

Analysis on Key Audit Matters of Manufacturing Enterprises — A Case Study of Qingdao Daneng Environmental Protection Equipment Co., Ltd.

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Abstract: Manufacturing industry serves as the pillar of national economy, and the quality of its financial reports as well as audit effectiveness are directly linked to the stable industrial development and the protection of investors' interests. As the core component of the new audit reporting standards, the disclosure of Key Audit Matters (KAMs) effectively improves audit transparency and mitigates information asymmetry, acting as a vital tool to identify financial risks of manufacturing firms. Taking Qingdao Daneng Environmental Protection Equipment Co., Ltd. as the research object and based on Information Asymmetry Theory and Decision-usefulness Theory, this paper sorts out industrial features and current disclosure status of KAMs in manufacturing enterprises. It mainly analyzes two core KAMs of the company: revenue recognition and provision for expected credit losses on accounts receivable and contract assets, identifies deficiencies in accounting treatment, internal control and audit procedure implementation, and puts forward improvement suggestions from perspectives of financial information transparency, internal control construction, risk identification & assessment and audit procedure optimization. The research finds that KAMs of manufacturing enterprises are mainly concentrated in revenue recognition and asset impairment, accompanied by prevalent drawbacks including high subjectivity in accounting estimates, ineffective implementation of internal control and insufficient supporting audit evidence. Strengthening the identification, response and disclosure of KAMs can significantly upgrade audit quality and the credibility of financial statements for manufacturing companies, providing practical references for audit practices within the same industry.

Keywords: Key Audit Matters; Manufacturing Enterprises; Revenue Recognition; Expected Credit Loss; Qingdao Daneng

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1. Introduction

With the full implementation of China's new audit reporting standards, disclosure of key audit matters has become an indispensable core part of audit reports. Certified Public Accountants (CPAs) disclose the most critical matters identified during audit procedures to enrich informational content and decision usefulness of audit reports and ease information asymmetry between corporates and external investors^[1]. Characterized by intensive capital investment, complicated industrial chains and high operational risks, the whole production, sales and R&D processes of manufacturing enterprises entail extensive management judgments and accounting estimations. Fields including revenue recognition, asset impairment and inventory valuation are prone to material misstatement risks and thus constitute the prime focus of key audit matters^[2].

Qingdao Daneng Environmental Protection Equipment Co., Ltd. (hereinafter referred to as Qingdao Daneng) is a typical domestic environmental protection equipment manufacturer engaging in R&D, production and sales of special energy-saving and emission-reduction equipment, with diversified business modes covering EPC, EP, spare parts sales and consulting services. Given its complicated revenue recognition timing, substantial outstanding accounts receivable and high proportion of contract assets, the enterprise bears typical audit characteristics of manufacturing businesses. Using this company as a case, this paper deeply explores the identification logic, implementation procedures and existing defects of manufacturing enterprises' key audit matters and proposes targeted optimization approaches. The research not only enriches the empirical study of KAM application in traditional manufacturing sectors, but also offers practical references for manufacturing enterprises to improve internal control management and accounting firms to optimize audit arrangements.

2. Theoretical Basis of Key Audit Matters and Industrial Characteristics of Manufacturing Enterprises

2.1 Core Theories Concerning Key Audit Matters

2.1.1 Information Asymmetry Theory

Disclosure of key audit matters breaks information barriers among corporate management, CPAs and financial statement users, reduces investors' decision-making losses stemming from insufficient information, elevates the communication value of audit information and enables external users to fully perceive high-risk areas and corresponding audit responses of target entities^[3].

2.1.2 Decision-usefulness Theory

Centering on material financial reporting risks, key audit matters convert professional audit information into comprehensible decision-making evidence and enhance the practical value of financial statements for stakeholders such as investors and creditors, facilitating their accurate judgment on corporate operating performance and financial risks^[4].

2.1.3 Value Relevance Theory

High-quality disclosure of key audit matters signals standardized financial compliance and controllable operational risks to the market and lifts corporate market value. By contrast, templated and homogeneous disclosure impairs information efficiency and fails to satisfy information demands of relevant stakeholders^[5].

2.2 Industrial Characteristics of Key Audit Matters for Manufacturing Enterprises

2.2.1 Industrial Risk Features

Manufacturing companies are featured by large capital input, lengthy supply chains, long production cycles, concentrated customer groups and project-based operation, which commonly lead to tight capital flow, complicated judgment on revenue recognition timing, high pressure of accounts receivable recovery and inaccurate cost calculation, making the industry susceptible to material misstatement risks.

2.2.2 Concentrated Fields of Key Audit Matters

Key audit matters of manufacturing enterprises are highly clustered in four sectors: revenue recognition, provision for expected credit losses of accounts receivable & contract assets, inventory valuation and inventory impairment provision, as well as fixed asset depreciation. Specifically, revenue recognition and asset impairment-related items account for over 80% of all KAMs and stand as core audit concerns.

