



NorthBrook

# Navigating Enterprise Risk Management

Presented by

**NorthBrook Capital**

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## **Overview:**

This document is for the benefit of the staff, executives, directors, regulators and other stakeholders of financial lending institutions (“F/I’s”).

DICO, in its document Enterprise Risk Management Framework, defines risk management as “an ongoing process, involving the credit union’s Board of Directors, management and other personnel. It is a systematic approach to setting the best course of action to manage uncertainty by identifying, analyzing, assessing, responding to, monitoring and communicating risk issues/events that may have an impact on an organization successfully achieving their business objectives.”

Risk management tools provide the F/I with a number of risk assessment and reporting functions, which aid in the management of credit risk, profitability and operational efficiency areas of ERM. The cornerstone of NorthBrook’s N-Abler Risk Management System is the scoring and ranking of the imbedded credit risk in individual loans.

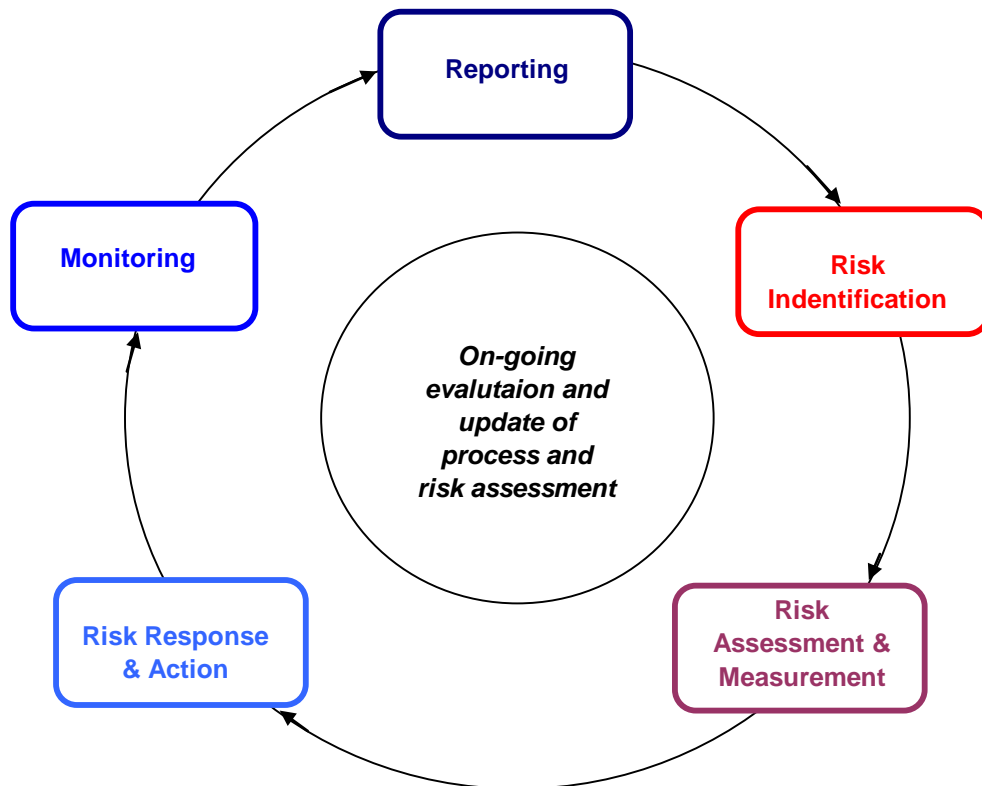
The tools described in this report may be used by the F/I in their decision making process for measuring and addressing variations (positive and negative) from the F/I’s stated ERM objectives.

This document outlines ERM, and how to use risk tools to implement, assess and monitor ERM programs. It will outline a credit scoring model, as well as its purpose, output and uses of information for ERM.

## Enterprise Risk Management Overview:

Enterprise risk management (“ERM”) at its simplest is the identification, assessment, management and monitoring of risk throughout the organization. It sounds simple but even the smallest lending institution will be complex on a certain level. The many moving parts of assessing and granting credit integrated across product lines, branches and administrative operations require tools that will adapt to the various elements of the organization’s ERM. This section will provide an overview of ERM business cycle, main risk categories, and a sample ERM risk appetite definitions. The next section of the document will outline how N-Abler can aid management in their ERM Programs.

