Measuring Customer and Product Profitability at Community and Regional Banks

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Like businesses in almost every other industry, the 21st Century has found community and regional banks being confronted with an increasingly more diverse, complex, and dynamic market environment. Demand for more diverse products and services has led banks to introduce new, non-traditional products and services as well as unbundle traditional ones to better address market requirements. Banks have also had to try new and innovative ways to attract the funds – especially lower cost core deposits – that serve as the "raw material" for its portfolio of products. In addition, banks have had to move quickly into new technologies that have enabled them to keep pace with the fast-moving, electronic economy.

When a business is forced to leave the comfort of tradition and begins moving into a new, more diverse environment, the simple tools it once used to measure its performance and manage its operations soon lose any relevance they may have had in the past. Banks are no exception. The simple model of a bank's products and customers being judged on their net interest margin begins to fail when the amount of work required to support each of the various products and customers in its portfolio of business becomes as diverse as the products and customers themselves.

Identifying and understanding its "profit zones" is critical for any business that hopes to thrive and grow in a competitive world. Without knowing where its profit comes from – from which products and from which customers – and why it comes from there, a business will be unable to make the fact-based decisions necessary to succeed. Without the ability to associate <u>all</u> of a bank's costs – both the cost of money and <u>the cost of business activities</u> – with the various products it provides and customers it serves, a bank's management will be flying blind when making its most critical business decisions.

A major challenge for a community or regional bank in today's environment is finding an accurate and cost-effective way to measure and manage its portfolio of products and customers. At the heart of this quest is the ability to accurately assign the bank's costs to the products and services it sells and to the customers that buy them. Only when this is accomplished can a bank clearly understand its "profit zones." In the case of interest expense, long-standing methods exist that accurately link that element of cost with individual products. The challenge arises when the bank's activity costs – the costs incurred in operating the bank – must be assigned to products or customers. Although many large financial institutions have launched initiatives to address the problem, few community or regional banks have taken the initiative and begun developing cost assignment models appropriate for banks of their size and complexity and that can be accomplished with their limited resources.

Activity-Based Costing

The resource most appropriate for meeting this challenge at community and regional banks is the concept of Activity-Based Costing (ABC). Activity-Based Costing was first popularized two decades ago as a remedy for the over-generalized costing methods that rendered cost information at manufacturing firms inaccurate and misleading. Unfortunately, the initial approach to ABC was an unsteady first-step – not a mature and well-reasoned process – on the road to solving the costing problem. However, because it was simple enough for individuals with little or no accounting background to understand – especially consultants and computer software developers looking for a product to sell – it launched a "gold rush" that these consultants and software developers promoted vigorously. This initial concept was easy to program and easy to grasp conceptually. The deluge of publicity accompanying the gold rush resulted in the market believing that this initial minor skirmish was the action that had won the war. In truth, it came nowhere near winning the war and, as a consequence, the over-hyping of its unsteady first step did serious damage to the reputation of this powerful decision support tool.

In the intervening years, scholars and practitioners have continued to push ABC along its evolutionary path. At times a new "spin" on the concept or a view from a different perspective has resulted in a new moniker. Resource-Consumption Accounting, Time-Driven ABC, Value Stream Costing, Grenzplankostenrechnung (GPK), and several other approaches have arisen or become popularized as the management accounting community struggled its way toward the "right" answer. Not surprisingly, the basic concept behind all of these alternatives is the same – the same simple concept that drives Activity-Based Costing:

> <u>Premise</u>: An organization's products and services cause it to perform activities and those activities cause it to incur costs.
>
> <u>Conclusion</u>: Costs should first be assigned to the activities that cause them and the accumulated cost of each activity then assigned to the products and services that made each activity necessary.

It's as simple as that. Products and services cause activities and activities cause costs. The accurate assignment of costs to product and services can be accomplished by simply tracing costs backwards through this chain of cause-and-effect.

Applying Activity-Based Concepts at a Community or Regional Bank

The task of creating a cause-and-effect network of cost assignments from their incurrence by a bank to the bank's cost objectives – the products/services provided and customers served by the bank – begins by first separating the bank's costs into two categories: interest expense and bank activity costs. Using existing costing practices, interest expense can be effectively assigned to the bank's products based on the amount of funds acquired. Bank activity costs, on the other hand, will need to be addressed using activity-based concepts. Figure 1 shows this first step in the assignment of bank costs to bank cost objectives.