2.2.3 Current Status of Information Disclosure

At present, KAM disclosure of manufacturing enterprises suffers from prominent problems including severe templated wording, homogenized audit response procedures, inadequate disclosure of accounting estimates and lack of personalized risk description matching business models. Partial enterprises produce formalistic disclosure that cannot fulfill the function of risk warning and incremental information delivery^[6].

3. Identification and Implementation Procedures of Qingdao Daneng's Key Audit Matters

In 2025, Qingdao Daneng achieved operating revenue of RMB 2.009 billion with a year-on-year growth rate of 52.9%. Its year-end accounts receivable stood at RMB 621 million and contract assets reached RMB 253 million, both occupying a

relatively high proportion of total assets. Since revenue recognition and provision for expected credit losses exert substantial influence on financial statements and require significant management judgment, certified public accountants designate them as core key audit matters.

3.1 Key Audit Matter: Revenue Recognition

3.1.1 Reasons for Classification as KAM

Revenue constitutes the core performance indicator of Qingdao Daneng. Diverse business categories correspond to differentiated recognition criteria, and revenue confirmation timing relies on external evidence including customer receipts and acceptance reports, bringing about fraud risks where management manipulates recognition timing to advance or defer revenue confirmation. Besides, the huge revenue base has a remarkable impact on corporate profits, qualifying this item as a key audit matter^{[7][8]}.

3.1.2 Business Modes and Corresponding Revenue Recognition Rules

EPC business: Revenue is recognized upon completion of installation and commissioning as well as acquisition of customer's formal performance acceptance reports; EP business: Revenue is confirmed after customers sign for delivered goods; Spare parts sales: Revenue is recognized upon customer's acceptance signature; Consulting service: Income is recognized proportionally throughout the service period; Waste material sales: Revenue is booked with customer's receipt documentation.

3.1.3 Implemented Audit Procedures

Learn about and test the design and operating effectiveness of internal control procedures related to revenue recognition; Inspect major sales contracts to evaluate the appropriateness of adopted revenue recognition accounting policies; Select sample entries to verify original documents including sales contracts, logistics slips, VAT invoices, outbound warehouse receipts, customer receipts or acceptance certificates; Conduct confirmation procedures and on-site visits for major clients to verify the authenticity of recorded revenue; Perform cut-off testing around the balance sheet date to guarantee accurate period attribution of recognized revenue.

3.2 Key Audit Matter: Expected Credit Loss Provision for Accounts Receivable and Contract Assets

3.2.1 Reasons for Classification as KAM

By the end of 2025, Qingdao Daneng's allowance for bad debts on accounts receivable was RMB 31.8126 million and impairment provision for contract assets amounted to RMB 34.4226 million. The measurement of expected credit losses requires substantial accounting estimates involving default probability, aging analysis, customer credit standing and forward-looking macroeconomic indicators with high subjectivity and audit difficulty, which significantly affects balance sheet and profit statement, hence being categorized as a key audit matter.

3.2.2 Measurement Logic

The enterprise adopts the probability-weighted average method to group credit risks and accrue expected credit loss provisions based on customer credit ratings, aging structure, historical default records and macroeconomic fluctuations.

3.2.3 Implemented Audit Procedures

Evaluate the rationality of measurement models, core assumptions and parameter settings for expected credit loss calculation; Review aging schedule of accounts receivable, client credit status and post-balance-sheet collection performance; Carry out confirmation and recoverability assessment on large-value outstanding balances; Examine management's judgment basis for impairment on overdue and litigation-involved receivables; Assess the impact of forward-looking information on loss provision accrual.

4. Deficiencies Existing in Qingdao Daneng's Key Audit Matters

4.1 Deficiencies in Revenue Recognition

Insufficient supporting original vouchers: Partial EPC and EP projects fail to obtain officially sealed customer receipts and acceptance reports due to clients' reasons, leading to inadequate evidence for revenue recognition; part of service revenue fails to match contractual clauses without supporting documentation of service progress.

Incorrect financial statement presentation: Quality retention deposits are fully recorded under accounts receivable rather than contract assets as required by accounting standards, violating prescribed presentation rules.

Non-standard business accounting: Subsidiaries without on-site operational personnel entrust all business operations to the parent company while failing to apply the net method for revenue recognition; asynchronous recognition of revenue and accrual of on-site procurement costs results in mismatched revenue and corresponding cost.

Poorly enforced internal control: Ledger information of notes receivable is incomplete with chaotic documentation of related-party note circulation; project penalties are not booked in a timely manner and distort the accuracy of revenue and accounts receivable balances.