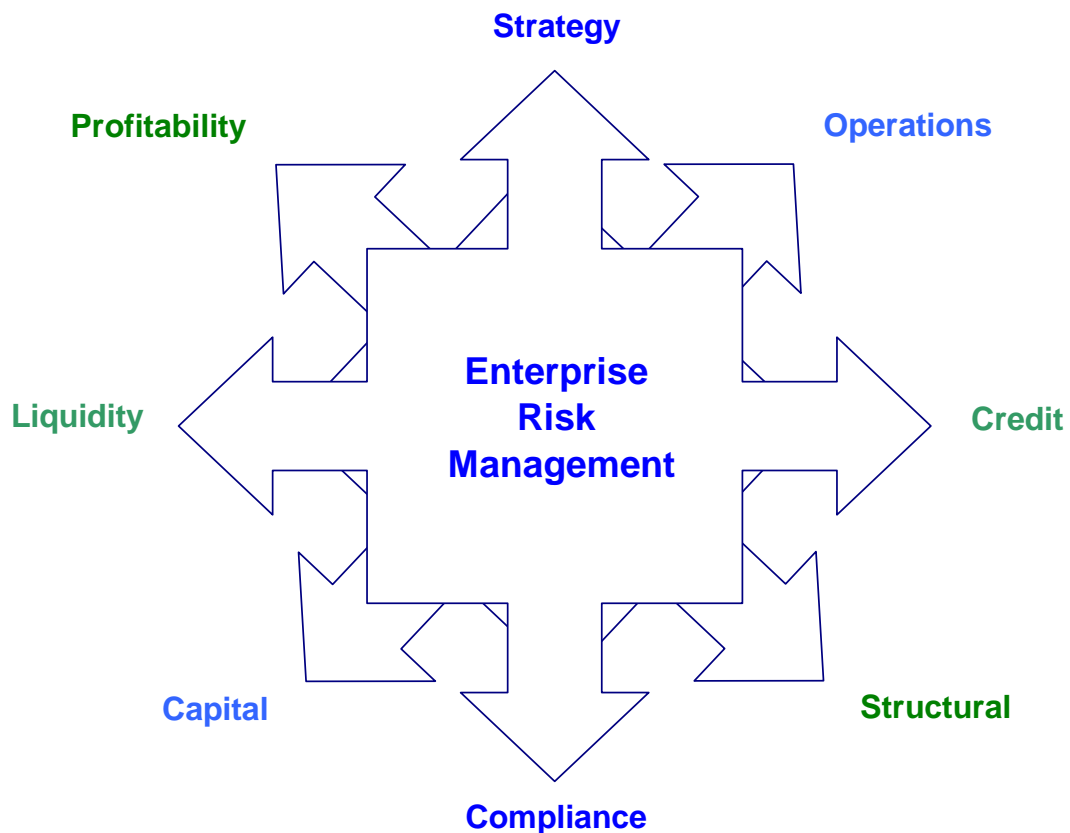
## Enterprise Risk Management Cycle





An effective risk management program requires the on-going identification of risk, consistent assessments, effective responses, constant monitoring and efficient communication through concise reporting.

Major Risk Categories:



The significant risks of the F/T's operations are identified during establishment of the ERM program, and fall into one of the major risk categories defined by the organization and their regulatory stakeholders. Risk does not exist in a silo, and can impact many different categories. The ERM must take an integrated approach to design and assessment, and the support tools selected must help management across multiple risk categories.



The Board, through management’s recommendations, needs to establish the level of risk the organization is willing to tolerate, both at the macro and micro levels. There needs to be a common language and a common assessment of the risk tolerance. At the micro level, the risk tolerance has to be established for the individual loan, tracked, monitored, compiled and report up through the organizational hierarchy. At the macro level, the combined risk profile of the organization has to be determined, and monitored to ensure that the overall risk is within the Board approve risk parameters.

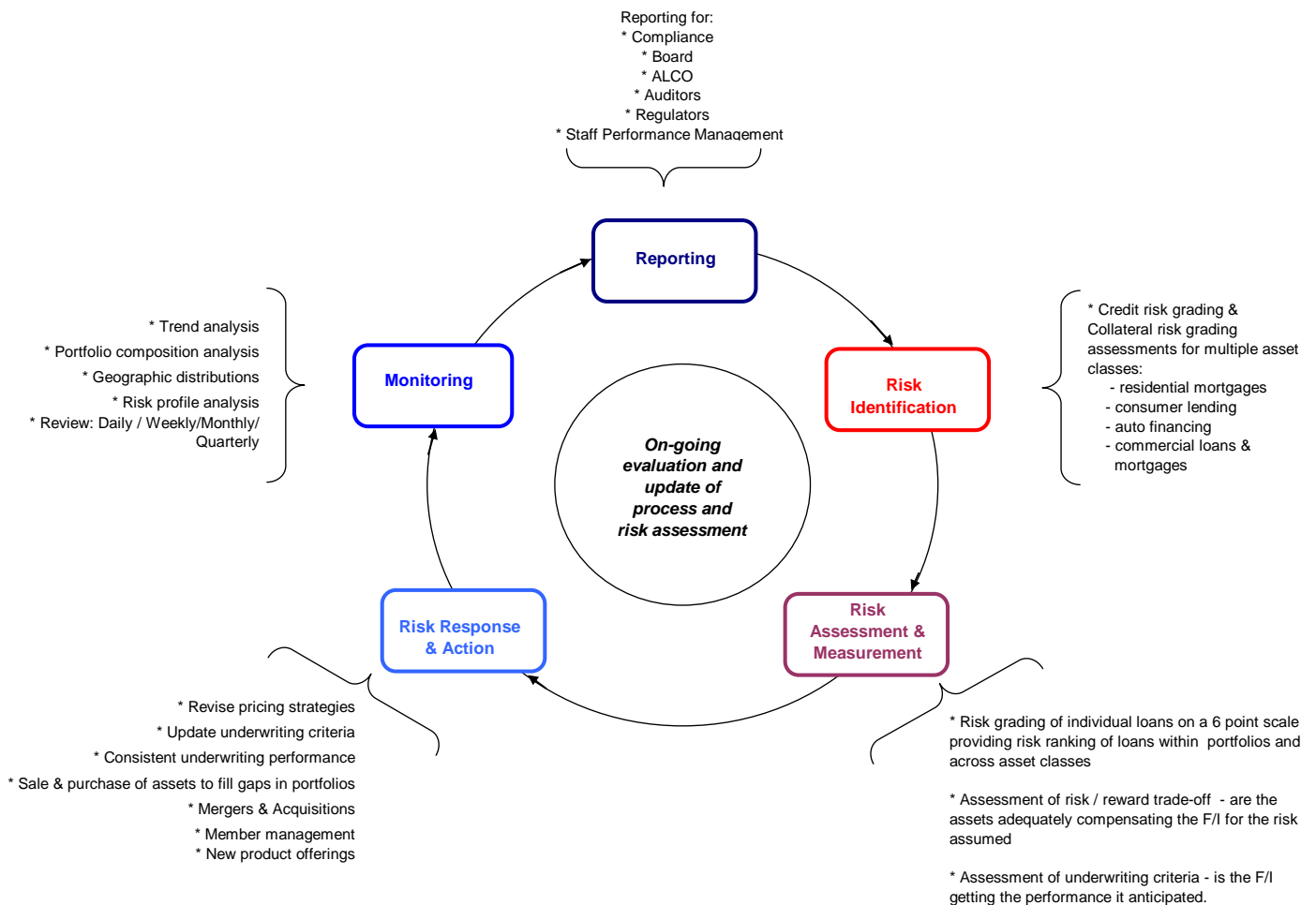
At the micro level, the risk tolerance levels will have shades of grey between the risk levels, and the actual results may not be black & white. However, for effective adoption, the risk tolerance categories need to be easy to understand and effective to communicate. A simple scale is recommended by the regulatory agencies. An example is shown below:

