Introduction
Profitability is the heart of any financial institution’s long and short-term strategy, and in today’s global economic climate and regulatory environment, determining its key drivers is a mission critical priority. With compressed margins and increasing competition, it is imperative for financial institutions to understand how customers, branches, channels, officers and products contribute to the bottom line. It is also beneficial to provide the appropriate information to the front-line staff at branches and lending centers so they can assess the effect on profitability of potential offerings at the customer level.

The key driver in a financial institution’s profitability is funds transfer pricing (FTP), which allocates the institution’s net interest margin to individual instruments. The allocation of margin is critical in financial institutions as it typically comprises up to 80% of net income. However, there are other factors to consider in determining profitability: the attribution of certain income and operating expenses, the assignment of capital, and a robust, multi-dimensional reporting and analysis framework must all be in place to utilize profitability information in an actionable manner.

This paper reviews the components of profitability and outlines the benefits, challenges and requirements of creating an actionable profitability framework.

Components of Financial Institution Profitability
Profitability can be defined as the process by which financial institutions align their financial statement income and expenses to better represent the contributors and consumers of those dollars. It allows financial institutions to better understand how customers, branches, channels, officers, and products contribute to bottom line net income. In the financial services industry there are four basic components of Profitability: funds transfer pricing, expenses and income attribution, capital assignment and reporting and analysis.

Funds Transfer Pricing (FTP) allocates the net interest margin (NIM) to each account on the balance sheet. This should be the first step in understanding the overall profitability of the institution. FTP also assists in the analysis of profitability from the individual instrument level up to customers, products, officers, and departments. Using FTP, organizations calculate the net interest margin for every account on their balance sheet by assigning the cost of funds to assets and a credit to liabilities and equity. To calculate an institution’s performance and make better product and pricing decisions, it is essential to have an accurate FTP spread at the account level.

Expense and income attribution allocates an institution’s non-account specific income and expenses to the various dimensions of profitability. From an income perspective, this is typically necessary where certain account-level fees are booked to a single account for a group of customers or products. This allocation is fairly straightforward using an account or transaction-basis depending on data availability.

Attribution of operating expenses has typically been associated with the application of activity based costing (ABC) methodologies. Activity based costing first involves the identification of key activities within the institution. Then, the activity cost is developed by aligning the resources, such as salaries, FF&E, etc., to cost pools according to various methodologies, such as time-driven, percentage based, and volume based. These cost pools are then mapped to cost objects (products and services) using the volumes that drive the consumption of these resources. In addition, the allocation and segregation of overhead/support functions is performed to support the ABC process.

The effective use of ABC results assists in understanding the overall costs of delivering products and services, as well as the key drivers and their effects on profitability. ABC can be used to support strategic decisions, such as fee-based product or service pricing, to identify and measure process improvement initiatives, and to evaluate whether outsourcing of certain operations is economically beneficial.

Capital Assignment assigns capital based on the risk profile of an instrument or portfolio, along with the customer and account type, for a return on capital calculation. The final calculation step in profitability measurement (before reporting) is the assignment of economic capital. Return on capital (or equity) is a critical performance indicator for all businesses. Financial institutions utilize return on capital ratios to understand how customers, channels, products, officers, and branches are performing and to give them a consistent basis to evaluate portfolios and lines of business across the institution. The allocation of capital can be as simple as taking income after FTP and ABC and dividing it by average balance of the product multiplied by flat capital percentage.
However, to accurately compare contribution of branches, products, customers, etc., it is necessary to calculate Return on Risk-Adjusted Capital (RAROC). This calculation takes into consideration that not all products and customers carry the same risk. It is critical to recognize that the allocated capital must take into account the appropriate risk profile. For example, given an institution with two customers who each have the same balance and loan product, a non-risk adjusted methodology would assign the same capital to each. However, if one customer had an “A” credit score while the other had a lower “C” credit score, it would be difficult to accurately compare the contribution of the loans to the institution without properly assigning capital based on the latter borrower’s higher risk profile. By utilizing a risk-adjusted methodology, the value of these loans can be compared. Because the customer with a lower credit score is considered riskier, the institution would assign a higher capital burden to that loan, resulting in a lower return. This gives the institution the ability to compare customers, products, channels, officers and organizational units based on their true contribution given their risk profiles.

