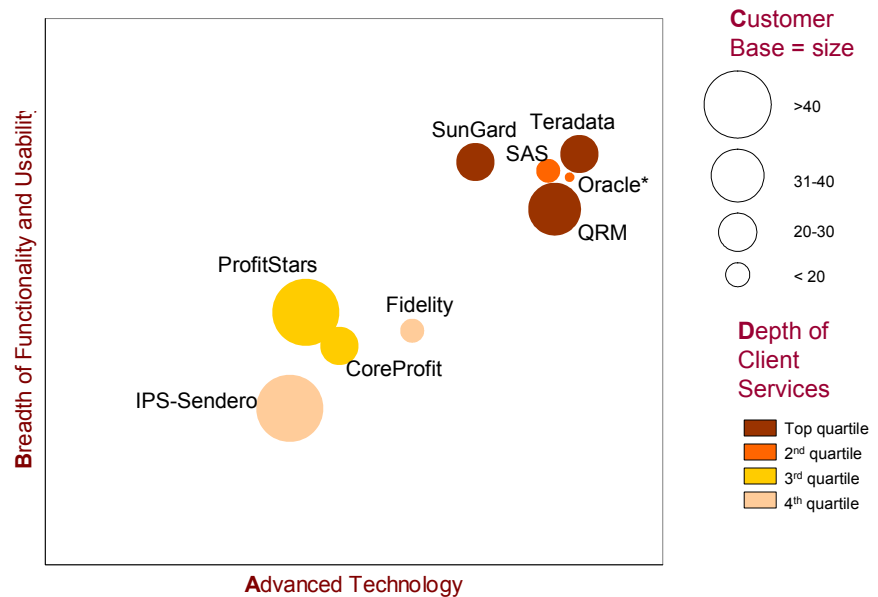
The Results

Celent's ABCD Vendor View positions the vendors along four dimensions. On the horizontal axis is relative level of **A**dvanced Technology; on the vertical axis, relative

Breadth of Functionality & Usability; the size of the bubble represents the vendor's Customer base (number of financial institution clients); color density represents relative Depth of client services (Figure 8).

The maturity of the applications is evident by the clustering of vendors to mid-to-large banks in the upper right hand corner of Celent's ABCD Vendor View: the use of advanced technology and the breadth of functionality and usability are relatively high (note the vendors are scored on a curve). Across three dimensions (ABD), three vendors stand out: Teradata, SAS, and Oracle, followed by SunGard and QRM. SunGard scores as well as the leaders in terms of breadth of functionality and usability. FNIS is an up and coming provider as it continues to add functionality. The three vendors which serve the small bank market cluster below the rest in part because several of the factors taken into consideration under each dimension (e.g., scalability under advanced technology and calculation sophistication under functionality) are geared toward mid to large bank needs. CoreProfit, the only small independent provider, scores well among the other vendors, IPS-Sendero and ProfitStars. The immaturity of bank adoption is obvious in the small number of customers even the well-established technology firms have.

Figure 8: Celent ABCD Vendor View - Customer Profitability Vendors



Source: Celent

**Oracle does not publicly disclose the number of customers using Profitability Manager. It has over 300 financial institutions using its Financial Services Analytic Applications.

Advanced Technology

Celent developed the **Advanced Technology** dimension as an indicator of the degree to which a vendor is incorporating the latest technology into its application and platform. Technological advancements influence all the other dimensions and factors (e.g.,

influence ranges from improving usability to facilitating integration). The **Advanced** dimension includes five factors: flexibility/usability, interoperability, security, and performance/scalability (Table 4).

Table 4: Advanced Technology Factors

Factor	Description
Type of architecture	Processing efficiency
	Platform vintage
	Use of Web services and SOA
Flexibility	Level of customization possible
	Degree to which the end user can fine tune calculation inputs
Performance	Speed and reliability of system
Interoperability	Ease of integration given architecture
	Integration experience
Security	Types and levels of authentication

Source: Celent

Along the **Advanced Technology** dimension, Teradata, SAS, Oracle, and QRM stand out, followed by SunGard and Fidelity. Their primary attributes include: high level of customization and flexibility, proven scalability, strongest security features, and database acumen. The other vendors provide adequate security but have not proven scalability specific to customer profitability calculations and do not offer the same level of rules setting.

Table 5 displays other select elements that reflect **Advanced Technology** at the vendor level.

Table 5: Select Elements of IT Infrastructure

Vendor	Application Platform Vintage	IT Architecture*	Type	
			Calculation Engine**	Front-end system
CorePROFIT	2000	<ul style="list-style-type: none"> • ASP deployment model • Access via a portal 	Configurable (once configured, it becomes standardized)	Thin (HTML)
FNIS	2005	<ul style="list-style-type: none"> • J2EE and Microsoft stack • Fidelity Xpress integration layer (SOA to exchange data) 	Configurable/customizable (no stand. calculations)	Thin (TruProfit) Thick (TruABC)
IPS-Sendero	2004	<ul style="list-style-type: none"> • Microsoft stack • Web-services used to access and distribute data and functionality 	Configurable (including standard calculations)	Thin (XML) or thick
Oracle	2007	<ul style="list-style-type: none"> • Oracle Database and Oracle Fusion Middleware • Oracle SOA Suite 	Configurable/customizable (including standard calculations)	Thin (XML or HTML)
ProfitStars	2005	<ul style="list-style-type: none"> • Microsoft stack • SOA supported through the combined functionality of BackEnd Processes and RPM Connect 	Configurable (including standard calculations)	Thin (UI) thick (simulation)
QRM	2005	<ul style="list-style-type: none"> • Wintel architecture • It makes customized IT architecture recommendation at customer level 	Customizable (tailored for each client engagement)	Thin (dashboard) and thick (admin.)
SAS	2004	<ul style="list-style-type: none"> • J2EE and Microsoft stack • SOA is leveraged in SAS DataFlux Integration and SAS Solution Services 	Configurable/customizable	Thin and Smart client***
SunGard BancWare	2002	<ul style="list-style-type: none"> • Microsoft stack, including .NET 	Configurable (including standard calculations) Customizable	Thin (HTML)
Teradata	2007	<ul style="list-style-type: none"> • Microsoft stack • GUI, selector engine, and calculation engine 	Configurable	Thick

Source: Vendors and Celent

*All are multi-tiered.