<b>Risk Tolerance</b>	<b>Risk Tolerance Descriptor</b>	<b>Definition</b>
E	Unacceptable	Not willing to accept in any circumstances
D	Avoid	Not willing to accept risks in most circumstances
C	Modest	Willing to accept risks in certain circumstances
B	Moderate	Willing to accept risks
A	Aggressive	Willing to accept opportunities having high inherent risk

## The ERM Framework:

The cycle of Enterprise Risk Management (“ERM”) is on-going. To be effective it requires integrated tools that can connect the elements of the cycle together. It is not useful to identify risk that cannot be assessed, managed, tracked and reported on. This section of the document will outline how N-Abler, through its individual loan level credit and collateral grading can aid management in managing the single largest risk of a lending institution – credit risk. The first table below summarizes the elements and N-Abler application which will be discussed in further detail in this section.

### Enterprise Risk Management Cycle with N-Abler



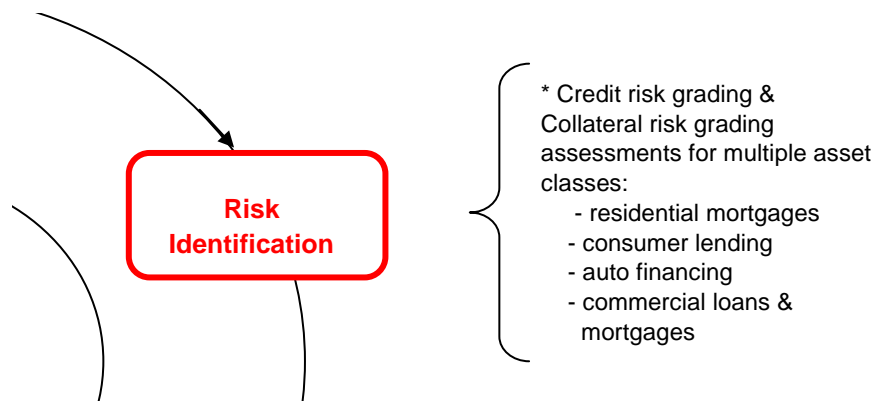
**Risk Identification:**

The first step in any ERM program is identification of the risk that needs to be addressed. For a lending institution, credit risk is an obvious focal point. Directly related to credit is the ability to realize on collateral, in the event, that the loan goes into default.

Senior management recommends to the Board the parameters to be placed on any risk assumed by the organization. The ultimate approval and responsibility for the risk parameters rests with the Board. For those Boards which may not have an extensive background in credit adjudication, N-Abler can act as a starting point to establish the initial parameters of credit risk. It provides external, independent, understandable reference points of the credit risk imbedded in the balance sheet of the F/I, to help enhance the Board’s insight regarding senior management’s recommendations. Having a common point of understanding promotes better discussions and communication around the risk parameters that will best further the interests of the F/I and its stakeholders.

Quantifying risk can be complex. The actual granting of credit happens at the front-line of the organization, while the F/I and its Board are responsible for establishing clear parameters for the lending officer to work within. The establishment of ERM framework guidelines makes it more important for those parameters to be delivered in a way that allows for a concise communication of what the Board expects. Effective ERM also requires similar communication that allows the lending officer to demonstrate they have operated within those parameters.

N-Abler reporting helps facilitate those two necessary components.





