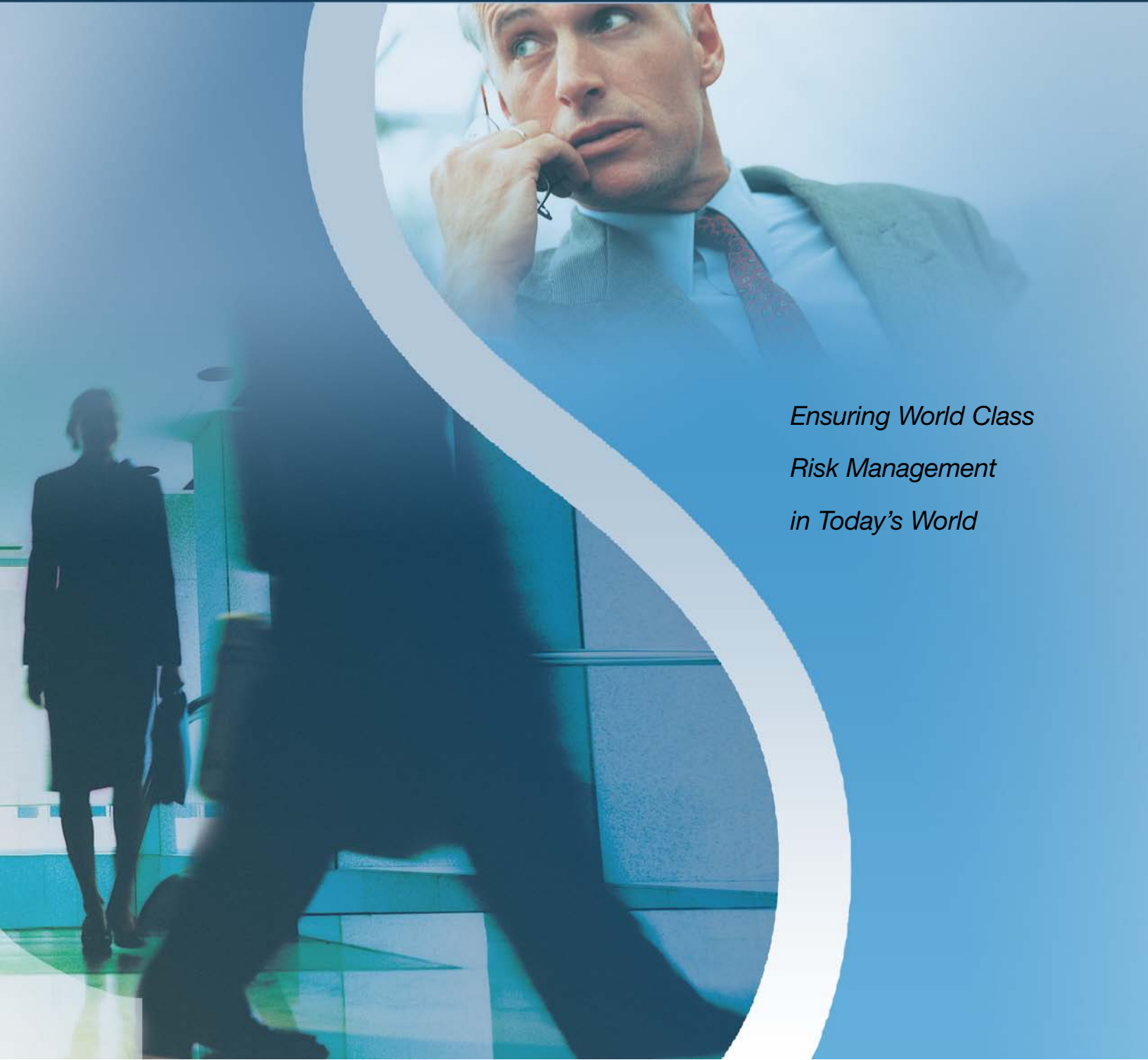


The Intelligent Choice

Risk Management Processes



*Ensuring World Class
Risk Management
in Today's World*

Executive Summary

Situation: *Commonly Used Financial Risk Management Completely Failed*

The sudden lack of liquidity in credit markets combined with grossly over-leveraged positions overcame the risk management practices of all but a few of the world's most sophisticated financial institutions. World financial markets are still reeling in crisis as corrections are painfully felt. Risk managers didn't have the ability to adequately spot, manage and communicate the risks associated with many of today's new financial products. The resulting massive write downs of impaired assets, P&L losses among major banks and financial institutions around the world, corresponding employee layoffs, and the unplanned retirement of several leading banking and brokerage CEOs, is just the beginning of resulting changes. With new policies being formulated at the highest levels of government, the outlines of the coming changes in the financial regulatory landscape are just becoming visible.

Traditional risk management processes and information systems have been unable to keep up with the flow of new financial products that are entering the marketplace at a dizzyingly fast pace.

Problem: *Traditional Risk Assessment Methods and Information Sources Can't Meet the Need*

Traditional risk management processes and information systems have been unable to keep up with the flow of new financial products that are entering the marketplace at a dizzyingly fast pace. Executive-level key performance indicators (KPIs) have been absent that would have provided a more accurate profile of the entire firm's risk position at any specific point in time. A combination of the use of highly presumptive financial models, the failure to conduct thorough research before "green-lighting" the sale of risky securities, an overconfidence in the long-term viability of existing mortgages, and a volume-oriented sales strategy have all contributed to the current crisis plaguing financial firms on Wall Street.

Solution: *Customized Solutions That Rapidly Identify Risks Associated with New Financial Products*

Today's risk managers must deploy agile customized information tools, capable people, and processes that will provide more rapid, accurate, and responsive solutions to identify and quantify the risks associated with new financial products. This must be accomplished without compromising existing critical outputs. This inevitably requires meshing data from many disparate sources throughout the enterprise to produce high-level key performance indicators (KPIs) that allow senior managers to monitor the firm's risk profile.