**Configurable = Administrator can readily modify parameters and calculations without assistance of IT department; most include standardized calculations. customizable = tool kit; metadata, rules, files are customizable within application.

***For "information consumers," the reporting interfaces are thin clients; for modelers, the interface is a java smart client. "Smart client" is like a thick client (installed on a local machine), which means fast response time and offline functionality, but is also like a thin client in that updates are pulled automatically once they are posted on the server.

Breadth of Functionality and Usability

Celent focused on three categories of functionality that maximize the utility of a customer profitability application: calculation features (including pricing/"what if" analytics), reporting options, and ease of use (administration and reporting). Table 6 on page 21 and Table 7 on page 22 display select functionality by vendor. The functionalities were chosen based on feedback from financial institutions on what is important to them. For example, tying profitability calculation back to the general ledger was cited as important for accuracy, consistency, and ultimately credibility. Restatement functionality (changes in methodology are reflected in historical calculations) was similarly referenced. In addition, financial institutions emphasized the value of a single calculation engine and the ability to include a customer in more than one relationship. "what if" analytics (including pricing simulations) were often cited as important to earning a sufficient return on the investment in the application. In fact, the power of "what if" analysis cannot be overstated. Most of the financial institutions with whom Celent spoke underscored its importance in the context of commercial loan pricing.

Along the Breadth of Functionality and Usability, Teradata, SAS, SunGard, Oracle, stand out, followed by QRM. In terms of calculation sophistication, all these vendors scored highly with SAS, Teradata, Oracle, and QRM, leading the pack. In terms of specific functionality, as described in Table 6 on page 21, the same four excelled. These four, however, did not dominate the other factors: ease of administration and reporting capabilities. ProfitStars did well in ease of administration and reporting. In terms of calculation sophistication factor, Fidelity and CoreProfit performed well also.

Table 6: Select Functionality - Built-in Calculation Capabilities

Vendor	Single Calculation Engine ¹	Full GL Reconciliation	Risk-Adjusted Profitability ²	Ability to include Customer in > 1 Relationship ³	Restatement ⁴	"what if"/Pricing Analysis		
						Built-in ⁵	All Calculations included	Lifetime value ⁶
CorePROFIT	■	■	*	■		*	*	
FNIS	○	■	■		■			
IPS-Sendero	**		**	■		■	■	
Oracle	■	■	■	■	■	■	■	***
ProfitStars	■		■	■		■		
QRM	■	■	■	****	■	■	■	■
SAS	■	■	■	■	■	■	■	■
SunGard BancWare	■	■	■	■	■	■	■	○
Teradata	■	■	■	■	■	■	■	

Source: Vendors and Celent

Key: ■ = Live at client site; □ = In production but not yet at a client site; ○ = Under development with expected deployment by Q1 2008.

1. Vendor offers a single calculation engine (platform) for all profitability calculations (e.g., customer, product, and organizational) within its customer profitability application.
2. First, the application supports risk-based capital assignment at the account level and is able to calculate economic value-added at the account level. Second, it has the ability to capture variables necessary to calculate economic capital under BASEL II.
3. Individual can be included in multiple relationships (e.g., as part of a household and as part of a business account).
4. Restatement application allows changes in methodology to be applied to historical calculations, thereby assuring consistency across time periods.
5. Application includes the ability to generate simulations, i.e., ability to take current customer data, model new account inputs, including pricing scenarios, and calculate pro-forma profitability metrics.
6. Application includes a LTV calculation (i.e., present value of future cash flows).

*Run by CorePROFIT.

**Account-level profitability can be rolled up to customer, product, and branch profitability. Risk-based equity is allocated at the product level. Customer loan P&L can be adjusted for customer-specific risk.

***Forecasting tools included in Risk Manager which is part of OFSA.

****Customers' infrastructure determines whether the customer can be included in more than one relationship.

Table 7: Select Functionality—Built-in Reporting and Interfaces

Vendor	Reporting				Integrated into:	
	Dashboard ¹	Standard Reports	Excel Add-in	OLAP tools	Incentive System(s)	Dynamic Pricing System(s)
CorePROFIT		■	○**	**		
FNIS	*	○		■		
IPS-Sendero	*	■		○***		
Oracle	*	■		■	*	*
ProfitStars	■	■				
QRM****	■	■	n.a.	■		
SAS	■	■	■	■		Amdocs
SunGard BancWare	■	■	■	■		*
Teradata	*****	*****		■		

Source: Vendors and Celent

Key: ■ = "live" at client site □ = in production but not yet at a client site

○ = under development with expected deployment by Q1 2008.

1. Business intelligence style dashboard built into the customer profitability application, which provides one stop access to profitability metrics and drill-down functionality.

*Through another proprietary BI application.

**Will roll out custom Access databases with custom pre-built queries and tables; OLAP tools used internally but not directly by customers.