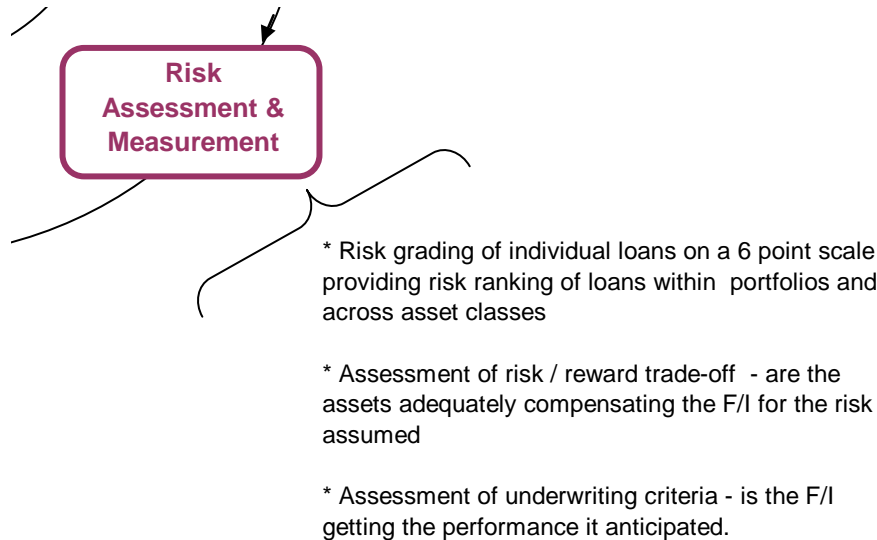
At the core of every N-Abler service offering are its credit grading and collateral grading tools. Each loan in the portfolio is assigned a grading based on its value of an individual asset rather than a single rating assigned to the entire pool. N-Abler can extend enhanced risk management tools to the F/I with credit grading, monitoring and risk management reporting because of these unique individual loan level assignments.

The F/I can use the credit grading system in two ways; (i) as the loan is originated ensuring the institution's risk parameters are used or (ii) on a periodic basis with a data extract from the F/I, delivering to senior management and the Board detailed quantified information on the loan operations.

As the resulting grades come from an independent third party source the F/I can then use the resulting report as support (i) for its own portfolio management decision processes, (ii) for internal reporting to its Board, and (iii) for discussions with their regulators on their portfolios' risk profile when assessing capital adequacy.

#### **Risk Assessment & Measurement:**

Once the risk has been identified, the ERM needs to be able to quantify in a meaningful manner the imbedded risk. The risk needs to be interpreted and placed in context. The risk assessment should allow for the comparison of individual loans within in a portfolio, and across multiple portfolios. To get full benefit of a risk assessment system, it should be able to assess all loan asset classes on the balance sheet. The information needs of a lending institution cover the gamut of assessing an individual loan, to the broader context of deciding which products capital will be allocated to.



N-Abler Credit Grading model that produces the resulting grade is based on at least 25 points of data on each loan and translates the imbedded credit risk in the loan into a score on a 6 point scale (0-5). The credit grade is a numerical representation of quality of a client's overall capacity to repay the loan. It does so by assessing the borrower's credit score in conjunction with other economic factors. There is a score for each individual loan, which allows the credit risk of a portfolio, or series of asset classes to be ranked. The higher the score, the better the quality of the customer's credit.

A score of between 3.5 and 5 on the scale indicates the F/I has good-to-strong expectation of full loan repayment directly from the borrower, meeting their schedule payments, From the borrower's perspective it means they should have a wide range of options available to them to secure a loan from many different lenders.

A score of between 2 and 3 on the scale indicates the borrower has moderately strong repayment capacity. The information shows weakness in some areas. This may highlight the need for more timely monitoring or direct collection intervention should the loan move into delinquency.

A score of between 0 and 1.5 on the scale indicates the loan has definitive weaknesses. Loans carrying these scores can be successful but should carry flags throughout their term accompanied by predetermined workout or liquidation strategies that can be acted upon early in a delinquency cycle.



The data fields used in the algorithms to determine the score are specific to the asset class; however, the resulting score is not. For example, the credit risk of a consumer loan with a grade of 4 provides a similar risk exposure and probabilities as a mortgage with the same grade, although the absolute amounts of the loans are different. This allows the F/I to assess the credit risk inherent in a portfolio and across asset classes.

N-Abler also provides separate grade indicators which assess the value of the underlying asset that is security for the loan – the collateral grading. Very distinct from just an asset appraisal value, the grading process looks at a number of external economic factors that can impact the liquidity value of the loan's underlying security if it is realized on. It can, for example, distinguish the value to the F/I between two properties with the same current market value. N-Abler will assign a higher grading to one asset over the other where there is a higher likelihood the F/I can recover the full value of its loan in a more timely manner.

The Collateral Grading is also a 6 point scale that assesses the likelihood the amount lent can be realized on through the sale of the underlying collateral. This grade scale reflects such characteristics as the marketability of the asset, ability of the asset to retain value, and the use of the underlying asset. For example, a piece of equipment is used to generate income would have a higher collateral grade over one that the business does not rely on, all else being equal (e.g. delivery trucks vs. photocopiers). A house located in a major urban center would have a higher grade, all else being equal, than a rural property.