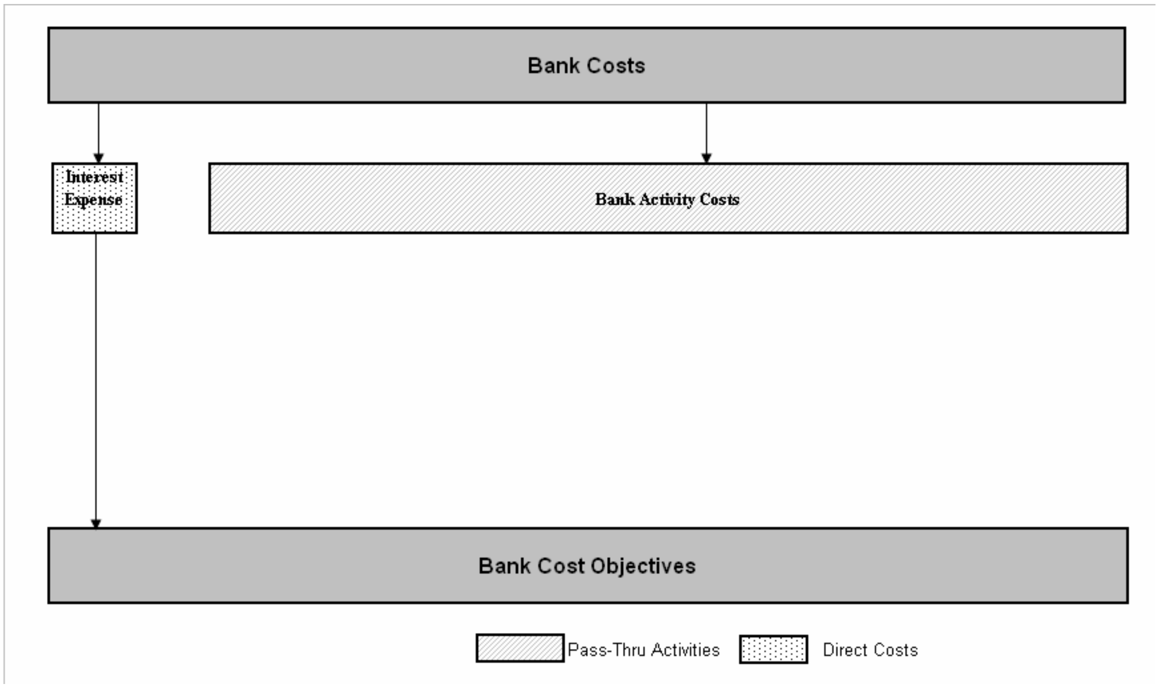

Figure 1 – Step #1 in the Activity-Based Assignment of Bank Costs

As can be see in the diagram, interest costs are assigned directly to the bank's cost objectives while bank activity costs are isolated for further analysis.

The most critical point in the process is reached once the bank's activity costs are isolated; namely, identifying a set of activities that will facilitate the accurate assignment of costs to the bank's cost objectives. This is the most important step in the entire process. It is the first 15% of the work that, if done properly, will insure the process reaches at least 85% of its goal. It defines the "plumbing" through which cost will flow and, as we all know, if your plumbing is not designed to lead water to the desired destination, the water won't flow to that destination. Instead it will flow to wherever the dysfunctional plumbing directs it. The same is true with costs. If the plumbing is not designed well, no amount of data collecting or number crunching virtuosity will make product, service, or customer costs come out right.

We begin the process by breaking bank activities down into five basic categories: raising funds (accumulating deposits), using funds (making loans), supporting customers, supporting product/service lines, and managing the organization as a whole. Every activity performed by the bank can logically be included under one of these headings. Our task will be to define the activities that need to populate each category.

Fund-Raising Activities

Banks expend a lot of effort in raising funds. Many, if not most, branches exist to attract and service depositors. Many products are developed to make depositing funds with the bank financially attractive. Customer accounts must be administered, statements provided, checks cleared, deposits processed and a myriad of other transactions handled simply to support the funds placed in the bank by its depositors.

Following the basic logic of ABC, the need to accumulate funds causes these types of activities and the performance of these activities causes the bank to incur a portion of its costs. As a consequence, activities should be established that will accumulate these activity costs and then link them to the funds they help make available to the bank.

It is possible to simply accumulate all of the bank activity costs involved in attracting funds in a single activity and then have those activity costs follow funds to the products in which they are used via a simple add-on percentage rate. For example, if all of the activity costs involved in raising funds amounted to $1 million, the bank's accumulated deposits were $100 million, and the average interest paid to depositors was 4%, the cost of the funds tied up in any individual product would not be 4%, it would be 5% - the 4% interest paid to depositors plus 1% for the cost of attracting those depositors in the first place.

There are at least two reasons, however, for being more detailed in establishing activities related to the raising of funds. First, there are a number of processes involved in raising funds and it may be useful for the bank to better understand the cause and cost of these individual processes. Knowing the cost of processing a lobby deposit vs. an ATM deposit, clearing an electronic check vs. a paper check, or performing any other "transaction" can facilitate process improvements and guide attempts to modify customer behavior in ways that will reduce bank costs.

Second, there may be some situations in which it would be useful to know the cost of supporting a specific customer who is both a depositor and a borrower. For example, two different depositor/borrowers have identical loans which include the requirement of a $100,000 compensating balance. One simply deposits $100,000 in an account in which there is no activity while the other keeps a $100,000 minimum balance in a checking account through which pass hundreds of deposits and checks monthly. It should be apparent that the first depositor/borrower is more profitable, but without knowing the transaction costs of deposits and check clearing it is impossible to measure the difference.

As a result, it is usually advisable to have two categories of fund-raising activities; *general - fund-raising* activities and *transaction - fund-raising* activities. Each "category" of activities would contain the individual activities needed to adequately represent the bank's operation. *General fund-raising* activities would most likely include the cost of maintaining branch operations, marketing to the general public, and similar endeavors. Included in *transaction fund-raising* activities would be the cost of processing checks and deposits, providing statements, generating year-end tax forms and reports and the like. This would give the bank the ability to look at fund-raising costs at both the composite and detailed levels.

In cases where many of these fund-raising activities are performed by outside contractors, such as brokers, correspondents and agencies, it may also be advisable to create a mechanism for assigning the in-house cost of supporting the contractors to the fund-raising activities in a manner similar to that outlined for fund-using activities in the next section.

Fund-Using Activities

Once a bank has accumulated funds, it can then use those funds in a variety of products designed to earn the bank a profit. Each product will have an easily measurable net interest margin, but that measure will not provide a complete picture. The cost of activities required to originate, maintain, and retire the product consume at least some, if not all, of the product's net interest margin. The ability to match the cost of these activities with the products they support provides a much more complete and accurate picture of product and customer profitability.

