

The Application of Financial Statement Analysis in the Financial Management of Company A in the Photovoltaic Industry

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Abstract: With global environmental degradation becoming increasingly severe and energy crises occurring with increasing frequency, the refinement and development of the new energy sector have become a vital pathway to resolving environmental, energy and related financial issues. As the country with the largest installed solar capacity, China is actively promoting the development and utilisation of new energy technologies, with the solar photovoltaic industry experiencing rapid growth and playing an increasingly important role in the new energy photovoltaic sector. Against this industry backdrop, photovoltaic enterprises must continuously enhance their financial management capabilities in order to more effectively mitigate industry competition and operational risks, thereby laying a solid foundation for the enterprise's steady development. As a core tool of financial management, the improvement of financial statement analysis not only accurately reveals the operational realities and financial status of photovoltaic enterprises, but also serves as a data-driven foundation to safeguard the company's product research and development and market expansion. Consequently, achieving high-quality development in the photovoltaic sector necessitates that enterprises place greater emphasis on financial statement analysis and focus on establishing an analytical framework tailored to the industry. This will drive the continuous upgrading of financial management systems and ensure the smooth operation of business activities. However, an examination of current practices reveals that Chinese photovoltaic enterprises do not attach sufficient importance to financial statement analysis, which is hindering their further development. Accordingly, this paper systematically explores the application value, existing issues and optimisation strategies of financial statement analysis within the financial management of Company A.

Keywords: Financial Statement Analysis; Financial Management; Photovoltaic

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1. Introduction

As part of the financial management function, financial statement analysis enables management to gain a true and accurate understanding of the enterprise's operational and developmental status^[1]. This, in turn, enhances the scientific rigour and feasibility of decision-making, whilst providing a solid data foundation for the enterprise to achieve high-quality, sustainable development. In financial management practice, enterprises can utilise financial statement analysis to delve deeply into various financial data, continuously expand the scope of financial management functions, and ensure that these functions permeate the entire operational process, thereby providing deeper safeguards for enterprise development. Financial statement

analysis is primarily based on the balance sheet, cash flow statement and income statement. Its foundation lies in the authenticity, accuracy, completeness and timeliness of the company's financial data; this is the fundamental prerequisite for reliable, timely and effective analysis results^[2]. However, judging from current corporate practices, the outcomes of financial statement analysis conducted by most enterprises are unsatisfactory. On the one hand, it fails to provide concrete assistance for decision-making; on the other hand, analytical errors may lead to flawed decisions, causing harm to the enterprise and hindering its growth and expansion. Consequently, Company A urgently needs to optimise its financial statement analysis process, identify the issues within its current analysis, and propose corresponding recommendations for improvement. This aims to enhance the quality of financial statement analysis, provide valuable guidance for optimising financial management, and support the company in achieving sustainable development within the photovoltaic industry.

2. The Role of Financial Statement Analysis in the Financial Management of Photovoltaic Enterprises

2.1 Reflecting the True Financial Position

As a systematic record of a company's economic activities, financial statements comprehensively present core financial information—such as assets, liabilities, revenue, profits and cash flows—over a specific period. They serve as the fundamental basis for reflecting a company's financial position. Through a series of methods, data from the financial statements is collected and organised, and the results are analysed accurately and effectively. This enables a true revelation of the company's actual financial condition and operational essence.

When analysing a company's debt-repayment capacity, profitability, operational efficiency and growth potential, accurate assessments of business trends can be made by examining individual items within the financial statements and the relationships between them^[3]. By utilising the logical connections between the various statements and cross-verifying the data, one can obtain genuine and reliable financial figures. The cash flow statement is used to evaluate the efficiency of internal capital circulation, whilst the balance sheet is employed to assess the rationality of resource allocation; cross-verification of data across the statements helps identify the true financial reality. By accurately gauging the company's true asset scale and understanding its internal resource allocation, and by gaining a thorough understanding of key asset information such as cash, accounts receivable and payable, inventory, and fixed assets, the company can gain a realistic sense of its own capabilities and clarify its market positioning. Through the analysis of equity data—including capital reserves and retained earnings—relevant investors or stakeholders can fully comprehend the company's profitability and subsequent distribution arrangements, thereby gaining insight into the company's capital structure.