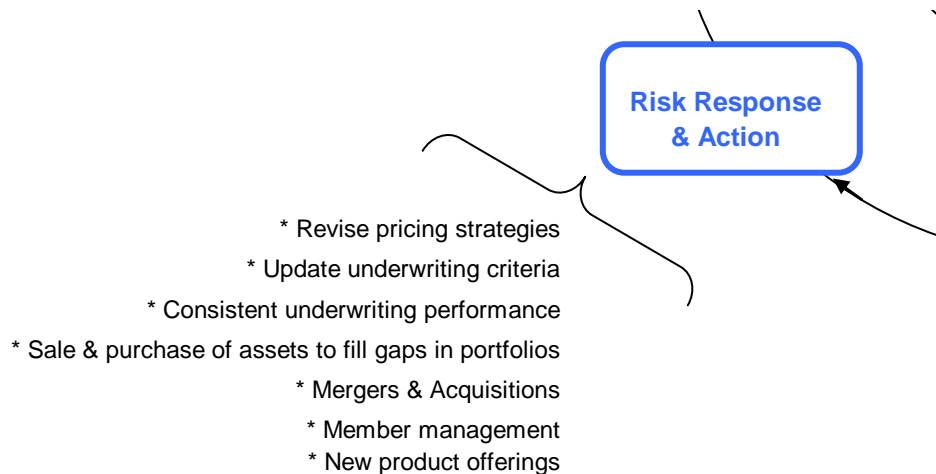
Similar to the Credit Grading, the higher the Collateral Grading the higher the expectation the lender could recover the loan amount from the sale of the asset. The data fields used in the algorithms to score are specific to the collateral class.

This grading capability aligns with recommendations for credit unions using the scoring model found in DICO's recent publication on ERM Framework. Both that model and N-Abler work on a 6 point rating system with comparable categories. The DICO referenced model uses a 1 thru 6 score, while N-Abler uses 5 thru 0 model, where 1/5 are undoubted and 6/0 unacceptable in the respective models. Differences in the results between the models, if any, will typically come as a result of the subjective internal inputs called for in ERM Framework model. As an external independent scoring model, N-Abler focuses on quantifiable, objective input. N-Abler avoids the more subjective inputs of the internal model which calls for selected personal opinions related to the borrower and its operations. It concentrates on standardized external risk elements and provides an in-depth assessment of the underlying security, stand alone revenue generation capabilities and liquidation options.



### **Risk Response & Action:**

Once the identified risk has been quantified, management needs to decide if the level of risk is acceptable and what action, if any, needs to be undertaken.



A vast amount of information is used in the credit granting process. It is often daunting to analyze and put into the context of the lender's overall business. An N-Abler grading is a compilation of all the information used to determine the credit decision, in one concise number. The grade along with other information such as the seniority of the loan officer, the loan pricing assigned, etc can be used to help management understand the relative amount of credit risk being assumed, along with where and how it is being assumed. It allows for the effective communication to all levels of the organization of the overall credit risk exposure the organization has assumed.

An organization may use the credit scoring model for many purposes including:

- Assessing credit at the time of origination as credit is being granted
- Assessing pricing strategy in the context of the level of credit or collateral risk taken
- Assessing the on-going mix of credit risk within give portfolios or across the balance sheet



- Assessing the underwriting skills of individual loan officers, branches, locations, to help management set objectives, and conduct performance reviews
- Assessing estimates of realization values of delinquent loans based on their collateral grades
- Assessing Fair Value accounting estimates as it relates to the credit quality and realization values
- Assessment of underwriting standards – is the lending institution getting the credit quality it expects from its guidelines.
- Assessing the credit profile of portfolio for purchase at the individual loan level.
- Providing the Board with independent 3<sup>rd</sup> party credit assessment

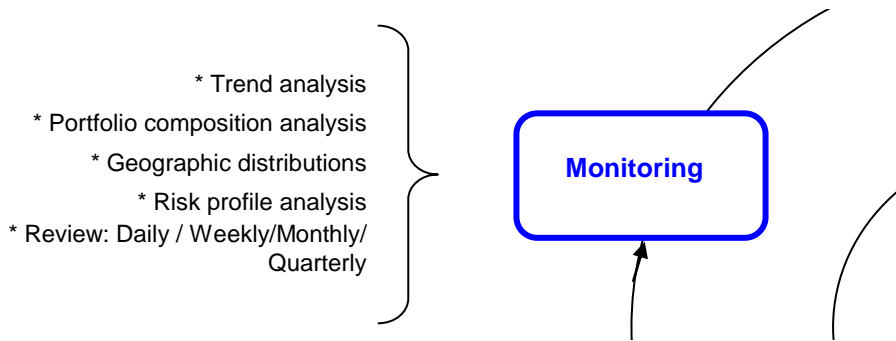
Second, but equally important, the grades provide key indicators or flags for how the loan should be managed once funded. Loans with lower scores can potentially be risk mitigated through pre-identified recovery strategies. The correct internal collection resources can be assigned to better manage a loan at earlier stages of delinquency. For example a loan with a higher credit grade compared to its collateral grade should be monitored closely throughout its term, with more frequent customer updates being obtained, or early contact at the first signs of delinquency. Where the opposite is in play (higher collateral grading and lower credit grading) the lender can decide to allocate less collection resources and focus on getting updated information on the underlying security, or in worsening conditions take earlier steps to secure the asset for sale.

