# The Use of Management Metrics to Identify Early Warning Signs

By Gerald M. Sherman

Seven "management metrics" can make a crucial difference in assessing prospective borrowers.

Over the past several decades, considerable research has been conducted into the causes of business distress and business failure. Many of these studies suggest that most severe business difficulties are rooted in nonfinancial issues, most particularly the practices and personalities of executive management and ownership. Despite this, albeit with much good reason, the process of considering new loans at both the banking and finance company level puts little focus on assessing a prospective borrower's management. This article will present a structured approach for going beyond the numbers to identify early warning signs of future financial difficulties by looking at seven management metrics. With consistent and thoughtful use, these metrics should be able to help improve the likelihood for spotting serious issues *before* the borrower's results turn down significantly. Realistic strategies to address early warning signs of trouble, while still encouraging and supporting new business efforts, will also be suggested.

In addition to being supported by academic research, focusing on management just makes sense. Management makes the decisions that affect capital structure. Management makes the decisions that determine a company's ability to produce efficiently. Management makes the decisions about what products and services to market and where to market them. Management leads—or doesn't.

The insights and methods being presented aren't intended to be a perfect solution for identifying early warning signs. Rather, the aim is to provide a simple and realistic approach for lenders and lending managers to proactively identify issues of concern about management—at least some of the time. It's also important to note that the observations and techniques to be presented are intended for medium- and smaller-sized borrowers with annual sales volumes of $250 million and under. Regardless, many of the comments should be equally relevant for larger companies.

## Today's Typical Approach to Evaluating New Loan Requests

Commercial lenders review a prospective borrower's financial statements and other financially oriented information, which would usually include receivable and payable agings; equipment, real estate and inventory appraisals; financial projections and business plans prepared for future periods, *etc.* In addition, they may check references, review credit reports and undertake some level of industry analysis. Needless to say, this is done to evaluate the current creditworthiness and future prospects of the borrower. Unquestionably, this overall approach is time-tested and generally effective. At the same time, it's important to point out that the ability of a prospective borrower's management to deliver projected financial results is typically assessed in a cursory manner—if at all. Further, to the extent that any method is used for assessing a management team's capabilities, it's often applied inconsistently within the same bank or finance company.

## Key Limitations in the Commercial Lending Environment

Looking at today's environment for generating creditworthy new commercial and industrial loans, there

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are several factors that need to be acknowledged. First, commercial lenders, particularly those with substantial new business responsibility, are under severe pressure to maintain their productivity. Second, lenders with a focus on new business have to balance the creditworthiness of a prospective borrower with the need to win new business in a highly competitive environment. Third, lenders are trained in lending practices and finance. For the most part, they haven't spent time during their career managing a business or *dealing with the myriad of issues* that have to be addressed while running a business.

Given these factors, any structured method to enhance a lender's focus on early warning signs must meet several criteria. First, it has to be simple—simple to understand and simple to use. Second, it has to be time efficient—both lenders and their managers must perceive a return on their investment of time. Third, the effort has to be viewed as an approach to structuring and winning new business, not just an effort to turn down marginal, albeit perhaps still creditworthy loans. Finally, any method adopted must allow senior management to hold lenders accountable for its effective use.



## Research Focused on Poor Business Performance

The Z-score was developed and validated by Professor Edward Altman of New York University more than 20 years ago as a quantitative method for predicting a company's likelihood for a future bankruptcy. Given that it's looked at by some lending organizations, it's important to consider. To calculate the Z-score, the following ratios are used:

- Working capital/total assets
- Retained earnings/total assets
- EBITDA (earnings before interest, taxes, depreciation and amortization)/total assets
- Market value of equity/total liabilities
- Net sales/total assets

As a purely quantitative approach to the search for early warning signs, the Z-score is looking at the *financial results* a management team has produced. By focusing on the *management* of prospective borrowers, though, the goal would be to identify early warning signs of trouble before *financial results* turn down significantly. For example, a family-owned business could have a very strong balance sheet. At the same time though, its new generation of family management might not have the capabilities the company needs to continue its success.

Another quantitative method that's used from time to time to predict future bankruptcies is the O-ratio, which was developed by Professor James Ohlson. The O-ratio is considered to be particularly useful with somewhat smaller companies. Like the Z-score, it's calculated using a company's financial statement data. Accordingly, as with the Z-score, the O-ratio looks at the *financial results* a management team has produced. Management, once again, is not considered.