<u>Outside Contractor Costs</u>

Activities required to originate, maintain, or retire a product are sometimes performed by individuals not employed by the bank. These outside contractors usually provide their services on a "cost per transaction" basis that can be assigned directly to the appropriate cost objective. For example, title searches and appraisals are often performed by outside contractors. Payment coupon books are usually prepared and delivered by specialty printing shops. Outside firms are often employed to follow-up on past-due payments. The amounts paid to these organizations are generally for specific services relating to specific customers or products. As a result, most of these *contractor direct costs* are directly assignable to a specific cost objective.

It is important to understand, however, that the <u>price</u> paid to these outside contractors for their service does not represent the entire <u>cost</u> of that service. A contractor does not simply figure out when and where a service is required on its own and then go to the money pile and pick up the correct amount of cash once the service is completed. There are activities being performed by bank employees that are designed to manage and control the cadre of outside contractors. These activities, which can be described as *contractor direct cost support* activities, include tasks such as identifying and qualifying contractors, scheduling and monitoring their performance, and approving and processing their payments. These activities are just as much a part of the cost of the service provided by the contractor as the price paid to the contractor for the service. As a consequence, one or more activities need to be established to accumulate the cost of supporting these outside contractors and the activity cost added to the contractor's price –

as either a percentage add-on or a cost per transaction – to establish the total cost of the contractor's service.

In-House Fund-Using Activity Costs

Bank employees perform those activities involved in originating, maintaining, and retiring products that are not performed by outside contractors. These activities are generally "transaction" oriented – they are transactions or events that occur during the lifetime of a specific product. Loan closings, loan advances, daily sweeps, paper or electronic check processing, periodic collateral audits, and annual tax reports and forms are all examples of activities that can be classified as *transaction - fund-using*.

Activities should be established for the major transaction types that support the origination, maintenance, and retirement of the bank's products. The cost of supporting each type of transaction should be accumulated and "cost per transaction" rates developed for assigning the transaction costs to the bank's products.

Market or Customer Support

Banks must compete with other banks for business – not only for the depositors who provide funds, but for borrowers who "buy" the bank's products. Marketing efforts to attract depositors fall into the previously discussed category of *general – fund-raising* activities. Marketing efforts directed toward attracting borrowers need to be segregated and assigned to the bank's products.

In most cases, however, it is not as simple as creating an activity for accumulating all marketing costs related to attracting borrowers. Although there may be some "institutional" marketing involved, a significant portion of the marketing effort is usually directed toward specific market niches. Separate "campaigns" may exist for attracting middle-market businesses, large corporate customers, or retail establishments. In such cases, it is important to assign each niche's marketing costs only to the products sold to customers within the niche.

As a result, activities should be established for each significant market category being actively pursued by the bank. The cost of supporting each market should be accumulated and a percentage add-on rate developed for assigning marketing costs to the products sold in the appropriate market.

Product or Product Line Support

Just as banks sell to different markets, they sell different types of products. Activities take place that develop and support its various products: commercial real estate loans, working capital loans, retail auto loans, equipment loans, and the like. As was the case with markets, it is important to assign each product's or product line's development and support costs to the products that fall within the appropriate product category.

As a result, activities should be established for each significant product or product line being sold by the bank. The cost of supporting each product line should be accumulated and a percentage add-on rate developed for assigning product line support to the products that fall within the appropriate product or product line category.

General and Administrative Support

Once all activity costs have been assigned to the general fund-raising, transaction fund-raising, contractor direct cost support, transaction fund-using, market, and product line categories, there will remain costs that can legitimately be described as "general and administration." These will include the cost of activities such as general accounting, regulatory reporting, general management, institutional marketing, and the like. They should, however, all be truly "general" in nature and not more appropriately assigned to one of the activities discussed earlier.

The cost of these *general and administrative* activities should be accumulated in a single activity and a percentage add-on rate developed for assigning general and administrative costs to all of the bank's products and services.

Departmental Activity Costs

To facilitate to the assignment of activity costs to the activities defined earlier, it is advisable to first accumulate any activity costs that do not <u>directly</u> relate to one of the general fund-raising, transaction fund-raising, contractor direct cost support, transaction fund-using, market, product line, or general and administrative activities to the "functional" departments they support. These functional departments are the departments that appear on a traditional organization chart and are usually the categories into which a bank traditionally segregates its activity costs. These departments would normally include human resources, accounting and finance, building and grounds, information technology, legal, marketing, administration as well as many others.

Once activities have been sub-divided into these categories, the process of distributing costs and developing product and customer costing rates can begin. Figure 2 shows the position of each activity category in the cost flow-down process.

Initial Assignment of Bank Activity Costs

Now that the bank's key activities have been defined it is possible to begin the process of distributing bank activity costs. In this step, each cost is assigned to the activity with which it can be most directly associated. For example, the salaries, wages, fringes, travel, consulting, legal, and other costs required to operate the Human Resources Department would be assigned to the “departmental” activity “Human Resources.” No attempt would be made to distribute these costs individually because they all support a “pool” of services provided by Human Resources. Similarly, the cost of providing the “pools” of services provided by Accounting, Marketing, Legal, Loan Review, Information Technology, Building & Grounds, and other supporting activities would be assigned to the “departmental” activity established to accumulate its costs.