Third, the grades are well defined and as such can address capital allocation appropriate for the credit risk level for the individual loans. The grades can be used to compare the risk between alternative loan types. By integrating the steps of comparing one loan type or one portfolio against another, the F/I can identify the relative risk and the relative returns between them. For example, by comparing the relative risk and returns of residential mortgage loan(s) against car loan(s), senior management can make informed decisions on how to allocate its capital. Through effective capital allocation, senior management can maximize the risk/returns to its members and reduce concentration risk via a diversified product mix.

As the credit and collateral grades are independent of the lending institution, the grades allow for the comparison of results, metrics of the organization to the grades. There is no one right answer when assessing credit as long as the risk is understood and material variations can be investigated, reviewed and updated.

**ERM Monitoring:**

For any ERM program to be meaningful, management needs to be able to see if the actions they are undertaking are being effectively adopted in the organization. Having the appropriate feedback loops in place improves the effectiveness of the ERM program. More importantly, it allows management to take action early and often.



N-Abler is an electronic based information system. Access can come either from web-based metrics and portfolio statistics or from periodic written reports that include independent analysis and commentary. As the credit and collateral grades are numerical, once the data profile and collection methodology has been established, the information can be provide to management as and when they require. Information can be stored on a periodic basis, and used for trend analysis and delivered daily, monthly, quarterly, or annually, depending on the users needs. Information can be ingested into the system in two ways (1) through an origination platform, which collects data as the loan is underwritten and / or (2) through a data file upload done on a reporting period basis. Monitoring is set-up based on the needs of the lender.

Through the timeliness and customization, N-Abler aids senior management in its proactive risk management activities.

### ERM Reporting:

The ERM reporting should be customized to the lender and the needs of their various stakeholders. The reporting needed can be either developed and produced by N-Abler, or data can be provided to the lender to be integrated into their own reporting systems.