***Integrating Microsoft-based OLAP functionality.

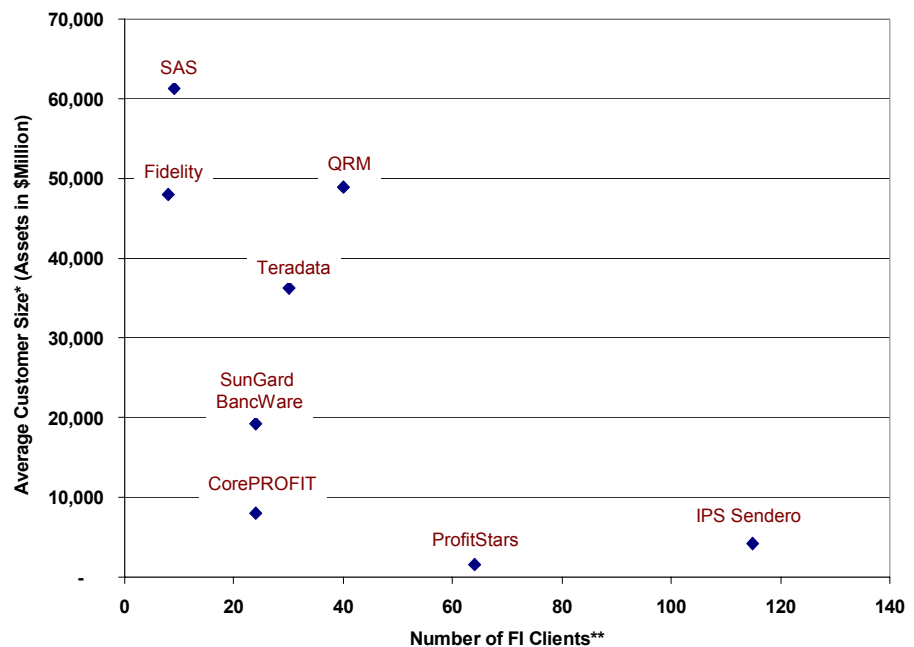
****The "■" means that these features are offered as part of QRM's application toolkit and advisory services.

*****Teradata's targeted customer segment (top tier banks) typically already have a preferred BI and reporting tool in place. Its data-centric approach facilitates BI integration.

Customer Base

Celent includes installed customer base because it is a good indicator of vendor experience and stability. There are two shortcomings, however, in using this metric in the context of customer profitability analytics. First, the market is still nascent with demand gradually ramping up and hence overall, adoption is relatively low (Celent estimates that less than 10% of banks are undertaking customer profitability analytics at the account level with either ABC or BBC). Second, consistent data are not available across all vendors. Figure 9 displays the total number of financial institution customers per vendor as well as average customer asset size (a customer is defined as having installed the vendors' customer profitability application or in the case of QRM, has engaged the vendor to undertake a customer profitability consulting project). Not surprisingly, the vendors catering to small to midsize financial institutions have the largest numbers of customers (IPS-Sendero followed by ProfitStars). Those catering to midsize-to-large financial institutions have less than 40 installations. That too is not surprising, given the nascent state of financial institutions' migration from product-centric strategies and organizational structures to customer-centric ones.

Figure 9: Customer Base by Vendor



Source: Vendors and Celent

Note: Oracle does not publicly disclose the number of Profitability Manager customers.

*Averages are weighted by share of clients in five asset size categories, see Figure 7 on page 15.

**Using the customer profitability application.

Table 8 lists select referenceable customers to provide a flavor of the variety of customers using a particular vendor's application or services.

Table 8: Referenceable Customer Profitability Clients*

Vendor	Select Clients
CorePROFIT	Wilmington Trust and Citadel Federal CU
FNIS	Bank of Oklahoma and TD Banknorth
IPS-Sendero	Washington Trust and Security National Bank
Oracle	Union Bank of CA and Wachovia
ProfitStars	Highland Bank and The Business Bank
QRM	Commerce Bancshares (MO)
SAS	First National Bank of America and Blue Cross Blue Shield
SunGard BancWare	BancorpSouth
Teradata	Royal Bank of Canada

Source: Vendors and Celent

*Clients are using the vendor's customer profitability calculation engine.

Depth of Client Services

The **Depth of Client Services** dimension encompasses critical factors that underlie the successful implementation and utilization of customer profitability analytics. Celent spotlights three broad factors in which a vendor should excel: implementation skills, customer training and support, and responsiveness to customer needs and feedback (see Table 9). Table 10 displays select factors that influence a vendor's **Depth**.

Table 9: Depth of client services

Factor	Description
Implementation skills	General implementation capability; factors taken into account are experience (number and type of implementations), customer feedback, and methodology
Support/training	Level of customer and end user support and training at launch and beyond
Responsiveness to customers	Level of vendor responsiveness to customer needs and feedback
Reference clients	Ability to provide a list of client references available for interviews

Source: Celent

This dimension is naturally dominated by those vendors with the largest number of complex installations: Teradata, SAS, Oracle, QRM, and SunGard. Superior level of support and responsive to customer feedback, however, were not monopolized by these vendors. The customers of most of the vendors scored them well along these factors, though there is always room for improvement. In particular, customers would like more formal gatherings to express their feedback as well as to learn from others' experience.