SMART is made up of a diverse team of business advisory, consulting, accounting, compensation and benefits, tax, and transaction advisory professionals who offer a comprehensive foundation of business expertise and practical, informed advice. This is accomplished with proprietary experience implementing information translation strategies and tools specifically designed for the securities industry that address the industry-specific organizational and information-oriented challenges that have previously been impediments to managing risk.

Result: *Complete, Accurate, and Timely Information to provide transparency into the balance sheet and allow management to make the best risk decisions.*

SMART custom risk management solutions provide risk managers with the detail necessary to make timely, accurate, and appropriate risk assessment decisions while complementing existing financial information systems. Using a top-down and bottom-up approach to information profiling, SMART provides the specific tactical components that must be delivered, combined with a "current state" assessment process that makes detailed recommendations to identify areas of concern and manage financial risk for the organization.

This approach allows SMART to implement specific improvements and solutions for its clients, solutions that address weaknesses in existing risk management policies and protect organizations from the impact of risk in today's complex financial marketplace.



Traditional Risk Management Practices No Longer Work in Today's Financial Environment

Pick up any major newspaper or financial magazine and it's easy to see that the entire financial services industry is in the midst of widespread and dramatic change. The current turmoil in the sub-prime mortgage and credit markets is just the latest example of the type of market activity that has proven to be much riskier than most participants had previously expected.

While there have been similar financial crises over the past two decades (e.g., Internet stocks, junk bonds, the S&L crisis), the current situation has left leading financial industry pundits wondering whether financial managers in affected organizations were effectively managing the risks associated with their activities.

As documented by virtually every financial news source, decisions associated with high-risk financial products have resulted in unprecedented, widespread losses among major banks and financial institutions around the world, to the tune of over \$200 billion since February 2008. Employee layoffs and the announced retirement of several leading brokerage CEOs are only a few examples of the fallout of this inability to properly manage financial risk.