<table>
<thead>
<tr>
<th>High Quality Borrower</th>
<th>Lower Quality Borrower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan Balance (a)</td>
<td>Loan Balance (a)</td>
</tr>
<tr>
<td>$100,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Interest Rate (b)</td>
<td>Interest Rate (b)</td>
</tr>
<tr>
<td>8.10%</td>
<td>8.10%</td>
</tr>
<tr>
<td>FTP Charge (c)</td>
<td>FTP Charge (c)</td>
</tr>
<tr>
<td>5.87%</td>
<td>5.87%</td>
</tr>
<tr>
<td>Service Charges (d)</td>
<td>Service Charges (d)</td>
</tr>
<tr>
<td>$750</td>
<td>$750</td>
</tr>
<tr>
<td>Total Income</td>
<td>Total Income</td>
</tr>
<tr>
<td>$1,480</td>
<td>$1,480</td>
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<tr>
<td>Capital Ratio (e)</td>
<td>Capital Ratio (e)</td>
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<tr>
<td>8.00%</td>
<td>8.00%</td>
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<tr>
<td>Allocated Capital</td>
<td>Allocated Capital</td>
</tr>
<tr>
<td>$8,000</td>
<td>$8,000</td>
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<tr>
<td>Return on Risk Adjusted Capital</td>
<td>Return on Risk Adjusted Capital</td>
</tr>
<tr>
<td>18.50% Total Income/Allocated Capital</td>
<td>18.50% Total Income/Allocated Capital</td>
</tr>
</tbody>
</table>

Credit Score
- A
- C

Risk Adjusted Capital
- 100.00%
- 130.00%

Return on Risk Adjusted Capital
- 18.50% Total Income/Allocated Capital
- 14.23% Total Income/Allocated Capital
**Reporting and Analysis** allows an institution to better understand its overall profitability by uniting the outputs of the above processes in a single, multi-dimensional repository. This allows for profitability analysis across any desired dimension. This type of analysis also leads to a better understanding of profitability drivers. Further, this type of insight assists front-line decision makers in the pricing of new offerings. Product-level information can then be used to determine which products to promote, as well as drive the modeling of new offerings.

At an organizational level, units can be evaluated for contribution to the overall institution, as well as the amount of excess capacity available within their unit. Giving front line personnel insight into the profitability of a particular customer, along with the ability to model the impact of modifications to existing products or the addition of new products, can lead to better pricing decisions based on economic contribution rather than volume.
**Benefits of an Effective Profitability Framework**

Financial institutions have embarked on profitability initiatives to answer questions that the typical, general ledger-focused view of the organization cannot. Such initiatives provide a deeper understanding of what truly drives an organization’s performance along dimensions such as customer, product, organizational unit, officer, channel or market segment. For many organizations, it is also a key component of an incentive-based compensation model which seeks to identify and reward those creating value. Some of the questions that an actionable profitability framework can help answer are:

- Which products, customers, channels, etc. are profitable?
- What is the true contribution to the institution of products and customers after accounting for risk?
- How do changes in volumes and mix of products impact contribution over time?
- How do we effectively price our products and services?
- How can we best manage our net interest margin?
- What is the cost of providing our products and services?
- How much do we spend on value-added vs. non-value added-activities?
- How can we better manage our resources while maintaining or improving service levels?

**Methodology Issues**

For each component of profitability discussed above, there are numerous methodologies that can be applied. The application of FTP methods can be as simple as a pool approach or as robust as a matched maturity term funding approach. Likewise, for expense attribution, methods can be as complex as a time-driven ABC approach or as rudimentary as allocations using high level drivers such as number of accounts. In addition, there are numerous approaches to calculating capital assignments as basic as a regulatory risk-based assets method or an involved, systemic model-driven approach incorporating the various risk factors at the account level.

The art of developing an actionable profitability framework lies in choosing the appropriate methodologies for your institution. The key driver of these decisions must be that they will lead to actionable, understandable information that can be used to drive decisions. Sacrificing buy-in and the ability to explain how end users can impact the organization’s bottom line for “theoretical precision” can lead to a difficult to manage, non-utilized application which produces data rather than information. Ultimately, all stakeholders must be involved in the choice—and implementation—of a particular methodology; failing to do so can lead to a lack of buy-in if the front-line staff does not accept the accuracy of the data, or understand how they can positively influence the results.