4.2 Deficiencies in Expected Credit Loss Provision

Unreasonable accounting estimation: Accounts receivable overdue for more than three years total RMB 65.26 million with an excessively low provision ratio, without full consideration of customer credit risks and actual collection difficulties.

Defective model parameters: The expected credit loss model excessively relies on historical data and ignores forward-looking factors including macroeconomic trends, industrial policies and client operating conditions, reducing estimation accuracy.

Omission of accrued contingent liabilities: Four operating subsidiaries with generated sales revenue fail to accrue contingent liabilities for after-sales services, understating corporate potential obligations and distorting the authenticity of financial statements.

4.3 Common Drawbacks in Internal Control and Audit Execution

Imperfect internal control system: Inappropriate segregation of duties in core business procedures creates management loopholes covering note administration, revenue accounting and receivables tracking, alongside formalistic implementation of formulated internal control regulations.

Inadequate acquisition of audit evidence: Unverified confirmation discrepancies and insufficient coverage of on-site field visits lead to incomplete audit evidence chains and inadequate implementation of prescribed audit procedures.

Low transparency of financial information: Key accounting estimates, revenue recognition policies and risk judgment grounds are disclosed in overly brief descriptions, preventing external users from fully identifying underlying corporate financial risks.

5. Optimization Suggestions on Key Audit Matters for Manufacturing Enterprises

5.1 Corporate Level: Standardize Accounting Treatment and Consolidate Internal Control Administration

Improve full-process management of revenue confirmation: Mandatorily obtain acceptance slips and customer receipts as external supporting documents per specific business modes; standardize classification of quality retention deposits between accounts receivable and contract assets; apply net method uniformly for entrusted agency business to realize compliant revenue recognition.

Optimize accrual system of expected credit losses: Establish tracking and collection mechanisms for long-overdue accounts receivable and re-evaluate corresponding impairment provision ratios; upgrade expected credit loss models by incorporating forward-looking indicators such as industrial cycles, policy changes and client cash flow conditions to improve the rationality of accounting estimates.

Refine internal control and ledger management: Complete ledgers of notes receivable with detailed information on issuers, endorsers and acceptors; build regular review systems for accounts receivable aging analysis; require independent accounting for all subsidiaries and compliant accrual of after-sales contingent liabilities; ensure timely booking of project penalties and on-site expenses.

5.2 Audit Firm Level: Upgrade Audit Procedures and Improve Audit Quality

Implement risk-oriented audit: Prioritize high-risk areas including revenue recognition and asset impairment within manufacturing sectors and design targeted audit programs by expanding sample size and coverage of confirmation, cut-off testing and on-site client interviews.

Strengthen verification criteria for audit evidence: Focus on authenticity and completeness of original vouchers supporting revenue recognition; supplement alternative evidence including on-site inspection photos and service records for projects without sealed acceptance documents; timely follow up and verify all confirmation discrepancies to secure sufficient and reliable audit evidence.

Boost disclosure quality of key audit matters: Abandon templated disclosure and elaborate risk triggers, corresponding audit responses and accounting judgment basis combining corporate business features to enhance disclosure pertinence and information content.

5.3 Industrial and Regulatory Level: Unify Standards and Strengthen Supervision

Regulatory authorities are advised to formulate dedicated disclosure guidelines for manufacturing enterprises' key audit matters, specifying disclosure requirements for core fields such as revenue recognition, asset impairment and contract assets. Intensify supervision over listed companies' audit reports to curb homogeneous and formalistic disclosure and promote the overall improvement of audit information quality across the industry.

6. Conclusion

Taking Qingdao Daneng Environmental Protection Equipment Co., Ltd. as the research sample, this paper systematically analyzes key audit matters in manufacturing industries and draws the following conclusions. First, key audit matters of manufacturing enterprises are dominantly concentrated in revenue recognition and expected credit loss provision of accounts receivable & contract assets, consistent with industrial characteristics of project-based operation and asset structure risks. Second, Qingdao Daneng suffers from multiple drawbacks including missing original supporting documents, unreasonable accounting estimates, ineffective internal control and lax audit implementation during KAM-related work, which impair financial reporting quality and audit validity. Third, standardized accounting practices, tightened internal control, optimized audit arrangements and improved information transparency can effectively resolve practical bottlenecks of manufacturing enterprises' KAM management and raise the reliability of audit results and financial information.

Restricted by single-case research, this paper fails to cover all segmented manufacturing sub-industries. Future research can expand research samples to compare KAM differences across segmented manufacturing sectors and enrich relevant research outcomes. Along with continuous updates of auditing standards and digital transformation of manufacturing industries, key audit matters will better reflect enterprises' actual risks and serve as an essential instrument to improve audit quality and safeguard investors' legitimate interests.

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