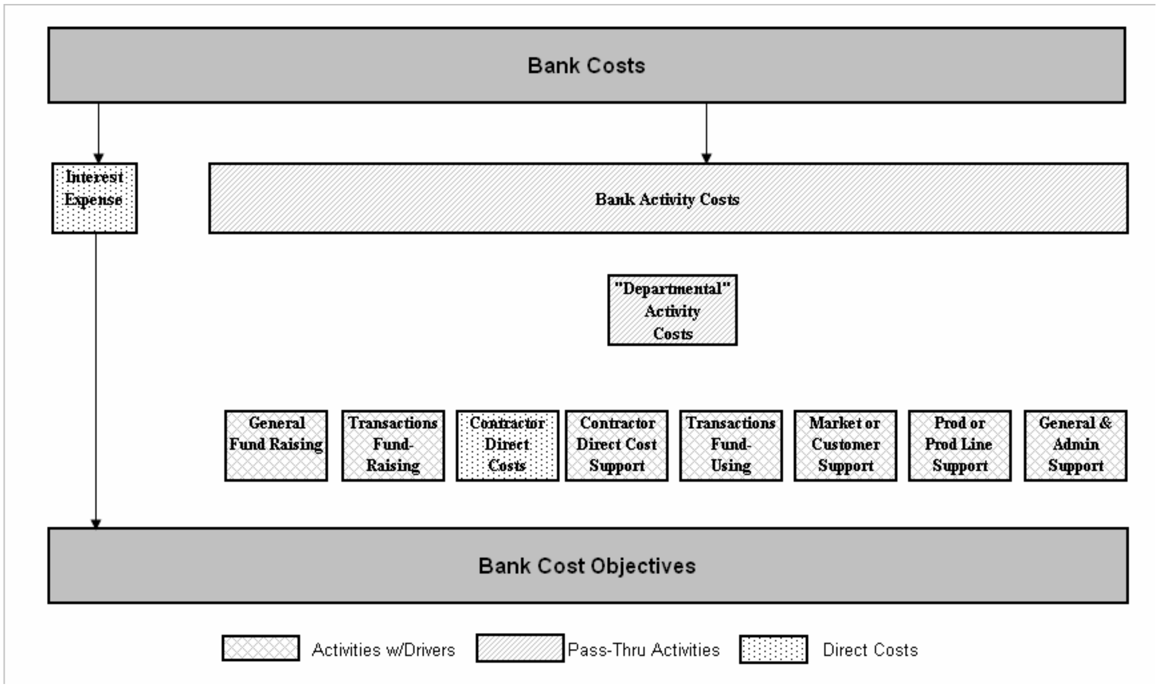

Figure 2 – Position of Activity Categories in Cost Flow-Down Process

On the other hand, advertising costs incurred by the bank to support a specific product line or market – retail auto loans, large corporate customers, equipment loans, etc. – would be assigned directly to that product line’s or market’s support activity because those costs do not represent a “pool” of services. Instead they represent specific services for a specific sub-set of the business. Similarly, insurance costs or fees required to support only one line of business would be assigned directly to the activity representing the support costs for that particular line of business.

In addition, those bank activity costs representing payments to contractors for services directly related to a specific product and customer can be assigned directly to the cost objective. These would include items like title searches, appraisals, environmental assessments, coupon books, credit reports, UCC filings, and other similar costs.

As a rule, most bank costs at this stage in the process will either have been assigned to *departmental activities* or as *contractor direct costs* to the cost objective itself. Figure 3 shows this second step in assigning bank costs to bank cost objectives.

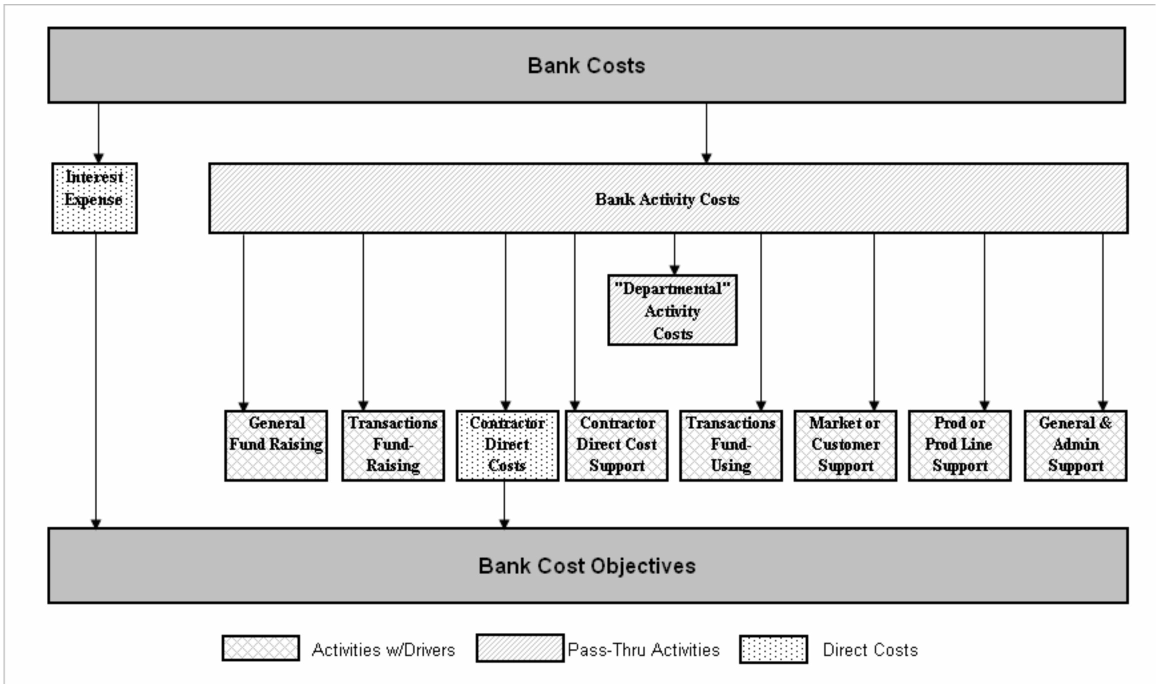

Figure 3 – Step #2 in the Activity-Based Assignment of Bank Costs

The "departmental" activities were created to accumulate the cost of providing "pools" of support costs that are caused by multiple activities. The next step in the process is to associate the accumulated cost of each "departmental" activity with those activities that require the departmental activity's services.