Table 10: Select Factors Influencing “Depth”

Vendor	Standard Support Hours ¹	Formal Training\ Education	Formal User Group ²	Formal Satisfaction Survey
CorePROFIT	12x5			
FNIS	8x5	■	■	
IPS-Sendero	12x5	■	■	***
Oracle	24x7	■	■	
ProfitStars	9x5	■		
QRM	24x5*	■	*	■
SAS	24x7	■	■	■
SunGard BancWare	24x5**	■	■	
Teradata	24x7	■	■	■

Source: Vendors and Celent

Key: ■ = currently available

1. Hours per day x days per week.

2. Scheduled conference calls and/or in-person meetings.

*Across 3 offices: Chicago, London, and Singapore; client-only conference.

**Across 4 offices: Boston, London, Tokyo, and Singapore.

***Random RPM customer survey.

Vendor Profiles

In the following sections, Celent summarizes each vendor's distinguishing characteristics as well as their strengths and limitations.

CorePROFIT

CorePROFIT was founded in 1999 by Joe Prunty whose resume includes senior management positions at two of the vendors included herein (Oracle and PMG Systems, now FNIS TouchPoint Profitability). In forming CorePROFIT, he incorporated 22 years of lessons learned through both successes and failures. The result is CorePROFIT's unique value proposition. First, it is founded in strategic and tactical goals around improving a bank's customer profitability. Hence, its offering goes beyond software to consulting and advisory. Second, it offers a viable alternative to the ABC methodology, behavior-based costing (BBC), which enables a bank to accomplish the cost allocation exercise within a fraction of the time an ABC analysis requires (CorePROFIT can accomplish a BBC exercise in four to six months, a fourth of the time an ABC exercise typically requires). Third, because it uses an ASP deployment model, it has valuable cost and revenue data that it can mine to calculate benchmarks, which can be shared with clients. A vast array of benchmarking data are available to clients from net contribution distributions by customer segment and net contribution and profit margin by product to costs per activity.

CorePROFIT has built a four-pillar value proposition. For each financial institution client, it makes a two to three year commitment to deliver: 1) a comprehensive analysis of a financial institution's profitability requirements, 2) cost allocation model, 3) profitability calculations across the enterprise or for a single business unit, and 4) development of profitability strategy and tactics. CorePROFIT's ultimate goal is to enable an institution to realize substantive profit growth through five primary levers: stemming revenue leakage, improving processes, smart cross-selling/up-selling, migrating channel usage, and lifting revenues through fee/price optimization. It typically helps an institution migrate marginally unprofitable customers to profitability and then helps it retain the most profitable customers. During the course of its two- to three-year project, it often finds itself solving specific product or customer profitability challenges (e.g., exceptionally high origination cost for indirect new auto loan) and undertaking breakeven analyses.

CorePROFIT's secret sauce has been its cost allocation methodology. It has successfully advocated and implemented BBC. Many of its customers, burnt out on the resources required to maintain an ABC model, have lauded BBC. BBC is a methodology that identifies and documents activities performed by staff with organizational units and associates the activities' expenses with specific transactions performed by employees and customers. The key difference between BBC and ABC is that ABC assigns costs at

the task and sub-task level, resulting in often over 500 unit cost rates, whereas BBC uses summary-level activities that include relevant detailed tasks.

Table 11: CorePROFIT

Ideal for an FI seeking: advisory/consulting services in cost allocation and profitability calculation plus an ASP deployment

Strengths	Limitations
<ul style="list-style-type: none"> • Small firm—high touch • Business model built on customer results • Benchmarking data 	<ul style="list-style-type: none"> • Small firm—limited resources • Level of customization • No integrated dashboard

Source: Celent

In order to keep advancing its offering, CorePROFIT is rolling out Access Databases with custom pre-built queries and tables. Access will enhance notably CorePROFIT's flexibility, enabling customers to do more slicing, dicing, and drilling down across relatively larger data sets. In addition, given the demand for assistance in improving lending profitability, it is exploring opportunities to integrate with a few loan pricing systems.

Fidelity National Information Services

Fidelity National Information Services (FNIS) entered the customer profitability analytics arena when it acquired ALLTEL in 2003 which had two years prior acquired PMG Systems. PMG Systems, at the time, was one of the leading independent providers of ABC and profitability systems. Over the past four years, FNIS has been consolidating PMG's TruPROFIT application suite (TruPRODUCT/ORG, TruCUSTOMER, and TruABC) into TouchPoint Profitability, comprised of TruProfit and TruABC. TruProfit 6.1 (just released) integrates TruPRODUCT/ORG and TruCUSTOMER. In addition, it recognized the importance of harnessing these applications to its CRM platform (TouchPoint) and is currently working on integrating the two.

FNIS's distinction is twofold: first, TruProfit's integration with its CRM platform and the attendant ease of delivering results to the frontline and second, its ABC acumen. By continuing to enhance its offering, FNIS has succeeded in retaining the majority of PMG customers and by integrating with TouchPoint, it has been able to cross-sell to its CRM customers and prospects.

TouchPoint Profitability brings time and financial institution-tested ABC software and methodology (e.g., TimeWands bar code technology and Web-enabled surveys). Among its success stories is Washington Mutual's implementation (for details, see the Celent report *Customer Analytics Triathlon: From Data to Knowledge to Wisdom*, June 2006).

TruProfit's strengths lie in its customizable, multi-dimensional structure. Its calculation rules are fully configurable. TruABC's GUI is user-friendly, with easy-to-navigate drop-down menus and table style displays. While TruProfit does not have internal reporting functionality, it does include an OLAP database that can generate ad hoc reports. In addition, it is integrated with Cognos PowerPlay (OLAP cubes) to provide more sophisticated reporting and drill-down capabilities. The 6.1 release is integrated with Cognos 8, which offers more robust business intelligence and reporting capabilities.