2.2 Objectively Evaluating Business Performance

The core of a company's operational performance lies in its profit levels, operational efficiency and growth potential over a specific period. As a comprehensive record of a company's economic activities, financial statements systematically present key data such as revenue, costs, profits and cash flow from the operational process, enabling an objective evaluation of the company's performance based on these figures^[4]. By interpreting key data from the income statement and accurately calculating indicators such as operating revenue, operating profit and net profit, it can be determined that if a company's net profit is at a relatively high level compared to the same period in previous years, this indicates that the company's profitability has recently improved, creating greater economic value; however, if the company's net profit has fallen or turned negative compared to the same period, this suggests that the company is facing operational difficulties and that management urgently needs to implement targeted measures. Concurrently, the company should compare its net profit margin with that of peers or competitors to clarify its position within the industry. This helps the company accurately assess its standing relative to industry standards, thereby motivating it to pursue continuous development and improvement. By combining the balance sheet and cash flow statement, and through analyses of operational efficiency and solvency, one can indirectly assess the company's operational efficiency and risk management capabilities, reflecting the rationality of capital flows during operations. Furthermore, by employing vertical trend comparisons and horizontal industry benchmarking, the development trajectory of the company's operational performance and its positioning within the industry can be clarified, thereby forming a comprehensive and objective evaluation.

3. Issues in the Application of Financial Statement Analysis by Photovoltaic Enterprises

3.1 Lack of Awareness Regarding Financial Statement Analysis

In corporate practice, management accounting serves as the core component of financial statement analysis. Enterprises systematically collect and collate financial data, employing financial statement analysis methods to dissect the value underlying the figures. With data-driven analysis as the primary source, relevant findings are presented in written form to derive corresponding conclusions from the financial statement analysis. Management then formulates appropriate measures based on these conclusions to ensure the enterprise's healthy development ^[5]. However, judging by the actual data resources of Company A, the financial statement analysis it produces offers limited practical benefit to the enterprise. The management focuses the company's development efforts on areas such as the market and product R&D, failing to fully recognise the importance of finance or the significance of financial statement analysis. Under pressure from senior management, the finance department focuses solely on short-term, point-in-time financial conditions, lacking the capacity or initiative to engage in proactive analysis of financial data. Consequently, there is a severe lack of awareness regarding the importance of financial statement analysis throughout the organisation.

3.2 Limited Skills Among Financial Statement Analysts

When utilising financial statement analysis for corporate financial management, high standards are required of staff in terms of individual professional skills and practical analytical experience ^[6]. However, due to a lack of prioritisation by management, the finance department lacks a dedicated role responsible for analysing financial data; basic analytical tasks are often rotated amongst departmental staff. Consequently, these personnel generally lack systematic and effective professional knowledge, as well as sufficient practical experience, and are unable to provide a high-quality guarantee for financial statement analysis work. In practice, this manifests as a limited depth of analysis, an inability to grasp the core essence of the data, and a failure to uncover underlying operational risks through data mining. This impedes the enterprise's ability to scientifically assess its own financial situation and undermines the soundness of decision-making.

3.3 Lack of Industry-Specific Indicators

Traditional financial statement analysis frameworks fail to account for industry-specific characteristics, particularly those of the photovoltaic sector, and have not established relevant performance metrics. Within the product mix, raw materials have consistently accounted for a high proportion of costs; however, the cost share of silicon materials is gradually being replaced by materials such as silver. This indicates that enterprises should promptly establish specific indicators tailored to their unique attributes. In the actual analysis process, relying on traditional analytical methods fails to accurately and effectively reflect the core issues truly facing the enterprise. It is difficult to pinpoint key weaknesses, let alone truly reveal the intrinsic drivers and core elements of its operational processes. For instance, core profit-influencing indicators such as 'trends in non-silicon costs' and 'technology-driven factors' make it difficult to determine whether fluctuations in gross profit margins stem from technological cost reductions or external cost pressures without considering trends in non-silicon costs. Existing ratio analysis and trend analysis are no longer sufficient to meet the development needs of this industry and fail to demonstrate the true value of financial statement analysis.