There are two methods of distributing departmental activity costs to those activities that can be viewed as their in-house customers; using statistics and using percentage estimates. Where relevant statistics are easily attainable they should be used. For example, departmental headcounts can be used as a basis for distributing human resources costs throughout the bank's activities. Similarly, square footage can be used to distribute the cost of buildings and grounds. Most activities, however, do not lend themselves to statistical distribution. In those cases, "best estimates from the most knowledgeable individuals" should be used.

The key to developing an effective activity-based cost model is establishing the appropriate activities and the relationships between them. It's a matter of being able to ask the "right people" the "right questions." If the "right questions" are asked, it is only the accuracy – not the precision – of their answers that is important. As a result of establishing the appropriate activities, distributions can be made from departmental activities to other activities using "best estimates" instead of precise statistics without a loss of accuracy.

In most cases, distribution percentages can follow "the 5% rules:" Rule 1 – If it's not worth distributing at least 5% of a departmental activity's cost to another activity, ignore that distribution altogether and Rule 2 – Only make distributions in increments of 5%. For example, the cost accumulated in one bank's "Marketing" activity is $250,000.

Marketing's costs can be linked to five other activities: *general fund-raising, general and administration, middle-market businesses, large corporate customers,* and *retail establishments.* It is estimated that only about 2% of its effort relates to institutional marketing so 0% of its cost will be assigned to *general and administration*. Marketing then estimates that about 40% of its effort is related to fund-raising while about 60% is related to fund-using. As a result, 40% of its cost would be assigned to *general fund-raising*. The remaining 60% would be apportioned among the three market support activities. Based on Marketing's estimates, the distribution would be 45% *middle-market businesses,* 5% *large corporate customers* and 10% *retail establishments*. As a result of this process, we now know that approximately $100,000 of Marketing (40% of $250,000) goes into attracting depositors and will become part of the pool of *general fund-raising* costs that will, in turn, become part of the cost of funds that follow funds to the products in which they are used. We also know that approximately $112,500 of Marketing's cost goes into attracting middle-market businesses, $25,000 into attracting retail establishments and only $12,500 into attracting large corporate accounts. In each case, the cost will go into an activity whose costs will be assigned only to the customers that fall within the category.

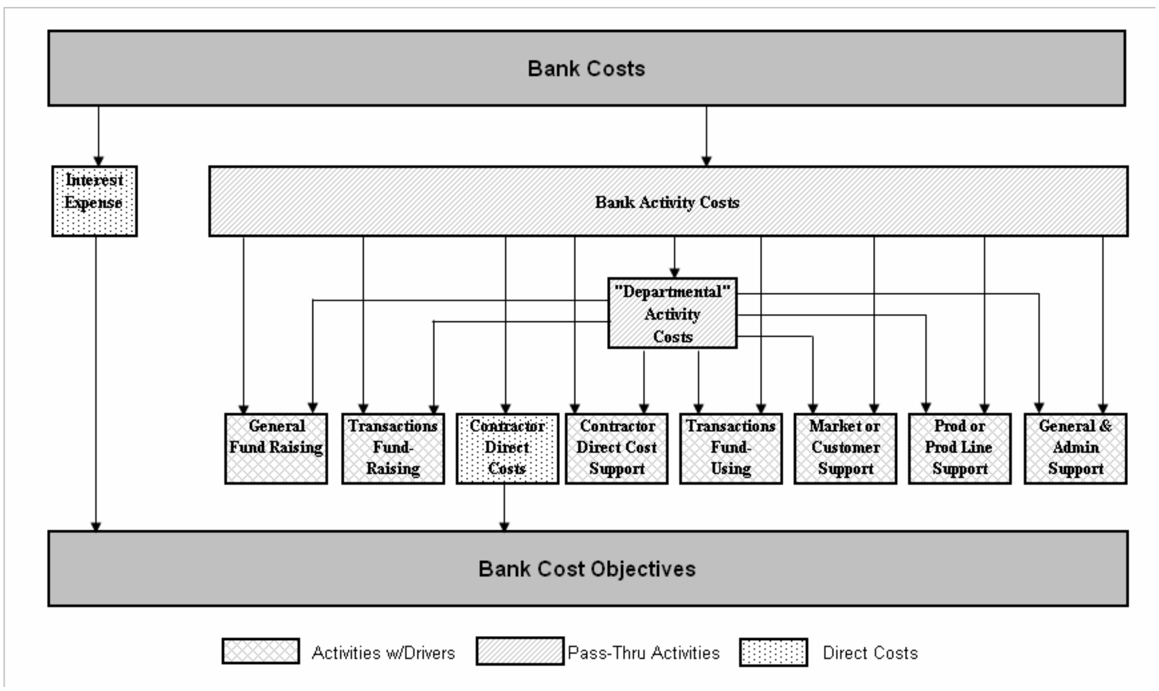

Figure 4 – Step #3 in the Activity-Based Assignment of Bank Costs

How much less would we know if a comprehensive statistical analysis showed us that each of these estimates were off by ±5%? We would still know that the vast majority of Marketing effort goes into raising funds and selling to middle-market customers and that the amounts consumed by these two activities are nearly equal. We would also know that there is a cost involved in attracting large corporate customers and retail establishments, but it is no where near the cost of selling to the middle-market. Our accuracy has been assured because we have established the correct activities for receiving the cost of Marketing and have assigned that cost based on "best estimates."

