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Construction and Empirical Analysis of an AHP-Based Decision Model for Enterprise Accounts Payable Clearance

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KEYWORDS

Power Supply Enterprise; Account Clearance; Accounts Payable; Analytic Hierarchy Process (AHP)

ABSTRACT

Taking the accounts payable of A Power Grid Enterprise as the research object and combining value chain theory, this study selects the Analytic Hierarchy Process (AHP) as the method to determine the weight of factors influencing accounts payable payment. It constructs a payment decision model for accounts payable to provide risk warning references for accounts payable management. The model's operability is tested through a practical case application, aiming to offer ideas and references for improving accounts payable management in similar enterprises.

INTRODUCTION

Research Background

Account Clearance as a Fundamental Social Responsibility Requirement for State-Owned Enterprises

In 2022, the State-owned Assets Supervision and Administration Commission of the State Council issued the "Notice on Matters Related to Central Enterprises Assisting Small and Medium-sized Enterprises in Relieving Difficulties and Promoting Collaborative Development," requiring state-owned enterprises and central enterprises to strictly implement the "Regulations on Guaranteeing Payments to Small and Medium-sized Enterprises." It mandates adhering to the principle of "paying all due payments and paying them promptly" for SME accounts, and eradicating malicious payment delays by abusing market dominance through institutional, mechanistic, procedural, and information-based controls[1].

Account Clearance as an Inevitable Choice for Building a Modern Management System

The "14th Five-Year" Financial Operation Plan of G Grid Company proposes the need to proactively adapt to new situations and requirements, steadily enhancing six management functions: operational planning, resource allocation, deepening reforms, and operational monitoring. Clearance work is a crucial part of the enterprise's resource allocation mechanism. Smoothing payment channels, accelerating the progress of arrears clearance, promptly disposing of inefficient or ineffective investment projects, improving the conversion efficiency of effective assets, and avoiding tax risks hold significant practical importance for constructing a modern management system[2].

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Account Clearance as Effective Support for High-Quality Development

With economic growth and the continuous expansion of electricity consumption scale, Enterprise A, as a key subsidiary of Grid Company G, experiences extremely frequent transactional activities. Project volumes increase annually, and transactional as well as project data are continuously updated. Consequently, the pressure for account clearance is mounting. Efficient and rational management of accounts payable can optimize the enterprise's working capital. This optimization can extend to the procurement phase, ensuring the rationality of procurement demands, facilitating efficient inventory turnover, reducing operational risks[3], and thereby providing effective support for the enterprise's high-quality development.

Research Methodology

Value Chain Analysis

The value chain analysis method views an enterprise as a collection of sequential input, transformation, and output activities[4]. This study applies value chain analysis, utilizing key information such as account aging structure, distribution of debtor clients, payable amounts, and supplier characteristics. This approach analyzes potential costs and benefits arising during the clearance process and identifies internal and external factors affecting the efficiency of accounts payable clearance, thereby providing a foundation for constructing the payment decision model.

Analytic Hierarchy Process (AHP)

The Analytic Hierarchy Process (AHP) is a decision-making method that decomposes elements related to a decision into hierarchical levels—such as objectives, criteria, and alternatives—and subsequently performs qualitative and quantitative analysis. It was proposed by the American mathematician Thomas L. Saaty in the 1970s[5]. This study employs AHP along with the expert scoring method to construct a hierarchical structure model for accounts payable management and to calculate the importance weights of relevant factors influencing enterprise payment decisions.

Research Significance

First, to clarify the current status of enterprise account clearance and identify the main difficulties and problems encountered during the process. This clarification facilitates subsequent research and planning tailored to actual conditions. Second, to construct a payment decision model for accounts payable, focusing specifically on enterprise accounts payable and integrating value chain theory and AHP. Third, to fully realize value benefits through account clearance strategies. By leveraging the risk early-warning references provided by the model, enterprises can formulate scientific and rational accounts payable clearance policies, thereby enhancing their risk control capabilities.

CURRENT STATUS OF ACCOUNTS PAYABLE MANAGEMENT AND DEFINITION OF PAYMENT INFLUENCING FACTORS

Value Chain Analysis of Enterprise Accounts Payable

Accounts payable refer to a power supply enterprise's payment activities arising from daily operations involving the purchase of electricity, materials, or acceptance of services[6]. These primarily include payments for purchased electricity, project and warranty deposits, labor fees, material payments, and warranty deposits. Based on the study and analysis of historical data, accounts payable currently constitute a relatively large proportion of liabilities within the inter-company balances of power supply enterprises. Areas with relatively high risks of overdue payments include project warranty deposits, material settlement payments, e-commerce platform procurement, and payable purchased electricity fees (particularly for renewable energy)[7]. Therefore, this paper's focus on enterprise account clearance centers predominantly on the management of enterprise accounts payable.

Definition of Payment Influencing Factors

To ensure the universality and general applicability of the research, this study targets the clearance of enterprise debts that are legitimately payable but unpaid, where no disputes exist between the parties[8]. It excludes delays caused by subjective factors or operational oversights. This study aims to identify several key factors influencing payment and their relative importance through expert analysis. By reviewing relevant literature, synthesizing findings from similar prior studies, and consulting with domain experts, 11 relatively important and commonly encountered factors influencing accounts payable were summarized. To test the validity and significance of these 11 factors, they served as the primary basis for questionnaire design, employing the Likert Scale method. A four-point scale was used, requiring respondents to rate the importance of each factor concerning accounts payable payment decisions. One question was set per factor with four options: Very Important, Important, Moderate, Unimportant.