Moving beyond quantitative approaches, a great deal of academic research has been published that focuses on the relationships between management and business difficulties. Professor Robert Boyle of the University of Texas published an article in the JOURNAL OF SMALL BUSINESS MANAGEMENT titled *Turnaround Strategies for Small Firms.*[1] In that article, he reported several key findings:

- Business failure correlated with the internal environment of a company more than its external environment.
- Solutions to internal problems are generally administrative, not strategic.

These findings suggest rather clearly that management is central to business failures.

Robert Lussier, an associate professor of management and research methods at Springfield College, published a highly informative article titled *A Nonfinancial Business Success versus Failure Prediction Model,* also in the JOURNAL OF SMALL BUSINESS MANAGEMENT.[2] In that article, Professor Lussier reported the results of his study of 216 companies. Using logistic regression techniques, he tested the following 15 factors and their correlation to success or failure:

- Planning
- Staff
- Financial control
- Business timing
- Partners
- Industry experience
- Economic conditions
- Professional advisors
- Minority ownership
- Parents owned a business
- Experience
- Age of owner

- Education
- Capital
- Marketing skills

The four factors Professor Lassier's research most strongly correlated with business failure were planning, professional advisors, education and staff—areas clearly driven by management. This doesn't suggest that the other factors tested have no importance in predicting future failure. Rather, these findings suggest that factors determined by management have a particularly strong impact.

A number of popular business books have also examined the causes of both business success and business failure. Three particularly notable examples are Tom Peters's In Search of Excellence,[3] Jim Collins's Good to Great[4] and Sydney Finklestein's Why Smart Executives Fail.[5] The findings presented in each book share many common themes and are largely consistent with the two articles presented above. While each of these books focused on larger public companies, it would appear reasonable to assume that their findings would generally apply to smaller companies as well. In fact, to the extent that smaller companies are often dominated by one or several owner/managers, it could be argued that the impact of senior management in smaller companies is far more significant than with large national and multinational organizations.

## Management Metrics to Identify Early Warning Signs

As discussed previously, an enhanced effort to identify early warning signs of trouble by looking at management should meet several criteria. First, the process must be effective for lenders equipped with typical skills. Second, the process must be time efficient. Third, the process has to be viewed as being supportive of new business efforts. Fourth, the process has to allow senior lending management to establish accountability for its use.

The design of a process meeting these criteria isn't a simple task, and no existing research has been identified that provides clear guidance. Looking at both existing research and experience, though, the seven management metrics detailed below should provide valuable insight into the practices and capabilities of a prospect's management. The first three metrics look at a company's management practices in the area of planning, and the fourth looks at a company's emphasis on training staff. These are critical areas that Professor Robert Lussier linked to failure in the research cited above. The last three metrics help assess management's historical performance against a series of clear criteria.

1. **Has the company prepared annual financial plans for two or more prior years?** This metric will provide the lender with an understanding of the extent to which a prospect engages in short-term planning.
2. **If an annual financial plan has been prepared, does it include a monthly projection of the income statement, cash flow and the balance sheet?** This indicates the extent to which the company has invested the time and effort to truly understand its short-term outlook. If these three statements have not been projected on a monthly basis going out for at least 12 months, it could suggest a less-than-full appreciation of the need for and benefit of such planning.
3. **Does the company have a written strategic plan going out 24 months or more?** This metric will provide the lender with an appreciation of the extent to which a prospect engages in longer-term planning.
4. **Does the company have a training budget in its financial plan (assuming it has a financial plan)?** This metric helps assess the extent to which a prospect is committed to preparing its management and staff to function effectively in the future.
5. **During the two prior years, has the company been able to perform within 15 percent, plus or minus, against plan on key income statement and balance-sheet measures?** The key measures to look at would include sales; gross margin; selling, general and administrative expense; interest expense; cash balances; borrowing requirements; accounts receivable turn, accounts payable turn; current ratio; and debt to worth. If the company has consistently failed to perform within 15 percent of a number of these measures, a variety of issues could be suggested. These would include an inability to plan effectively and/or an inability to execute against plan.
6. **Was any key ratio in the prospect's income statement or balance sheet more than 20 percent below industry norms for two or more years?** These key

norms would include gross margin; selling, general and administrative expense; interest expense; cash balances; borrowing requirements; accounts receivable turn; accounts payable turn; current ratio; and debt to worth. Sales per employee can also be a useful measure from time to time.