**Challenges to Developing an Actionable Profitability Framework**

Despite the many benefits of developing an effective profitability analysis framework, there are several historic challenges which prevent many financial institutions from implementing or maintaining profitability measurement systems. These issues include incompatible or unavailable data, methodologies and approaches that are either too complex or simplistic, resource limitations, and lack of stakeholder buy-in.

**Data Issues**

The foundation of any actionable profitability framework is data, and issues with its availability and consistency can jeopardize the development of an effective profitability measurement system. Since the underlying processes (FTP, ABC) rely on very detailed data, determining available data must be the first step in any implementation.
Staffing Issues

In the current economic environment, very few institutions have the luxury of maintaining large staffs in order to support disparate profitability applications (FTP, ABC, capital allocations) and keep methodologies updated. Financial institutions are looking to minimize the time it takes to produce meaningful profitability information and maximize the time available to analyze and take action on these results. Organizations should look for a robust application which contains strong modeling capabilities, leverages a single repository for all profitability and related data, and can be managed by a small number of users without specialized, system-related skills. The application should also have strong analytical capabilities that can be accessed directly by all users and includes appropriate data security.

Lack of Buy-in

This is perhaps the biggest challenge in profitability measurement. Worst case, the framework is developed, results are shared, and the data goes unused by those with the greatest ability to make an impact. This could be because the results are not understood since the end users were not involved in the development of the framework or didn’t receive the necessary training to interpret results. Or, because the users have no confidence in the results since they don’t understand how the data was derived or don’t agree with the methods. Possibly, management has not made it known that these results will be used to measure performance. Any number of these factors could be an obstacle to buy-in.

Lack of buy-in typically results from the issues outlined above. It is also critical to note that there is not a one-size-fits-all approach to methodologies. For example, in developing cost assignments, lines of business which are more transactional may be effectively measured with a time-driven ABC approach. Other areas, which are more relationship focused, may be better served using a percentage-driven approach.

To increase buy-in, several strategies can be leveraged:

- As a foundation, users must trust the data. Make the data recognizable, reconcilable, and secure.
- In addition, users must feel some ownership in the results. It is imperative that, as the methodologies for calculating profitability components are developed, the appropriate stakeholders are involved, engaged, and aware of the benefits to be gained. There needs to be a conscious decision by the finance or profitability group to be externally focused and get the end users involved.

- Management must be very clear about how the results will be used to evaluate the unit’s, product’s or officer’s contribution to the organization. There must also be an effort to educate everyone on how they impact the numbers and, more importantly, what they can do to influence them.

The failure, or lack of perceived value, of many of the profitability initiatives that have been undertaken over the past couple decades can usually be traced to the above factors. Therefore, key individuals in charge of any project must be cognizant that the results must be credible and actionable. It is critical to choose a system that has a full breadth of functionality to support all the elements of profitability and can be managed by current staff with industry standard skills.

Key Requirements of an Actionable Profitability Framework

Single Repository

As discussed above, there is a considerable amount of data, both sourced and derived, involved in any profitability framework. Source financial and statistical data, along with derived results, must be available for historical, current, and future periods. The ability to store this data in a unified, secure, scalable, auditable, and easily managed database is critical. The data must be secure, presented based on user profiles, and drill down into the drivers of calculated information to ensure confidence in the results. It is also necessary to keep the historical data to analyze trends and look for outliers that may indicate the need to adjust methodologies. Giving those closest to the data and process the ability to manage the data structures and storage has the advantages of reducing reliance on IT personnel and allowing necessary changes to be quickly made. Auditable around the entire process ensures that all changes are logged and can be reported on if issues arise.

Robust Calculation and Modeling Engine

Producing profitability results requires a significant amount of calculations and properly-defined drivers. The ability for the finance team to manage these is paramount to success. Calculations should be transparent and easily understood to the end-user, as well as easily created and updated by finance. Transparency of calculations is critical for user education and acceptance. This gives end-users confidence and, more importantly, knowledge of how their decisions impact profitability.
Key driver data, such as rates and volumes, requires frequent updates. As additional data becomes available it may be necessary to create new driver accounts. Keeping this capability within the control of finance ensures that they can be added quickly. Drivers are also critical to performing simulations, or what-if scenarios, such as the impact of a rise in interest rates or an increase in loan origination volumes. The calculation engine should support creating new scenarios "on the fly" and track scenarios separately. This allows the results to be analyzed and reported against other simulations.