3.4 Lags in Financial Statement Analysis Result in a Lack of Predictive and Forward-Looking Insights

This lag manifests in both personnel constraints and delays in the analysis of financial data resources. Company A lacks dedicated financial data analysts; such roles are typically undertaken by staff within the finance department on a part-time basis, which falls far short of the personnel requirements for scientific analysis. Furthermore, Company A requires that analyses be conducted based on financial statement data only after the end of each quarter or financial year, creating a typical 'post-event review' model that is fundamentally incapable of providing effective analytical reports. Consequently, the conclusions drawn regarding profitability and cost control relate to events that have already occurred and cannot be altered, failing to provide forward-looking risk warnings for the company's development. When faced with substantial debts nearing maturity, Company A is unable to conduct predictive cash flow stress tests; when confronted with sharp fluctuations in the prices of high-value raw materials such as silicon and silver, it is unable to rapidly perform corresponding sensitivity analyses. Consequently, in this rapidly evolving photovoltaic market, management lacks the support of predictive and

forward-looking financial analysis data. This prevents them from responding swiftly or addressing impending major changes in a timely manner, leading to business decisions that fail to keep pace with market shifts and thereby constraining the company's competitiveness within the market environment.

4. Targeted Strategies for the Application of Financial Statement Analysis in Photovoltaic Enterprises

4.1 Deepening Understanding of Financial Statement Analysis

The fundamental reason for the weak awareness of financial statement analysis among financial staff in photovoltaic enterprises lies in management's lack of emphasis on this area. Consequently, enterprises must strengthen awareness of financial statement analysis at the level of the overall management structure. Firstly, management should clearly recognise the importance of financial statement analysis, drive improvements in the quality standards of this work, and fully leverage its positive role in ensuring the standardised and effective operation of the enterprise. Concurrently, the importance of financial statement analysis should be communicated to finance staff and employees across all departments through various channels, such as thematic meetings and expert lectures. This will, on the one hand, boost the motivation of finance staff and, on the other, foster close cooperation between departments to ensure the smooth implementation of financial statement analysis. Secondly, financial statement analysis should be broken down into specific metrics and incorporated into the employee appraisal system, with performance assessed and evaluated accordingly. This provides a solid institutional basis for the implementation of financial statement analysis. Thirdly, an efficient internal feedback mechanism will be established to promptly gather feedback and identify issues encountered during implementation, enabling targeted resolution. This will continuously enhance the company's financial statement analysis capabilities, ultimately establishing a system tailored to the specific characteristics of both the company and the industry. Through continuous learning and development based on these measures, the company will be able to make steady progress and remain competitive in financial statement analysis within the photovoltaic industry.

4.2 Enhancing the Professional Capabilities of Financial Analysts

Firstly, Company A must establish a talent development system tailored to the industry's needs, making financial statement analysis the 'first lesson' in this training. This should specifically cover the application methods of financial statement analysis, practical techniques for analysing financial statements within the industry, and related knowledge pertaining to financial statement analysis. Financial statement analysis must be genuinely implemented and deeply ingrained, continuously strengthening employees' work capabilities and enhancing their professional expertise. Secondly, staff training must be diverse in format, standardised in process, and rigorous in assessment. A multi-faceted approach should be adopted, combining online and offline methods, synchronising domestic and international standards, and featuring forward-looking insights from experts and leadership. Tailored development plans for finance personnel should be formulated based on individual capabilities and strengths. Furthermore, a comprehensive training system must be established to ensure timely feedback on work performance. Even after completion of training, regular assessments of finance staff must continue. These should take diverse forms, such as expert reviews, case studies, management interviews and peer supervision, thereby enhancing staff's learning capabilities and strengthening their awareness of financial statement analysis. Finally, management must provide appropriate guidance to help finance staff gradually develop a mindset of self-directed learning. Increase financial investment to create a favourable working environment and foster a positive workplace atmosphere. Provide material incentives to high-performing staff to enhance the overall competence of finance personnel.