Table 12: FNIS

Ideal for an FI seeking: robust ABC system coupled with a customizable profitability calculation engine

Strengths	Limitations
<ul style="list-style-type: none"> • Customizable • Proven ABC analytics 	<ul style="list-style-type: none"> • Limited reporting functionality directly but available through Cognos partnership • Dashboard available through Cognos partnership

Source: Celent

FNIS's future plans for TouchPoint Profitability include enhancing its dynamic pricing functionality and adding budgeting functionality.

IPS-Sendero

IPS-Sendero, a Fiserv company, is a dominant player in the community bank market, offering a user-friendly set of applications. It brings nearly 30 years of experience in financial reporting, beginning with roots in funds transfer pricing and moving to customer profitability in the mid-1990s. It was a pioneer in bringing customer profitability measurement to community banks.

Its applications related to profitability analytics include: Relationship Profitability Manager (RPM, the one profiled herein; formerly called Customer Profitability System), Funds Transfer Pricing, which is sold as separately but also integrated into RPM, Product Profitability System (PPS)—includes ABC functionality, Organizational Profitability System (OPS), and Catalyst—Web-based interface technology

Through RPM and Catalyst, IPS-Sendero makes the results of its customer profitability calculations both accessible and actionable across a financial institution. In addition, it enables a financial institution to use consistent data definitions, cost allocations, and metrics across business units. The reporting menu meets the needs of most community banks and provides roll-up functionality (e.g., sum up customer profitability by relationship manager) and drill-down details (e.g., identify sources and detractors of customer profitability at any level). For example, at the account level, RPM's loan segmentation reports are useful in determining the factors that enable a financial institution to meet its risk-adjusted return hurdle. In addition, RPM provides forward-looking analysis through its dynamic modelling tool, Simulate Relationship Profitability, which enables a relationship manager to run "what if" analysis on product terms. These analyses have proven particularly useful to commercial loan officers.

RPM is a relatively user-friendly configurable system. For example, it offers flexibility in how a financial institution defines a relationship (e.g., a household comprising personal and business accounts). The graphical user interface has a straightforward hierarchy that allows a sufficient level of detail per element (relationship, product, activities, and so forth).

Table 13: IPS-Sendero

Ideal for an FI seeking: to leverage their investment IPS-Sendero FTP and Catalyst and achieve customer profitability insights

Strengths

- User-friendly dashboard and reporting
- Flexibility in data maintenance (e.g., setting up product level parameters)

Limitations

- Cost allocation functionality available in separate application (PPS)
- RPM runs on a different platform than PPS and OPS

Source: Celent

IPS-Sendero continues to enhance its product in the area of simulations and predictive analytics. In addition, it is exploring alternative deployments to in-house, such as ASP and hosted.

Oracle

Over the past 15 years, Oracle has built up a comprehensive performance and risk management suite through acquisitions and, in the process, has filled its customer profitability offering. It entered the funds transfer pricing and performance management realm when it acquired Treasury Services, a well-regarded player, in 1997. In 1999, it acquired PricewaterhouseCoopers' ABC system. The Siebel acquisition brought enhanced BI and reporting capabilities. More recently, it acquired Hyperion and has increased its ownership in i-flex to 83%, which includes Reveleus and Mantas. Oracle's customer profitability analytics functionality resides under the Oracle Financial Services Applications umbrella, which encompasses all corporate performance management related applications. The four core applications are Oracle Profitability Manager (PM; includes cost allocation functionality), Oracle Transfer Pricing, Oracle Risk Manager, and Oracle Business Intelligence Enterprise Edition (OBI-EE, formerly Siebel Business Analytics).

Oracle stands out for having robust multi-dimensional calculations coupled with leading database technology. Oracle PM offers comprehensive and flexible calculation capabilities through its multi-dimensional management ledger: 11 analytic dimensions (e.g., channel), 4 data management dimensions (e.g., currency), and 3 financial characteristics (e.g., account). If these are not enough, a financial institution can configure up to 10 more analytic dimensions.

Oracle leverages its performance management expertise within PM. It offers a rich set of built-in key performance indicators (over 130), ranging from the standard ones (the components of net interest income) to operational ones (e.g., deposit charges per account) and CRM-related ones (e.g., lead conversion ratio; loan funding rates). In addition, it includes a variety of aggregation rules, such as, weighted averages, percentiles/deciles, and rankings.

Oracle strengthened its reporting functionality by integrating PM with OBI-EE, which provides user-friendly dashboards with visually effective graphics. The dashboards are tailored to suit the needs of different types of end users from executives and business owners down to customer service representatives. Most of the dashboards offer extensive drill-down capabilities with easy to use tools.

Table 14: Oracle

Ideal for an FI seeking: flexible, robust multi-dimensional calculations coupled with leading database technology.

Strengths	Limitations
<ul style="list-style-type: none"> • Leading database technology • Scope and flexibility of profitability-related calculations 	<ul style="list-style-type: none"> • Robust reporting/dashboard in separate, but integrated, application* • If FI not using Oracle E-Business suite, upgrades require relatively more work

Source: Celent

*OBI-EE. If the customer buys Oracle Financial Services Profitability Analytics, which is part of OFSA, dashboard capabilities are included.

Oracle continues to improve functionality and ease of use. Recognizing the importance of maximizing the utility, accessibility, and actionability of profitability data, it set to work on

integrating OBI-EE with OFSA. The result was the release Oracle Financial Services Profitability Analytics this April. Oracle is incorporating more risk metrics into PM, responding to growing FI interest in closer integration of performance and risk management.