**Insightful Analytical Capabilities**

Analytical capabilities are perhaps the most critical factor in successfully leveraging profitability information to understand and improve financial performance. The profitability framework must have strong analytical capabilities which are made available to all levels of the organization, from the front-line to the executive suite. This information can be delivered automatically on schedule to certain users or made available to others on-demand. Some personnel may want to view dashboards highlighting key metrics, such as changes in portfolio FTP spread over time, when they log into the application. Others may prefer having a package of profitability reports for each dimension delivered to their email on a periodic basis. The profitability application must have the capability to satisfy each user's needs while also allowing them to easily perform ad hoc queries. The ability to provide alerts highlighting potential issues is another key requirement. This capability can reduce the amount of time users need to interpret the information and allow them to focus on areas that need improvement or that will drive value to the institution.

Example report showing top and bottom loan officers based on RAROC.
The ability to incorporate profitability information into a model that can be used to analyze and assist pricing of new products or services is a key step to transforming an institution from one that uses a volume-driven approach to one with a profitability-oriented focus. The model below shows an intuitive screen that allows front-line staff to see several critical pieces of information:

1. A model that allows them to project the profitability of a new loan to this customer. It incorporates FTP and ABC assumptions and calculations
2. The current and forecasted profitability of the customer, along with key components
3. The contribution to RAROC, which is a key performance metric for this institution

Having this type of user-friendly pricing model available at the point of decision making is the key to unlocking the power of profitability information to positively impact an institution’s performance.

Conclusion
Profitability management in financial institutions has been cyclical during the past several decades. While most organizations have embraced the importance of having a Funds Transfer Pricing system in place, other components, such as Activity-Based Costing, have been in and out of favor at various times. As organizations seek to understand the full contribution of customers, products, officers, channels, and organizational units, implementing all the components of a profitability framework has become essential. Measuring performance inclusive of risk characteristics also helps financial institutions address regulatory requirements and evolving market dynamics.

Furthermore, involving the entire organization in the development of the models and assumptions plays a large part in a successful implementation. It’s important to note that there is no “one-size-fits-all” approach to profitability. Organizations, or even different LOB’s within an organization, will find that they focus on certain components or dimensions above others. What is most important is that, at the end of the process, there is meaningful, actionable information produced and consumed.

Finally, the success of an actionable profitability framework hinges on the ability to disseminate information to the areas of the organization (loan officers, platform staff) that can use it to drive decisions. Those financial institutions who embrace profitability measurement will find themselves at an advantage over institutions still focusing on volume-driven growth without regard to contribution.
About Axiom Software

Founded by industry leaders with over two decades of experience in enterprise planning and reporting, Axiom Software delivers performance management solutions for mid-sized and large organizations around the world. Solutions for budgeting and forecasting, reporting and analytics, strategy management, capital planning, profitability and cost management are delivered on a single unified platform. Axiom Software embraces and extends familiar Microsoft Excel® functionality, allowing finance professionals to manage data in a familiar environment — while providing unmatched modeling flexibility and enterprise performance.

What makes Axiom Software Profitability Management unique? While most performance management technologies look to replace Excel with more complicated yet less capable technologies, Axiom Software embraces and extends Excel while eliminating the deficiencies that arise in an enterprise context. The result is a profitability environment that scales for millions of records and thousands of users, yet still provides a familiar, non-technical user environment. While Profitability Management from Axiom Software is designed to calculate profitability at any level of the organization, it also provides for the creation of an endless range of analytical reports. Ranking reports, distribution analysis, and comparison to targets with aggregations by role type, function, geography, and organization are all supported, along with comprehensive drill-through to transaction-level detail. These reports transform raw data into actionable information that can be used to drive profitability targets throughout the organization.

About the Author

Tom McCarthy is a senior solution engineer at Axiom Software. He has more than 20 years of product management experience in BI and Software and brings depth of expertise to the company’s solution roadmap for profitability and financial consolidations. Before joining Axiom Software, McCarthy served as senior product specialist for Longview Solutions. Prior to that he worked in the banking industry as a bank examiner and AVP of profitability analysis; he has also held positions with SAP/Business Objects, IPS-Sendero (Fiserv) and Summit Bank