Of course, all the participants in these financial disasters had risk monitoring and mitigation policies in place. Nonetheless, most of the formerly trusted risk management solutions and processes failed to properly identify and mitigate the increased risk that was associated with these new investment products.

This failure can be traced to a combination of four related factors:

1. **Use of Incomplete, Obsolete and Rigid Models** — Traditional financial models used to calculate the value at risk associated with new financial products are based on historical data. By definition, this cannot be a leading indicator in today's environment of more complex and highly leveraged investment vehicles.
2. **Lack of Due Diligence** — In the pursuit of fee income, there was a widespread failure to conduct thorough research and analysis of new, riskier investment products that were subsequently given the "green light" to be sold by financial managers, advisors, and consultants throughout the organization.
3. **Unrealistic "Bullish" Sentiment** — Asset deflation was not adequately factored into risk management models or surveillance.
4. **Change to a Volume Orientation** — The risks associated with "borrower has no equity" loan products and the quality of borrower credit rating was ignored in favor of a volume-oriented strategy that capitalized on the increased flow of lucrative commissions and fees. This strategy conflicted with the previously accepted and more risk-averse practice that was associated with the underwriting and management of borrower credit.

Given these circumstances, even the best risk management processes will eventually experience some degree of failure to identify all financial risks. The difference in today's environment is that new financial products are appearing in the marketplace at a faster rate, requiring risk managers to make their risk assessments in a significantly shorter amount of time.

To address this issue, risk managers must now deploy more agile information tools that will provide the ability to rapidly identify the risks associated with newer financial products while minimizing the impact to the organization if these products fail to meet their intended market expectations.



Decisions associated with high-risk financial products have resulted in unprecedented, widespread losses among major financial institutions to the tune of over \$200 billion since February 2008.

The Six Challenges Associated with Achieving Effective Risk Management Practices

The primary role of the financial risk manager is to alert senior management to any questionable investment products that pose an increased level of risk to the organization so that appropriate action can be taken. These risk assessments are entirely dependent on both the quality and accuracy of the financial models used to produce quantitative analysis reports. The accuracy, timeliness and effectiveness of these reports have demonstrated themselves to be ineffective.

Today, there are six primary challenges that make this risk identification process difficult for financial risk managers:

A significant problem occurs when new financial products are sold without providing risk managers with adequate information and tools they need to make risk assessments.

1. Outdated Information Models — Many of the financial models that risk managers use to identify risk are anywhere from 5 to 20 years old, and are based on historical data associated with more traditional financial investments such as Collateralized Debt Obligations (CDOs) and Credit Default Swaps (CDS). Since many of the latest structured products appeared on the market after the last economic downturn, the information models that have been used to calculate their risk provide an inaccurate assessment of how they would perform in today's more complex and rapidly changing financial marketplace. As a result, risk managers are forced to make risk assessments on new products using outdated financial models, unknowingly increasing the level of risk to the organization.

2. Silos of Information — When large financial services organizations are segmented by product offering, function, line of business, or physical geography, essential business information tends to be withheld and not readily shared between business divisions. In these situations, financial data becomes separated from business-related information, or *siloed*. As a result, risk management personnel, sales consultants, and trading specialists are unable to share critical information that could be used to identify risky products, brokers, or customers. The potential for siloed information increases when there is:

- **A Lack of Organizational Transparency** — A lack of “openness” or willingness to present “red flags” or situations that pose a greater risk to the organization.
- **Changing Landscapes** — An inability of adapting to rapidly changing market dynamics.
- **Information Homogeneity** — Aggregating information from many sources to form a “least common denominator” that hides the risks associated with any single product contained within the homogenous group.

3. A Rapid “Go-to-Market” Focus — A significant problem occurs when new financial products are sold without providing risk managers with adequate information and tools they need to make risk assessments. Traders are usually the ones proposing and aggressively pursuing new products and market “opportunities”; Risk managers are frequently brought into the process to risk-assess these new products as a final step. Since the organization's business model is based on volume and profitability, there is little incentive to stop early trades with a product that carries a higher level of risk. By the time the risk assessment is fully formed, many of these riskier financial products have already been sold.