By using either statistics or percentage estimates, the cost of all departmental activities will be assigned to the activities that make them necessary based on each activity's relative demand on the departmental activity. This process can be seen in Figure 4.

At this point in the process, all bank activity costs will have been accounted for and the total cost of each activity established by the bank will be known. The cost of activities such as general fund-raising, processing customer checks and deposits, outside appraiser support, loan closing, collateral auditing, middle-market development, and retail auto loan development will be accumulated. What remains is to determine a "driver" or assignment basis for linking the cost of each of these activities with specific cost objectives.

In most cases, activity costs will be assigned as either a cost per transaction or a percentage add-on. Those activities most suited for percentage add-ons are general fund-raising, market/customer support, product/product line support and general and administrative activities. Those most effectively handled as a cost per transaction are transaction fund-raising, outside contractor support, and transaction fund-using. This final step in the process can be seen in Figure 5.

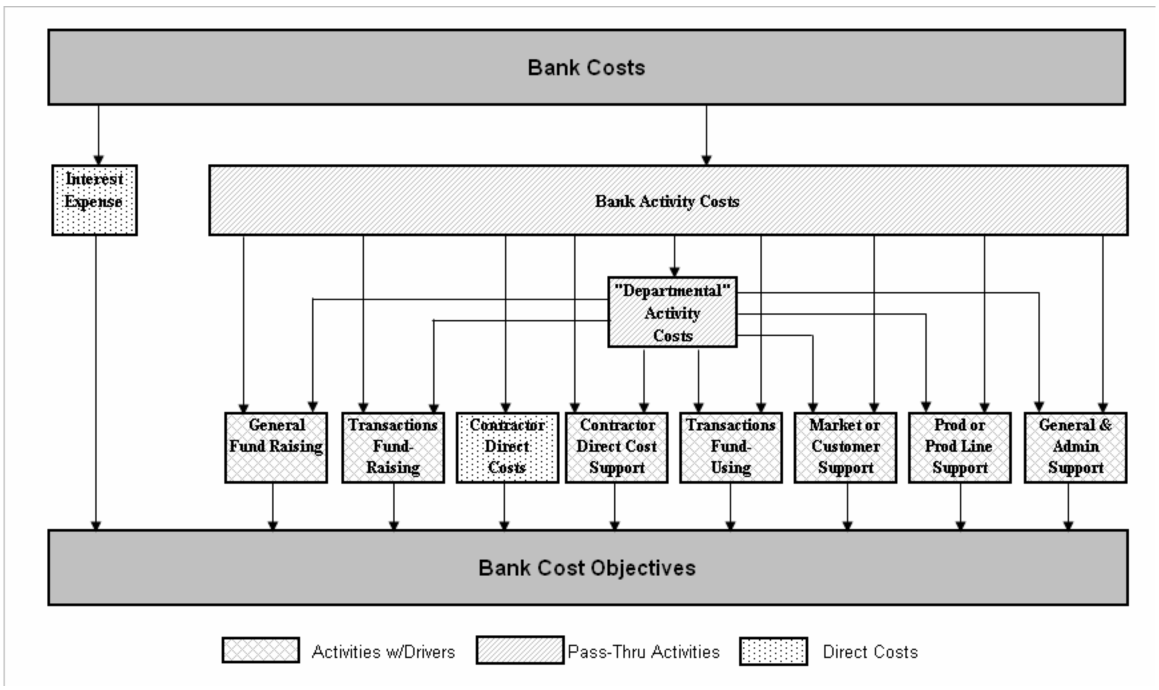

Figure 5 – Step #4 in the Activity-Based Assignment of Bank Costs

Implications for Community and Regional Banks

The most crucial step in almost any endeavor is the first step. "Getting out of the blocks" in the right direction provides the necessary momentum to reach the desired objectives in a cost-effective manner. How well would a competitive runner do if he spent the first few minutes of a race running in the wrong direction? The runner might end up so far off course and behind the other runners that he would simply decide to "chuck it" and drop out of the race altogether. Starting out in the wrong direction often has the same impact on business initiatives – they start out bad and are then abandoned.

The process outlined in this article is intended to help guide community and regional banks through the first critical steps in developing the type of cost information they will need to succeed in today's diverse, complex and dynamic environment. By taking a structured and systematic view of the bank's activities, the community or regional bank can develop an economically valid model of the bank's operation and identify the linkages between the bank's costs, activities, and products/services. Once theses linkages are understood, a myriad of opportunities open up for exploiting the insights an activity-based view of costs will provide. Included in these opportunities are the ability to evaluate changing scenarios, gage and enhance franchise value, identify efficiencies, advance performance goals, and devise risk adjusted capital measures.

The first step would be to develop a physical model of the activity-based flow of costs. This should first be done by developing a spreadsheet model of the bank that follows the cause-and-effect relationships unearthed by the activity-based analysis. The best models do not restrict themselves to the distribution of a given amount of cost (like actual general ledger cost information) but will also be able to project the bank activity costs required to support varying volumes and mixes of business or the changes in cost resulting from improvements in bank processes. In some cases (but not most), a bank may choose to eventually use one of the commercially available ABC software packages, but a spreadsheet model should always be used during the "proof of concept" stages. Once the physical model is developed and populated with the requisite input data, costing rates will be available to assign the bank's activity costs to products and customers.