4.3 Incorporate Industry-Specific Indicators and Refine the Quantitative Attribution System for Financial Data

Organise expert consultations to map the correspondence between core photovoltaic industry indicators and financial accounts. Link module capacity utilisation rates to unit manufacturing costs and fixed asset turnover; tie fluctuations in non-silicon costs closely to operating costs and gross profit margins; and establish corresponding mapping relationships between multiple core industry indicators and financial accounts. Building upon the cost-volume-profit (CVP) analysis model, we will incorporate key variables specific to the photovoltaic industry—such as capacity utilisation and unit non-silicon costs—

to construct a new CVP analysis model. This will enable the calculation of break-even points and marginal contributions, allowing the precise attribution of profit impacts to factors such as costs, output and efficiency, thereby identifying operational weaknesses to facilitate targeted corrective measures.

We have re-engineered the analytical framework, shifting from traditional financial ratio comparisons to a new analytical framework that integrates traditional metrics with industry-specific indicators. By analysing key variables such as non-silicon cost trends and capacity utilisation, we gain a profound understanding of the underlying business drivers behind fluctuations in gross and net profit margins. Precisely isolate the contributions of technological iteration, supply chain dynamics and market supply and demand to financial outcomes, ensuring that financial statement analysis is grounded in the actual conditions of the photovoltaic industry chain, thereby effectively enhancing the accuracy of operational decision-making and the effectiveness of risk management

4.4 Establish a Driver-Based Financial Early Warning and Forecasting Mechanism

Firstly, dedicated financial analyst roles will be established to move away from a system of dual responsibilities. Job descriptions will be clarified, and training in both the photovoltaic industry and finance will be strengthened. Concurrently, a cross-departmental coordination mechanism linking finance with production, procurement and sales will be established to enable real-time sharing of data on orders, raw material prices and inventory, ensuring that financial statement analysis data is updated in real time. Concurrently, introduce advanced technologies from the domestic and international photovoltaic manufacturing sectors to upgrade financial analysis tools. Implement intelligent analysis systems to replace traditional, outdated methods, thereby enhancing the company's internal data processing capabilities. Leveraging robust statistical analysis programmes and the expertise of staff, achieve a transition from 'post-event analysis' to 'real-time monitoring and pre-event forecasting'.

Building on this foundation, we will refine financial analysis mechanisms and models to strengthen risk early-warning capabilities. A liquidity stress testing model will be established to conduct proactive dynamic monitoring and early warning for substantial maturing debts; a raw material price sensitivity analysis model will be developed to track price fluctuation trends and forecast their impact, providing real-time data support for procurement decisions. Through these measures, forward-looking financial support will be provided to management to address industry and market changes, assisting them in formulating operational decisions swiftly, scientifically and accurately, and enhancing the company's responsiveness and core competitiveness in a complex market environment.

5. Conclusion

Financial statement analysis has always played a vital role in assessing a company's financial position and contributes unique value to the enterprise's financial management. Against the backdrop of overcapacity and pressure on gross profit margins in the photovoltaic industry, financial management is particularly critical. At the same time, as a key component of this process, financial statement analysis has a significant impact on Company A's production and operations, project investments, and cash management. In recent years, the photovoltaic industry has faced relentless competition, with raw material and basic material prices fluctuating sharply and significant differentiation emerging across specific segments of the production process. Consequently, the importance of financial statement analysis in assessing the company's financial position is paramount. To this end, Company A must align its approach with its own business characteristics, addressing specific issues and practical needs. Whilst fostering a strong awareness of financial statement analysis, the company should prioritise the development of financial staff's professional skills and focus on introducing industry-specific indicators to enhance the quantification of financial data. and prioritise the establishment of an early warning and forecasting mechanism tailored to the company's needs. This will lay a solid foundation for high-quality and highly relevant financial statement analysis, enabling Company A to break through the intense market competition and steadily achieve stable and sustainable development.

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Conflict of Interests

The authors declare that there is no conflict of interest regarding the publication of this paper.

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