4. Offshore Application Development — This challenge represents the disparity that occurs between offshore application developers and the business personnel who are better equipped to understand the implications of the marketplace and the flexibility and responsiveness of technology that will be needed to address any associated risk. As a result, a significant *white space* is created due to the geographic distance between the two entities, which hinders the quick resolution of development issues. This dynamic situation has made the risk manager's role more difficult and has led to a scarcity of trained personnel within the financial services sector.



5. A “One Size Fits All” Mentality — In an effort to reduce the costs associated with developing custom applications, many financial services firms implement commercial solutions designed to meet a variety of needs. Once implemented, many find that these “off-the-shelf” risk management solutions are unable to provide the level of detail necessary to support complex trading systems and are ill-prepared to calculate the risk associated with the firm’s specific investment products, portfolios, and customers.

Since these solutions were often designed for breadth on the trading side, they frequently come up short in addressing the risk management of complicated financial instruments. Methodologies specific to individual products may be downplayed in favor of calculations that have applicability across a broader product set. As a result, the underlying calculations that shed light on the specific financial products are not performed, exposing the firm to a higher level of risk.



6. Flawed Compensation Plans — The compensation plans in place at today’s financial services organizations are based on a sales volume strategy that leaves traders immunized from the possible long-term impact associated with their trading strategies. Even though the risk profile for many of the available financial products changes over the course of their lifetime, many of the existing risk calculations are based on a *net present value* and other financial model assumptions that reduces a complex, long term view on interest rates and other factors to a single risk number. With compensation plans based on *current* trading, sales and risk levels, any risk resulting from future deviation from the assumed model is transferred to the organization.

These issues demonstrate just some of the many challenges associated with managing risk in today’s rapidly changing financial marketplace. In order to address these threats, financial services organizations must reassess their existing risk management strategies and methodologies, and any tools that have been implemented to solve these challenges.

Among the many questions risk managers must ask as part of this reassessment process are:

- *Does our organization have all the information we need to adequately assess the risks associated with today’s new financial products?*
- *What type of information does our organization need in order to develop a sound risk assessment methodology?*
- *How are these information requirements different from the criteria that are already in place?*
- *How valid are the organization’s existing risk assessment models and what are they based on?*
- *Have any decisions been made today regarding new products that carry higher risk and have not been verified?*
- *If there are inaccuracies within our existing risk assessment models, and we can’t verify them, how confident is our organization in the assumptions that we are currently making?*
- *What is the repercussion of these decisions if our existing risk assessment models are wrong?*

How SMART Helps Organizations Avert the Challenges of Financial Risk

To be at their highest level of effectiveness, risk managers must be able to extract the specific data that they need, in a format that is most useful, relying on appropriate data processes that will provide superior risk assessment capabilities for their organization.

SMART is a diverse team of business advisory professionals with extensive experience in the use of information-translation tools and methodologies specific to the securities industry. This approach addresses and overcomes the unique risk-oriented challenges that are inherent with financial services organizations that have come to depend on traditional risk management solutions.

The SMART Methodology:

- Is applicable to both new and existing financial products.
- Examines the existing processes used for risk management in financial services firms.
- Uncovers weaknesses in the identified processes.
- Proposes new steps to remediate the weaknesses.

The SMART Methodology also looks at risk management across multiple dimensions, including:

- Data
- Business process elements
- Technology process elements
- Governance

The SMART Methodology provides several advantages for today's risk-challenged financial services organizations:

Highly Customized Solutions

Off-the-shelf solutions have been a significant disappointment for many financial services organizations. Many of these solutions have not lived up to the promises and expectations that have been established for managing risk. To date, many large financial institutions have spent millions of dollars to implement these one-size-fits-all systems under the perception that they will be a source of significant cost savings and economies of scale, only to find out that these solutions do not fit their company's risk management needs for more than a few years, requiring replacement. The challenge for many financial services firms is maintaining a heterogeneous information environment while making sure that all the risk-related data is rapidly available to the individuals who need it most.