The model's activity costing rates will enable to bank to assign costs to its various products and customers based on their demand for the bank's operating activities. This will in turn enable bank management to measure profitability by product, product line, customer, market, loan officer, or any other category in which they want to evaluate the bank's profits. The insights provided by these profit measurements will greatly enhance the quality of data available to management when they must make the strategic decisions that drive the destiny of the organization.

It is not, however, only product and service costing that provides bank management with powerful insights. The process costs calculated in the model highlight the cost of critical bank processes that had previously been invisible while buried in multiple departmental budgets. Understanding the cost of a teller transaction, processing a paper check, managing a contractor, selling to a certain market, supporting a new type of customer account, or performing any key process makes it more likely that the necessity and efficiency of the processes will be monitored. "What gets measured, get's done" and what doesn't get measured, tends to be ignored.

As noted earlier, the best models do not restrict themselves to the distribution of a given amount of cost but are also able to project the bank activity costs required to support varying volumes and mixes of business or the changes in cost resulting from improvements in bank processes. Most types of management decisions require *incrementa*l cost information – the change in cost resulting from a singular decision. A well-designed activity-based cost model will enable the bank to quickly and accurately measure the incremental cost impact of actions such as dropping a product line, opening or closing a branch, firing a customer, encouraging customer use of ATMs instead of visiting branch tellers and an endless list of other bank initiatives.

The impact of having the accurate and relevant cost information provided by Activity-Based Costing on decision making can be substantial. For example, Figure 6 shows a Risk-Adjusted Return on Capital (RAROC) Profitability Tree for a particular product. In the RAROC calculation, the 3.4% "Operating Cost" represents the amount of bank activity cost attributed to the product.

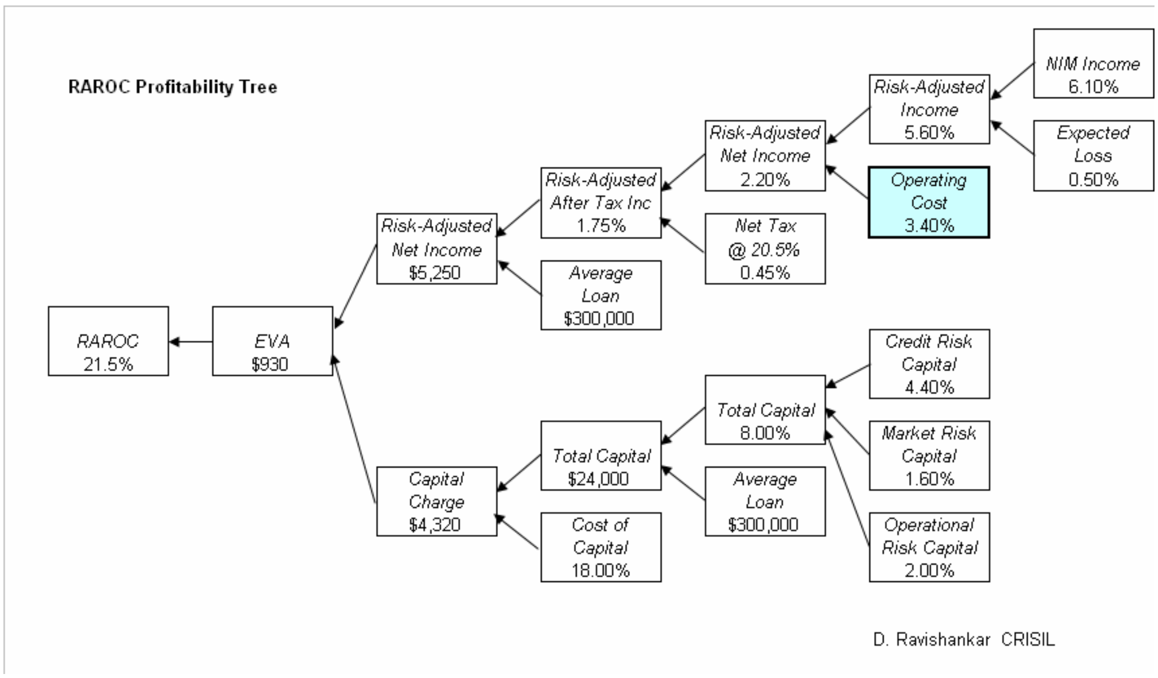

Figure 6 – RAROC Profitability Tree – 3.4% Operating Cost

Using this 3.4% estimate, the product's EVA is $930 and its Risk-Adjusted Return on Capital is 21.5%.

In the example, the 3.4% represents the average relationship between the cost of operating the bank and total outstanding loan dollars. It is, however, highly unlikely that this relationship is representative of all outstanding loans. For some loans it will be higher and for some loans it will be lower based on the individual loan's demand for the activities of the bank. If the activities required by this product are actually lower than average by about 9% and the real operating cost / loan balance relationship closer to 3.1%, the RAROC calculation will be as shown in Figure 7.