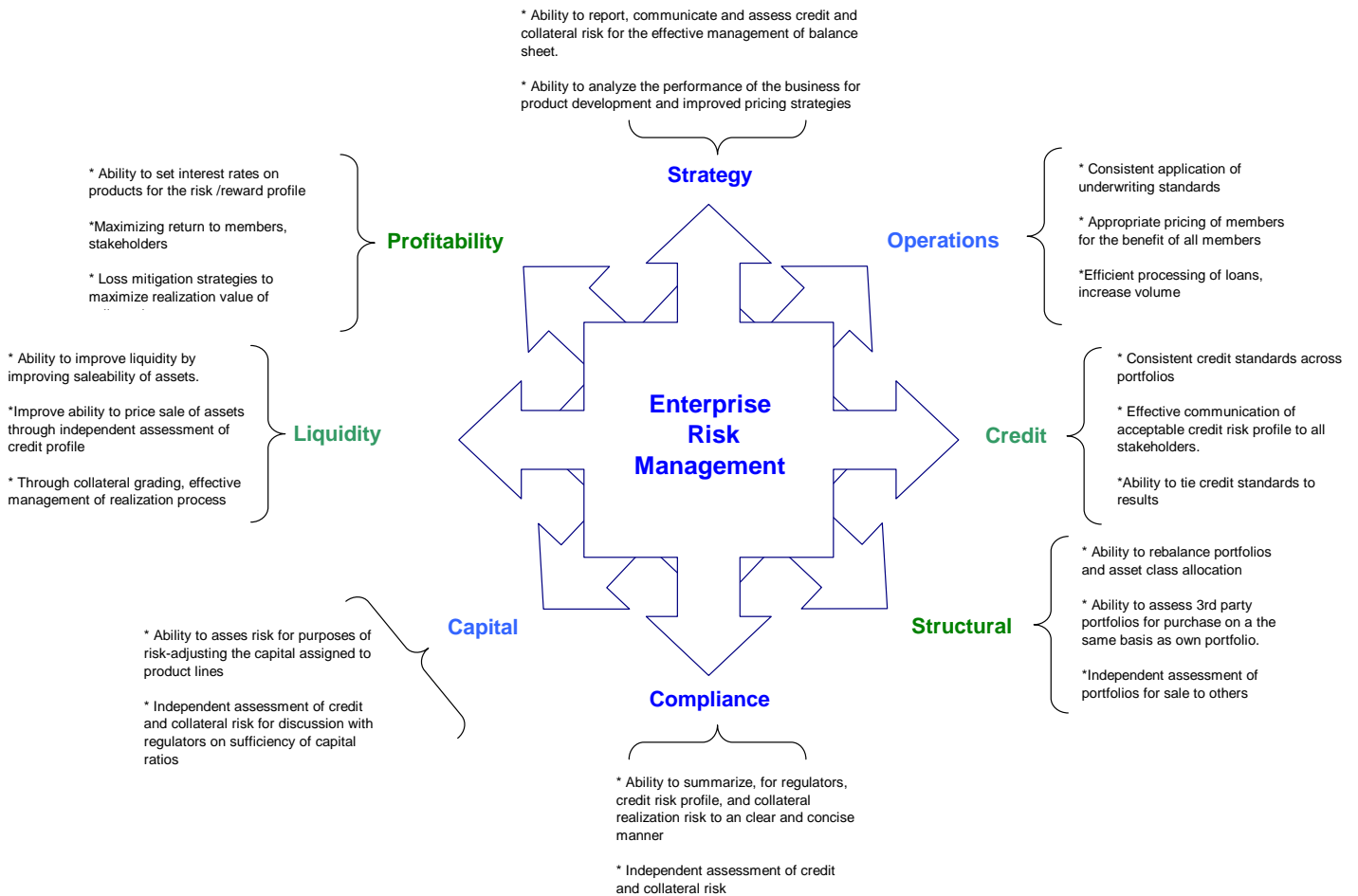


From the ERM prospective and perhaps most importantly, the third party grading reports from N-Abler, can provide the independent assurance function for credit risk called for by regulators.

## Risk Category Management:

One of the key benefits of an ERM program is its ability to aid in the understanding of how a risk impacts the results of the organization whether it is the impact on the financial results or operational effectiveness. Risk is not an isolated element, and a single risk can cross all of the major risk categories.

### Major Risk Categories with N-Abler:

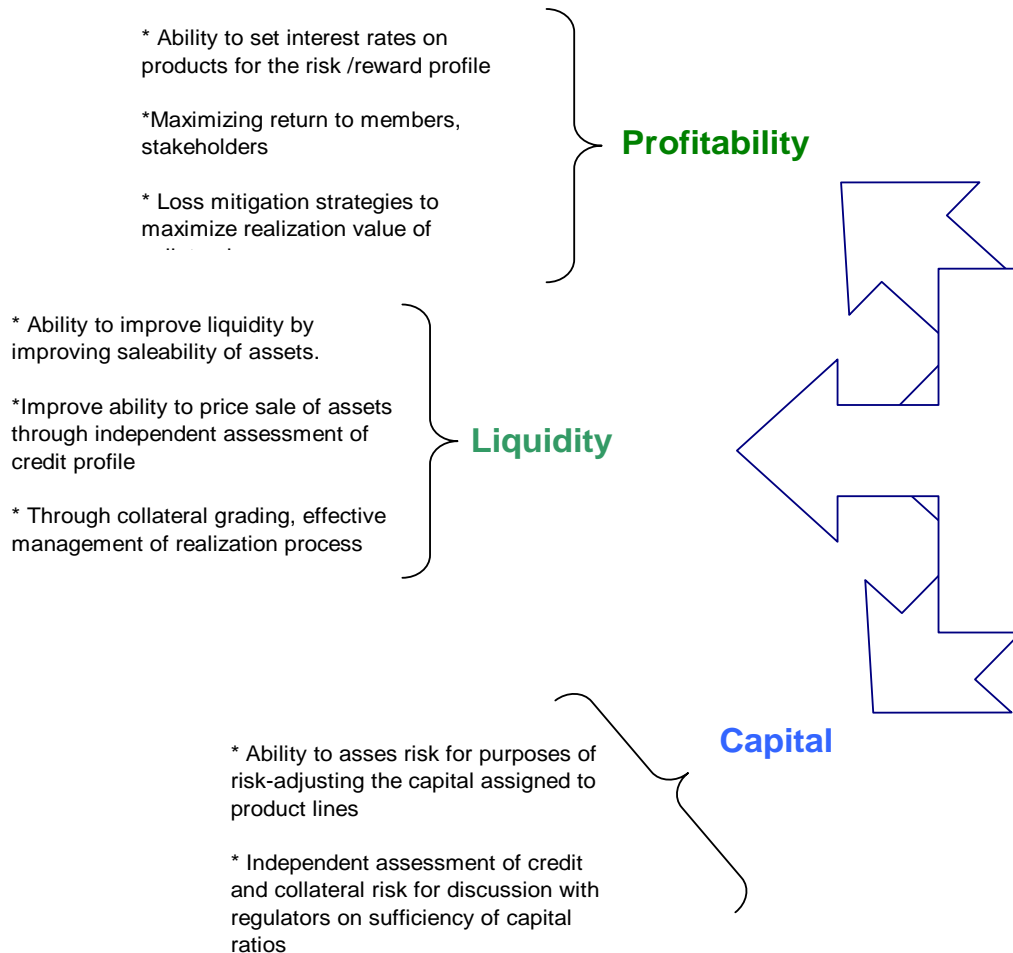




**Financial Risk Management:**

Being able to quantify credit and collateral risk in a concise manner allows management to assess capital adequacy and its allocation to product lines. More importantly, through N-Abler, provides a 3<sup>rd</sup> party opinion on the credit risk profile, for regulatory discussions and to focus on sufficiency of capital. Effective assessment of risk leads to effective management of both the income statement and the balance sheet.

Every Board and senior management team, as a primary responsibility, needs to ensure the organization’s capital is being put to optimum use. Grading across different loan portfolios and loan types on the balance sheet provides an unbiased view of the risk compared to the return of each. With this information readily available, senior management can direct its capital to where it feels it gets the best return for the risk, within the risk limits established for the institution.