ProfitStars

ProfitStars, one of three brands in the Jack Henry & Associates (JH) portfolio, comprises a constellation of applications resulting from JH's acquisition of 13 companies over the past decade. Relationship Profitability Management is part of the ProfitStars family of applications and originated in the early 1990s at the First Interstate Bank of Oregon. It was commercialized in 2001. Despite the vast menu of products offered by ProfitStars (about 45), RPM is not getting lost in the cross-selling game but rather has been benefiting from JH's sales and distribution network and will likely see an exceptional 60% boost in number of customers over the next 12 months (39 are scheduled to be installed, in addition to 64 live). RPM is one of only two vendors whose roots are in profitability measurement (the other is CorePROFIT).

Understanding small financial institutions and catering to their needs have been RPM's specialities. Unlike the majority of vendors, it focuses more on the needs of business owners than on those of the finance department (it's structured as a managerial accounting system, not a financial one; the downside is that it is not based on the GL). Hence it is relatively turnkey, containing a variety of useful reports and a user-friendly dashboard to disseminate the reports. Four types of reports are available: customer management (e.g., most/least profitable, new accounts summary, largest positive/negative customer change), officer management, and product management (e.g., loans by risk rating, loans improving).

Its GUI is easy to navigate and allows for sufficient drill down into the profitability equation (e.g., down to direct expense details). The roll-up options are straightforward and include product, branch, officer, and period. In addition, it offers flexibility in defining a customer relationship through a parent/child feature which commercial relationship managers find useful. RPM also includes a simulation tool to run "what if" analyses (the one shortcoming is that modelling for new accounts does not allow for ABC).

Table 15: ProfitStars

Ideal for an FI seeking: a relatively easy to implement and use system with reporting capabilities geared towards the needs of business owners	
Strengths	Limitations
<ul style="list-style-type: none"> • Support of a growing parent co. • Strong dashboard and graphical displays 	<ul style="list-style-type: none"> • No OLAP tools (planned for 2008 release) • Cost allocation functionality available in separate application (PROFITstar Product Profitability)

Source: Celent

Future plans include integration with other ProfitStars products and adding OLAP capabilities in 2008.

QRM

QRM differs notably from the pack because its forte is consulting services, and its roots are in risk measurement and management as well as pricing. It began in the mid-1990s as a leader in risk-adjusted FTP (a pioneer specifically in option-adjusted methodology) and progressed into risk-based capital allocation in the late 1990s. It became increasingly active in risk-adjusted profitability analytics in 2004 when it developed its management reporting repository. It does not sell packaged software *per se* but rather sells its “Profitability and FTP” services, which includes an application toolkit, sophisticated calculation models, and best practice processes. Consequently, it competes less with the other providers herein and more with consulting firms such as Oliver Wyman and FMCG and IT behemoths with risk-focused consulting groups (e.g., Oracle and IBM). Its advisory capabilities do, however, extend into the IT realm, and all customer data are stored in a QRM Management Reporting Repository (MRR).

A QRM “Profitability and FTP” engagement typically runs two years and has the high-level objective of instilling and enabling a risk-adjusted profitability culture at a financial institution. On the system front, top objectives include assuring data integrity, consistent algorithms, and efficient processes. Hence, it involves all facets of an organization from MIS and calculation engines to processes and compensation schemes. It often begins with an examination of a financial institution’s FTP system, which in turn leads to subsequent improvements in pricing methodologies and the establishment of an accurate FTP database using MRR. Then, it undertakes a similar exercise for capital allocation methodologies and management information reporting. Throughout the engagement, it is helping a financial institution reengineer the underlying processes.

During the course of an engagement, QRM must understand the underlying systems supporting profitability and risk analytics. QRM examines where the data are coming from, what the level of data integrity is, what applications touch the data, and what the underlying processes are. When required, it will retool a financial institution’s IT infrastructure, typically the data-related components (e.g., rebuilding a customer’s datamart). As mentioned above, customers use QRM’s MRR with the option to export calculations to their own databases.

Because of its FTP and risk management heritage, QRM has one of the strongest foundations among the providers herein in risk-adjusted profitability calculations at the account level. In addition, QRM brings an integrated FTP and risk management framework, using the same calculation engine (and hence assumptions, definitions, and

so forth) and assuring consistency across inputs and outputs, which is particularly important for restatements and “what if” analyses.

Table 16: QRM

Ideal for an FI seeking: more advisory/consulting services than software services; more analytical rigor (“science”) around FTP, capital allocation, and ultimately shareholder value-added calculations

Strengths

- FTP and risk management pedigree
- High touch; more ongoing consulting than one-time implementation
- Risk-adjusted calculations

Limitations

- Does not provide packaged software
- Limited cost allocation tools

Source: Celent

Over the next 12 months, QRM is planning to enhance its reporting and dashboard capabilities (for reporting, QRM has developed OLAP-based reports using Microsoft technology).

SAS

SAS has leveraged its ABC and business intelligence acumen to build a customer profitability application (SAS Profitability Management). The fact that it has already garnered nine clients since its launch in August 2006 is evidence of early success. SAS's analytical roots are in activity-based costing, in which it has excelled, amassing 145 FI clients. It was a natural extension to apply its analytical methodology to customer profitability. SAS Profitability Management can be harnessed in a number of ways by linking it to SAS Activity-Based Management, SAS Analytic Solutions (forecasting), SAS Marketing Automation (a CRM system with a campaign management forte), and Dynamic Relationship Pricing (via a partnership with Amdocs).