Rather than off-the-shelf solutions, financial risk managers need *custom systems* that will provide the detail necessary to make timely, accurate, and appropriate risk assessment decisions while complementing existing financial information systems.

SMART delivers custom solutions that are specifically targeted to address the issue of risk within today's financial services organizations. These custom solutions supplement the features that are missing from most off-the-shelf systems, but still work within existing enterprise information infrastructures. This solves the risk management problem while minimizing any disruption to the organization's primary trading information infrastructure.



SMART is a diverse team of business advisory professionals, information-translation tools, and methodologies that address the unique risk-oriented challenges that are inherent with financial services organizations.

SMART professionals come from national consulting and accounting firms, where they held positions typical of senior-level executives or directors of businesses.

Extensive Business and Industry Expertise

Seasoned and industry-tested professionals who impart extensive business and industry experience are critical ingredients for successful risk management implementations. SMART provides its clients with *trained and experienced industry experts* who understand the financial industry, information processes, and methodologies and possess significant technical know-how, along with effective application design that can be applied to managing and assessing the issue of financial risk.

SMART professionals come from national consulting and accounting firms, where they held positions typical of senior-level executives or directors of businesses. In fact, many SMART managing directors are former CEOs, CFOs, and CIOs who know the challenges clients face and what is required to make effective business decisions, timely and accurate financial reports, and sound financial plans and programs. This vast knowledge and experience is leveraged to quickly assess situations and provide intelligent solutions for improvement.

This knowledge and experience is also put to use to build *highly effective point solutions* that will supplement existing information systems and fit into an organization's overall application and risk management framework. Most importantly, these point solutions put useful data in the hands of risk managers, allowing them to effectively accomplish their risk assessment goals.

Timely, Aggregated KPI-based Design

Key Performance Indicators (KPIs) *summarize aggregate information* into a single format that senior-level executives can use to better understand the high-level risk profile within their firm at any specific point in time. These measures allow the senior executives to assess the stability of their internal risk assessments, and identify the potential sources of this risk.

SMART can make specific recommendations and develop customized solutions that address weaknesses in policies and/or procedures, or areas of higher risk within the firm that must be addressed with improved automated tools.

Information Translation Methods and Tools

SMART brings extensive experience in the use and development of *information translation methods and tools* that are specific to the securities industry and allow risk managers to tailor these tools for the unique products and processes within their financial organization. These methods and tools address the unique silos of information and processes that have been the traditional impediments to identifying and managing risk.

SMART uses these methods and tools to aggregate client-specific information into detailed, granular data stores that allow risk managers to determine their investment risk on a daily basis instead of the weekly or monthly basis found with many traditional information solutions. This is just one way SMART aids the identification of risk in a timely fashion.

A "Top-to-Bottom" Approach

SMART takes a combined *top-down* and *bottom-up approach* to information profiling. A top-down analytical approach allows SMART to identify the high- and executive-level goals that are in line with the overall enterprise business strategy. A bottom-up analytical approach allows SMART to identify the specific tactical components that must be delivered to accomplish those goals. This combined assessment process results in a *current state* analysis that identifies areas that must be addressed in order to effectively manage financial risk.

Rapid Application Development

In order to get current information to risk managers in a timely fashion, rapid application development cycles must be initiated. Instead of implementing a slow and steady reaction to the rapidly changing dynamics of the marketplace, financial services organizations must now deliver as quickly as possible new information products that will minimize the impact from risk. At the same time, it is critically important to provide a development process that will be welcomed by the enterprise IT organization.

SMART rapid application development methodologies maintain the integrity of transactional data without corrupting other financial data that might infringe on existing information security policies or accepted IT guidelines. SMART's experience developing both "on the desk" and "in the data center" applications allows the delivery of applications with the best of both environments: rapid delivery, with security suitable for and controlled by, the data center.