By having an independent opinion of the imbedded credit risk in a portfolio, it increases the transparency. If the action and response to risk assessments requires the rebalancing of the balance sheet through an asset sale, the ability to provide a transparent assess of the credit risk to buyers increases the attractiveness of the portfolio. The more assuredness a buyer has, the more realistic the pricing, compared to a portfolio with less precise metrics.

Understanding credit risk can improve profitability in many ways. It improves the pricing trade-off between risk and reward. It ensures that the organization is appropriately compensated for the risk it assumes. For loans on the balance sheet, understanding of the imbedded risk, allows for the adoption of effective loss mitigation strategies.

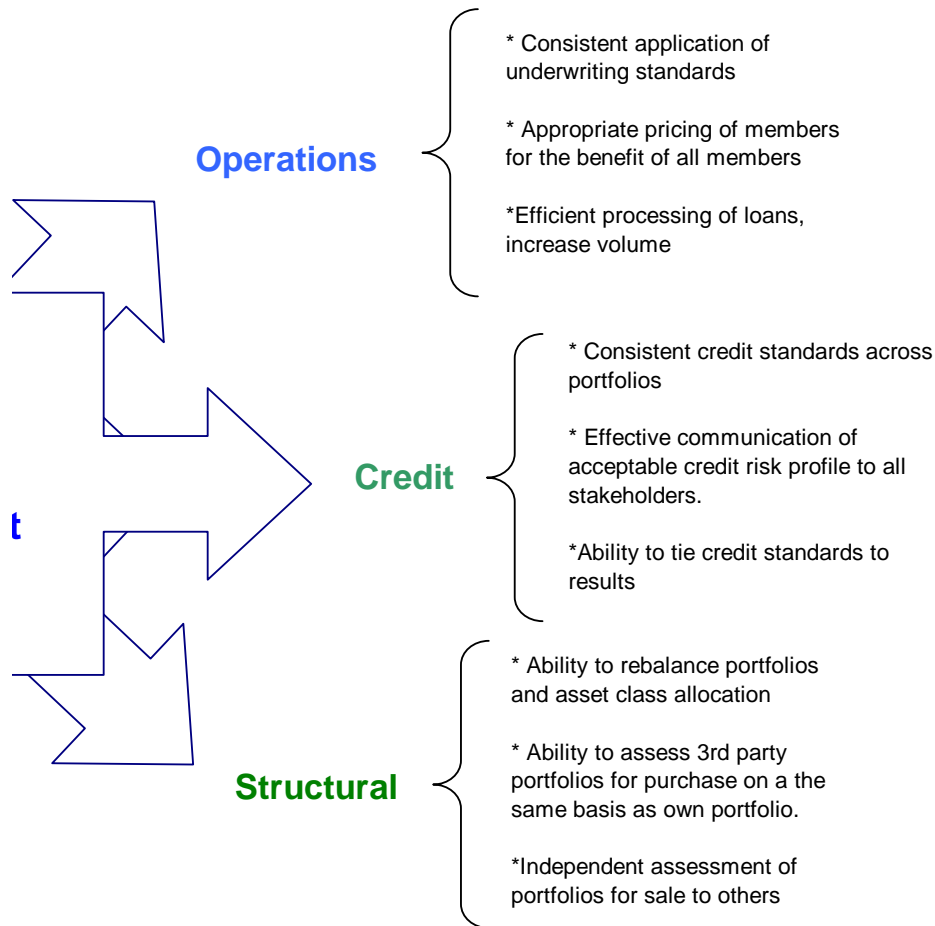
The ability to manage credit risk at all levels: individual loans, portfolios and the balance sheet, improved profitability and the return to the lender's stakeholders.



**Operational Risk Management:**

Resources are scarce for any organization and tools need to make the most of the staffing resources. Results from tools such as N-Abler platform, provides the framework to provide consistent results, while simplifying the process at the staff level. Properly implemented, N-Abler can reduce underwriting times, increase staff volume output, with fewer errors, and more consistent results with the lenders underwriting standards. Through consistent and controlled results, authority levels delegated to the staff can be improved, leading to more efficient operations. Most importantly, it can lead to fair and consistent treatment of members, and ensure appropriate returns for all members.

Consistent results from staff, allows for management to focus on the larger picture of balance sheet composition, opportunistic purchases, profitability and stakeholder value.






### Strategy & Compliance Risk Management:

The ability to assess risk across product lines and operations, allow management to focus on the future and derive new strategies, while ensuring all stakeholders are protected appropriately. N-Abler is the platform to help management achieve these goals.



## Compliance



\* Ability to summarize, for regulators, credit risk profile, and collateral realization risk to an clear and concise manner

\* Independent assessment of credit and collateral risk

\* Ability to report, communicate and assess credit and collateral risk for the effective management of balance sheet.

\* Ability to analyze the performance of the business for product development and improved pricing strategies



## Strategy





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Today's environment makes managing and growing a financial institution more challenging than ever, no matter the size of the organization. ERM is just one of the many new mandates that must be addressed. Ensuring the long term viability requires the organization to keep current with new ideas and provide competitive services to its customers, as a time when resources are already taxed.

To remain viable in today's market, financial institutions must find external alliances that can support and expand their core business objectives and strategies.

For more information on NorthBrook and its N-Abler tools please contact:

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