Financial institutions interested in SAS Profitability Management, however, do not need to use SAS Activity-Based Management but can use any costing system they desire. SAS has been successfully extending its market reach to financial institutions in the US\$5–20 billion in assets segment.

Among SAS Profitability Management's attributes is a flexible calculation engine based on user-defined rules. The rules manager interface is relatively user-friendly, laid out in table format with drill-downs. Not surprisingly given its pedigree, cost allocation capabilities within SAS Profitability Management are rich: for example, multiple cost models can be used (e.g., from top down to time-based); two separate driver methods can be used (unit or total value); an assignment rule can match a single transaction to both single and multiple behaviors. In addition to historical profitability, SAS Profitability Management can be used to calculate lifetime value, essentially modelling multiple periods for forecasted transactions (based on customer-by-product survival probability statistics as well as cross-sell probabilities). Similar to the multi-dimensions generated based on historical data, LTV calculations can be generated.

Through SAS Enterprise Business Intelligence Server, SAS offers a comprehensive set of Web-based OLAP, reporting, and graphical tools. Customers typically compliment SAS's reporting capabilities, particularly the ability to customize and drill-down a profit and loss statement.

Table 17: SAS

Ideal for an FI seeking: scalable, robust ABC system coupled with multi-dimensional profitability system

Strengths	Limitations
<ul style="list-style-type: none"> • Analytical legacy, leading to robust calculation capabilities • Scalability (> a million detail transactions) 	<ul style="list-style-type: none"> • Standard reports only within Profitability Management, for more robust reports, a separate but integrated BI application is available

Source: Celent

Although SAS historically has not extended its scope via acquisition, it has astutely picked partners that offer value-adding functionality. An example is Amdocs, which approached SAS because its clients were asking for additional functionality around revenue and relationship management (e.g., optimization of fee collection; product bundling). SAS, in turn, saw an opportunity to add Amdoc's dynamic pricing to its repertoire. Over the next 12 months, SAS will continue to integrate SAS Profitability

Management into Funds Transfer Pricing, SAS Risk Management, and SAS Activity-Based Management.

SunGard BancWare

Over the past five years, SunGard BancWare has built a comprehensive suite of applications related to risk and profitability analytics, including BancWare Profitability (the focus of this report), FTP, Capital Manager, Abacus, ABC, and Relationship Manager. BancWare GLRI (General Ledger Reconciliation and Integration) assures that all inputs foot to the GL. Cost analytics and capital calculations (including RAROC, SVA, and EVA) are baked into BancWare Profitability. In addition, a financial institution also has the option of using advanced ABC analytics powered by Acorn Systems. Third party costing and capital analytics can also be imported into the solution.

BancWare differentiates itself by offering an application that enables a financial institution to relatively easily start with standard FTP methodologies, analytics (e.g., basic margin, cost, and capital calculations) and reports, then progress to varying degrees of customization. Financial institutions tend to find its application relatively easy to configure. If a financial institution wants a relatively more customized implementation, BancWare can provide professional services to tailor BancWare Profitability.

BancWare distinguishes itself on the reporting and simulation front. Within BancWare Profitability, reporting is flexible and user-friendly. An end user can drill down either via an integrated Web-based interface, administration interfaces, or Excel Add-in. A variety of dashboards tailored to different types of end users are available. The format combines drop-down menus and spreadsheets, providing a rich but not overwhelming level of data on a single screen. The graphics add value and present profitability metrics in a format that enables an end user to readily glean takeaways. The data displayed can be readily changed via the drop-down choices available for each graphic. Variables that can be changed include, for example, branch, metric (e.g., pre-tax income; RAROC), and product (e.g., all, single).

Financial institutions seeking dynamic modelling will not be disappointed. Thanks to its analytic server technology, BancWare is able to offer sophisticated simulation capabilities, including the ability to change methodology, view the impact of these changes, and save select changes. An end user can simultaneously view the output while managing the business rules for interactive modelling and analysis. Within BancWare Relationship Manager (for general release September 2007), a variety of useful “what if” analytics will be available for commercial loans. Similar to the profitability GUI, the RM GUI is easy to navigate and enables a loan officer to readily run pricing “what ifs” and check against performance hurdles. In addition, it offers relationship bundling functionality, providing further insight into the relationship and its profitability.

Table 18: SunGard BancWare

Ideal for a variety of FIs: from those embarking on their first customer profitability initiative to those seeking a customizable integrated application

Strengths	Limitations
<ul style="list-style-type: none"> • Reporting drill-down functionality coupled with dashboards tailored to different user types • Pricing tool (Relationship Manager) • Ease of use 	<ul style="list-style-type: none"> • Multiple applications required to maximize utility (e.g., Relationship Manager for “what ifs” and pricing)

Source: Celent

On the feature enhancement horizon, BancWare is working on incorporating lifetime value calculations. Additionally, BancWare is working on extending its pre-defined calculation libraries and continuing to invest in its Web reporting and analysis capabilities for flexibility and ease of use.

Teradata

Teradata is a highly regarded data warehousing technology provider which was an early mover in the customer profitability analytics arena in 1999 with Teradata Value Analyzer (TVA). The early move came in response to Teradata customers' interest in a systematic process to gauge customer profitability with high data consistency and integrity. Not surprising given its roots in hardware and databases, Teradata excels at amassing huge quantities of data and distilling them into profitability metrics. As one customer described it: "Teradata has given us opportunity to do things that seemed impossible."

TVA is a highly configurable application based on user-defined rules (typically a midsize bank will create 200 to 500 rules). The finest level of detail is the "base profit object," which in the financial services world, is the account level. Because TVA's calculations are built from the object level, an end user can drill down on all profitability calculations to the original source data (e.g., billing system).