Organizational Communication

With today's fast-paced trading environment, where new investment products are rapidly available online, risk management systems must be both flexible and extensible to address the changing business rules and needs that are now required. To develop applications that address these challenges, a significant degree of business knowledge is needed. This requires application developers to be in close proximity to business users so that custom applications can be rapidly deployed and keep pace with rapidly changing industry dynamics.

Working closely with key business users is a requirement during this process in order to obtain a greater understanding of the critical business rules that must be applied to develop highly effective risk management applications. Such business users comprise risk managers, traders, and middle- and back-office administrators who contribute to the overall risk assessment process.

In-depth communication with every aspect of an enterprise organization is a critical part of the SMART development process. SMART personnel are placed in close proximity to business users, providing SMART with an *iterative understanding of specific risk assessment needs*. In contrast, offshore development organizations that are located thousands of miles away can't perform similar interactions, which often results in poorly executed risk management solutions.

SMART gives risk managers the ability to dig further into the data and perform the necessary due diligence to make more accurate risk assessments.

Greater Data Transparency

Data transparency is another essential component of a sound risk management strategy. Data transparency provides an organization with the ability to easily access and work with data no matter where it is located or what application originally created it. Data transparency also assures that the data being reported is highly accurate and comes from an original source.

SMART gives risk managers the ability to dig further into the data and perform the necessary due diligence to make more accurate risk assessments. While rating agencies may provide only part of the information on a particular security or financial product, custom SMART applications can provide risk managers with additional detailed information (such as cash flow information) that might otherwise be difficult to obtain using conventional approaches. Access to this form of transparent data provides the necessary information that risk managers need to make the most appropriate assessments for their financial services organizations.

Concluding Summary

Today's financial services cannot depend on a "business as usual" attitude when managing investment risk. Current events within the financial environment are changing in a fast and fluid manner, requiring operating models to match their rate of change. All of those involved in the risk management process must be able to quickly respond to changing market dynamics in order to be effective in their positions.

Managing risk now requires a deeper knowledge of the details associated with today's high-risk investment products, and must leverage and combine information sources that provides the ability to employ both accurate and agile decision making for any financial services firm.

SMART has the right blend of technology, business experience, and operational skills that are needed to help risk managers effectively manage risk and quickly respond to a changing financial marketplace. SMART provides risk managers at financial services organizations with four key benefits in managing risk:

- **Extensive Risk Management Experience** — Due to the team's extensive experience supporting risk management within the financial sector, SMART is highly effective in helping financial organizations manage their risk and respond to change within the financial industry.
- **Vast Business & Industry Knowledge** — SMART leverages its vast business and industry knowledge and experience for financial services organizations, helping them drive the business results they are looking for in a timely fashion.
- **Highly Technical Expertise** — SMART provides high-value technical consulting skills and technical experience that help risk managers meet the needs of today's rapidly changing and complex financial services industry.
- **Agile System Design** — SMART employs rapid application development in designing information systems that are fast, agile, and responsive, yet provide full integration with existing information systems and infrastructures.

SMART has the skills to help risk managers effectively manage risk and quickly respond to a changing financial marketplace.



About SMART

Founded in 1988, SMART is a diverse team of business advisory, consulting, accounting, compensation and benefits, tax, and transaction advisory professionals that offers a comprehensive foundation of business expertise and practical, informed advice. SMART has set an innovative new standard for services that adds value to each organization's bottom line and security to an existing business planning strategy.

SMART delivers professional services that consistently exceed client expectations. By listening to client needs and utilizing an extensive industry and service experience, SMART customizes their processes and effectively works to surpass expectations. SMART people are seasoned, industry-tested professionals that have come from national consulting and accounting firms, where they held positions as senior-level executives; businesses directors; and CEOs, CFOs, and CIOs. SMART people know the challenges clients face, and they know what it takes to make effective business decisions; timely, accurate financial reports; and sound financial plans and programs. SMART personnel use this knowledge to quickly assess situations and provide intelligent solutions designed for business improvement.

For additional information about SMART and SMART professional services, please visit our website at www.smartgrp.com or feel free to contact us [online](#).