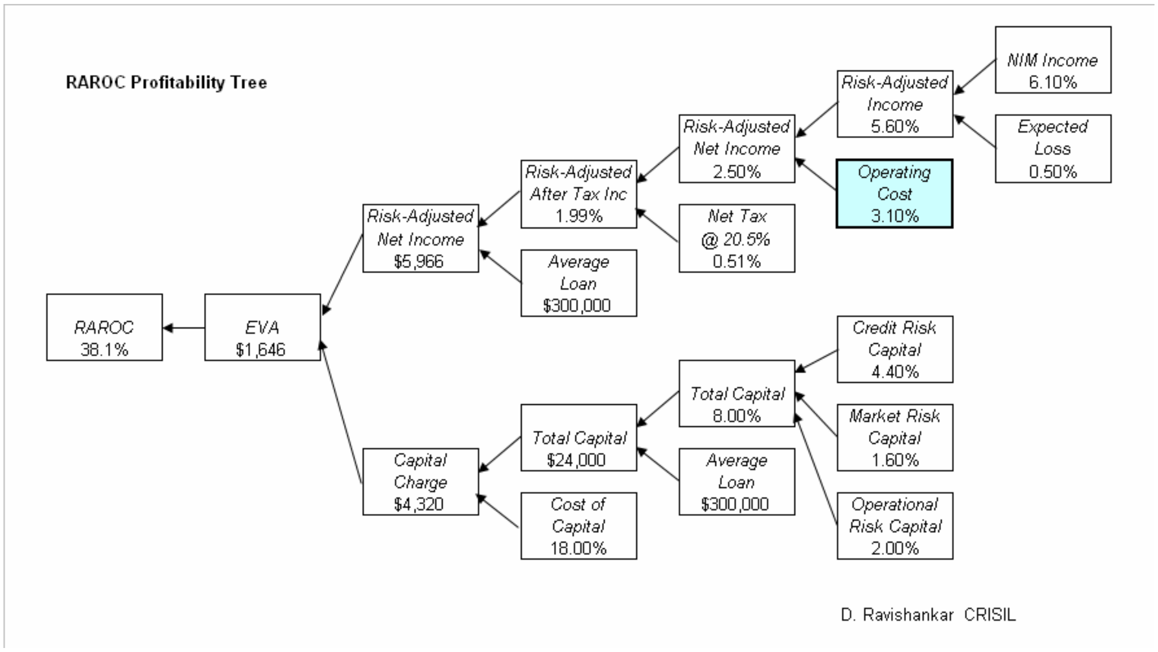

Figure 7 – RAROC Profitability Tree – 3.1% Operating Cost

The product's EVA is now $1,646 and its RAROC is 38.1% - a much more profitable product than originally believed.

If, on the other hand, this product requires about 9% more activities than the average product, it would have an operating cost / loan balance relationship of about 3.7% resulting in the RARCO calculation shown in Figure 8. The EVA now becomes only $214 and RAROC only 5.0%.

The impact of bank activity costs on the profitability of its products, markets, customer relationships, and other sub-sets of its business can be considerable. In this case, a swing of ±9% in operating cost caused EVA to range from $214 to $1,646 and RAROC from 5.0% to 38.1%. Do you believe the management of this bank can make effective decisions if its knowledge of product, customer relationship, and market profitability is no more accurate than obtained by using an average?

The quality of an organization's decisions is highly correlated with the quality of the information on which it bases those decisions. In today's ever more competitive marketplace, community and regional banks need the superior cost information provided by an activity-based cost model if they are to make the economically sound, fact-based decisions that will enable them to thrive and grow in the future.

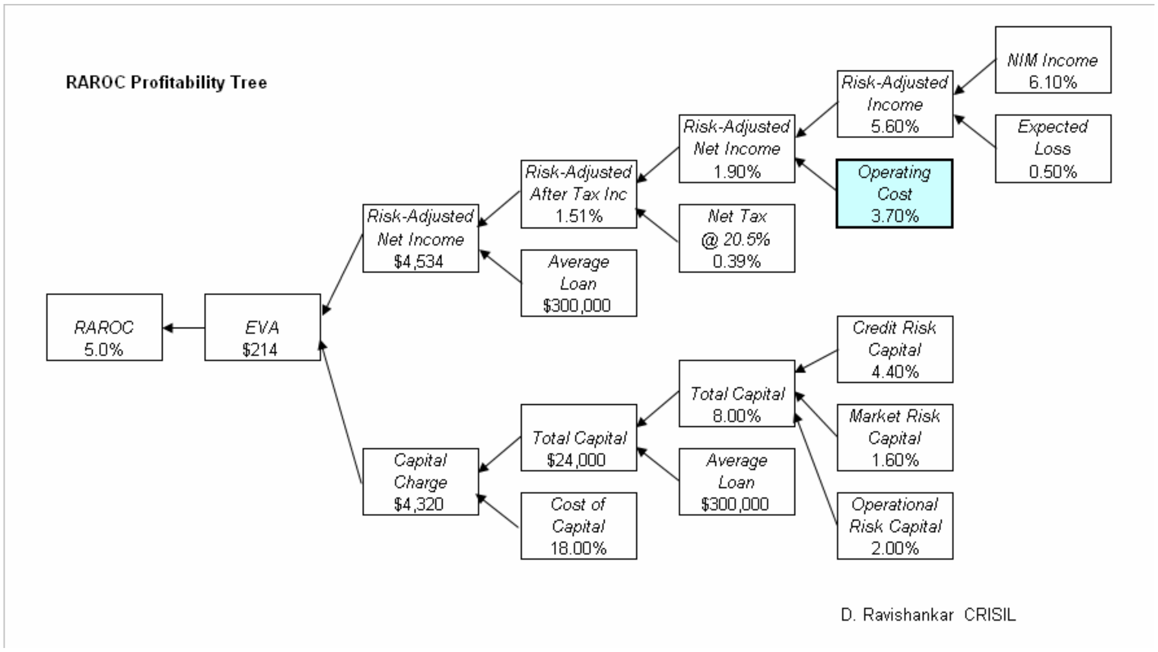

Figure 8 – RAROC Profitability Tree – 3.7% Operating Cost

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