Through its modular structure, TVA enables customers to incrementally build out their profitability systems. For example, they can begin with cost accounting, then add indirect revenue, then risk allocation, and so forth.

While TVA can handle a large number of complex equations, it is not a cumbersome application to use thanks to its three distinct components: GUI, selector engine (matches rule definitions to profit objects), and calculation engine. The GUI is relatively user-friendly, with easy navigation between rule definition (e.g., apply rules to direct expenses) and administration (e.g., define and identify database tables to be used). The GUI is well laid out with fill-in-the-blanks, drop-down selections, and spreadsheet formats. An administrator can readily access any level of detail and make modifications. TVA's calculation engine is comprised of multiple engines, typically one for each rule type (e.g., direct expense rules). Segmentation by rule and calculation type yields processing efficiencies, which in turn result in TVA's speediness. Customers also comment positively on the comparable flexibility and customizability of the TVA Database.

Table 19: Teradata

Ideal for an FI seeking: a customizable, fast calculation engine, drawing upon a relatively large number of source data files and including 500+ rules.

Strengths	Limitations
<ul style="list-style-type: none"> • Leading database technology • Processing speed • Manageable complexity 	<ul style="list-style-type: none"> • Use of TVA Database or Teradata Data Warehouse is required • No reporting capabilities beyond audit and reconciliation*

Source: Celent

*Relevant to those seeking reporting tools within the application.

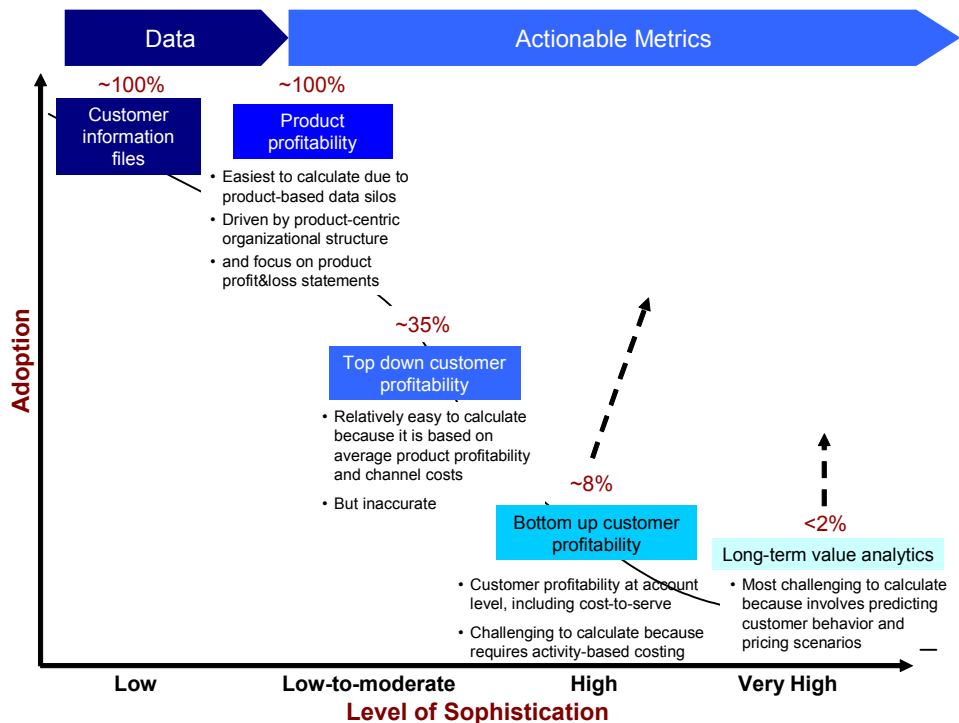
Teradata has continued to listen and respond to the voice of its customers. In its new release (4.0), it enhanced its cost accounting functionality to include more complex rule chaining and advanced cross charging capabilities. In addition, it adds the ability to create reusable objects for rule selection, advanced security features such as LDAP, and several features that improve ease of usage of rule creation and GUI usage.

Conclusions

The market for customer profitability applications is budding. While the majority of the top 25 financial institutions calculate customer profitability at some level, few have a system capable of calculating account-level profitability, and few have developed strategies and tactics based on the results.

Celent expects that a variety of forces will spur gradual adoption of customer profitability systems. The motivators range from the traditional one, concern over margin erosion, to a recent one, dissatisfaction with balance growth, a slow down in top line and/or bottom line growth, and rising efficiency ratio (noninterest expenses divided by net revenues; up is bad).

Figure 10: Up the Customer Profitability Analytics Sophistication Curve



Source: Celent

Over the next five years, Celent expects that:

- The top tier banks, which have relatively crude metrics in place, will migrate to more sophisticated profitability analytics as customer-centricity becomes a competitive imperative.
- For most, the first step will be to refine their cost allocation methodology.

- The typical areas targeted for an early return on investment will be: commercial loan pricing using “what if” analytics and segment-specific product bundling.
- As customer profitability analytics mature and gain credibility and consequently acceptance, more institutions will tie compensation to improvements in customer profitability. Celent expects leading vendors, in turn, to facilitate the process either through interfaces with other providers or direct partnerships/integration.
- The grand finale will be building the infrastructure to act on the results of the customer profitability analytics: from developing a bankwide customer-centric strategy to disseminating the data to the front-office and executing tactics based on the data.
- Management of revenue leakage and new product development will be other offshoots of customer profitability analytics.

The pioneers in customer profitability analytics will put it into high gear over the next decade and will excel at not just growing but growing profitably.