If the company has consistently failed to come within 20 percent of industry norms on one or several key measures, a variety of issues could be suggested. These would include an inability to recognize that the company is below industry norms and/or an inability to resolve the problems that caused the company to fall below those norms.

7. **Has the company experienced dilution that is more than 33 percent above industry norms for two or more years?** Dilution for the purpose of this metric is defined as follows:

$$\frac{\text{(Bad debts + credits issued + sales allowances granted [all for a 12-month period])}}{\text{Sales for the same 12-month period}}$$



In many industries, dilution of five percent or less is considered acceptable. When looking at a prospective borrower, however, industry norms should be verified as they do vary. If the prospect has had high dilution, it could suggest a range of issues. If the problem is bad debts, it could be a weak credit and collection process. If the problem is in credits or allowances, it could suggest quality and/or delivery problems.

If any of these problems have gone on for two or more years, it would suggest that management has not been able to identify and/or rectify the issue.

## Using the Seven Management Metrics

Unlike the Z-score, these seven metrics don't provide a definitive measure or answer. Rather, "themes" invariably appear in the results. These themes will help lenders and lending managers form an assessment of the overall capabilities and performance of a prospect's management. When the responses are consistently positive, a lender and senior lending management should have an increased level of confidence in a prospect's management.

When the responses are mixed or generally negative, further effort is called for. The level of effort and its exact nature have to be determined by the circumstances of the prospect. For example, if the company has experienced high dilution for several years, the lender needs to understand both why dilution has been high and what's being done to improve the situation. By doing so, the lender can learn more about the prospect from both the content and the nature of its responses. If, for example, the prospect rapidly concedes that high credits have been an issue and outlines a program that's been put in place to reduce them, the lender might be able to upgrade the overall assessment somewhat. If, on the other hand, the prospect doesn't fully appreciate the problem or doesn't have a plan of remediation, the overall assessment of management would likely be lowered even further.

Faced with results that create significant concerns, the lender has a range of options. One choice is to do nothing or nothing overt. Assuming that the prospect is otherwise creditworthy, the lender could choose, for example, to approve the loan request but increase the level of internal oversight. Further, the lender could choose to stay in more regular contact with the borrower. Given the highly competitive lending environment, this approach would often be the right one.

Alternatively, the lender could ask for more information, such as a 12-month (or longer-term) plan, a more detailed analysis of projected sales, information on historical sales, *etc.* Another relatively mild response would be to ask for enhanced reporting from the borrower. In more difficult situations, requests for additional collateral, additional guarantees or a change in loan structure are always possibilities.

On a worst-case basis, if these management metrics lead the lender to a point where the loan is considered undesirable, the request can simply be declined.

## Judgment Will Always Be Crucial

There have been many instances of loans "going bad" within weeks or months of their approval. Putting aside these relatively unusual situations, the effort to go beyond the numbers by using management metrics has the potential to help lenders book and manage loans efficiently and effectively. At the same time, the overall judgments every lender and his or her managers make will always remain crucial to evaluating, structuring and booking good loans.

## Endnotes

1 Robert Boyle, *Turnaround Strategies for Small Firms*, 29 J. SMALL BUSINESS MGMT. 3 (July 1991), at 33.

2 Robert Lussier, *A Nonfinancial Business Success versus Failure Prediction Model*, 33 J. SMALL BUSINESS MGMT. 1 (January 1995), at 8.

3 Thomas J. Peters and Robert H. Waterman, Jr., IN SEARCH OF EXCELLENCE: LESSONS FROM AMERICA'S BEST-RUN COMPANIES (New York: Harper & Row, 1982).

4 Jim Collins, GOOD TO GREAT: WHY SOME COMPANIES MAKE THE LEAP AND OTHERS DON'T (New York, NY: HarperBusiness, 2001).

5 Sydney Finkelstein, WHY SMART EXECUTIVES FAIL AND WHAT YOU CAN LEARN FROM THEIR MISTAKES (New York: Portfolio, 2003).