The reliability of the questionnaire was assessed using Cronbach's α coefficient. A higher Cronbach's α

Table 1 | Reliability Statistics

Cronbach's α	Standardized Cronbach's α	Number of Items
0.669	0.673	11

Table 2 | Item-Total Statistics

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's α if Item Deleted
Ease of obtaining bank loans and interest rates for the enterprise	38.61	43.759	0.510	0.568
Length of the enterprise's production cycle	38.85	51.063	0.388	0.608
Speed of the enterprise's inventory turnover	38.68	50.705	0.403	0.612
Recovery status of the enterprise's accounts receivable	38.03	52.712	0.411	0.678
Size of the payable amount	38.34	53.400	0.193	0.653
Credit cost of enterprise default	39.22	51.624	0.254	0.639
Duration of payment delay	39.12	51.844	0.372	0.675
Importance of the supplier to the enterprise	36.98	52.465	0.462	0.603
Supplier's monopolistic position in the industry	38.1	52.334	0.281	0.631
Length of cooperation period between both parties	38.58	48.973	0.371	0.609
Number of cooperation instances with the enterprise	37.8	54.854	0.155	0.659

coefficient indicates stronger internal consistency among the items within the scale. Generally, a coefficient between 0.6 and 0.8 is considered acceptable. If the coefficient falls below 0.6, revision of the research instrument should be considered. A total of 65 questionnaires were distributed, with 63 valid responses received, resulting in an effective response rate of 96.9%. This paper primarily uses the α coefficient for reliability testing, employing SPSS 18.0 software for analysis, yielding the following results (**Table 1**):

The statistical data shows a Cronbach's α coefficient of 0.669, which is greater than 0.6. This indicates that the selection of the 11 factors in the questionnaire is fundamentally reasonable and reasonably reliable. They can be considered as the main factors influencing payment, and the analytical results possess research value.

To test the consistency among the factors, SPSS software was used for analysis. If the deletion of a particular factor leads to a decrease in the overall Cronbach's α coefficient, it suggests low consistency between that factor and the others (**Table 2**).

By examining the "Cronbach's α if Item Deleted" column, it is observed that deleting any item other than "Duration of payment delay" and "Recovery status of the enterprise's accounts receivable" would result in a new α coefficient lower than the current 0.669. This indicates that these 9 factors exhibit relatively high internal consistency with the other items. Removing any one of them would reduce the questionnaire's reliability, confirming them as key factors. Considering that an excessive number of factors increases the workload for judgment and can lead to undue model complexity, the aforementioned two factors ("Duration of payment delay" and "Recovery status...") were excluded. Therefore, subsequent analysis of influencing factors will be based on the remaining 9 factors.

ENTERPRISE ACCOUNTS PAYABLE PAYMENT DECISION MODEL

Weight Assignment for Influencing Factors of Enterprise Accounts Payable

The Analytic Hierarchy Process (AHP) guides decision-making by decomposing a complex problem into a

Table 3 | The 1-9 Scale and Its Meaning

Scale a_{ij}	Meaning
1	Element i is equally important as element j
3	Element i is slightly more important than element j
5	Element i is significantly more important than element j
7	Element i is strongly more important than element j
9	Element i is extremely more important than element j
2,4,6,8	Intermediate values between the adjacent judgments above

Table 4 | Average Random Consistency Index (RI) Standard Values

Order n	1	2	3	4	5	6	7	8	9
RI	0.00	0.00	0.58	0.90	1.12	1.24	1.32	1.41	1.45

multi-level hierarchy of elements. It constructs a structural model based on their relationships of subordination and mutual influence, and evaluates the weight of each level relative to the overall objective.

Establishing the Hierarchical Structure Model

Based on the overall objective of the problem, the complex issue is first decomposed into several constituent factors or sub-problems. These factors are then organized into a clearly hierarchical structural model according to their logical connections, mutual influences, and their relationship to higher-level factors. This model represents a progressive relationship from the overall goal down to specific action plans or measures.

Constructing the Judgment (Pairwise Comparison) Matrix

When assigning weights to factors at each level, the consistency matrix method is utilized. Alternatives are compared pairwise, and their relative importance is rated. Let a_{ij} represent the result of comparing the importance of element i to element j. **Table 3** presents the nine importance levels and their corresponding numerical assignments as defined by Saaty. Based on the pairwise comparison results, a judgment matrix is constructed. This matrix possesses the characteristic: a_{ij} =1/a_{ji}. The scaling method for a_{ij} is as follows.

Single-Level Ranking and Consistency Check

The eigenvector corresponding to the maximum eigenvalue (λ_{max}) of the judgment matrix, after normalization (so that the sum of its elements equals 1), is denoted as W. The elements of W represent the ranking weights of factors at the same level relative to a factor at the immediately higher level. This process is termed single-level ranking. The feasibility of this ranking must be verified through a consistency check, which determines the allowable range of inconsistency for matrix A. For an n-th order consistent matrix, the unique non-zero eigenvalue is n.For an n-th order positive reciprocal matrix A, the maximum eigenvalue $\lambda \geq n$, and A is a consistent matrix if and only if $\lambda = n$.

Since λ depends continuously on a_{ij}, the greater the extent to which λ exceeds n, the more severe the inconsistency of A. The Consistency Index (CI) is used for calculation, where a smaller CI indicates greater consistency. Using the eigenvector corresponding to λmax as the weight vector representing the influence of compared factors on a higher-level factor implies that greater inconsistency leads to larger judgment errors. Therefore, the magnitude of λ-n can measure the degree of A's inconsistency. The Consistency Index is defined as:

$$CI = \frac{\lambda max - n}{n - 1}$$

CI = 0 indicates perfect consistency; CI close to 0 indicates satisfactory consistency; a larger CI indicates more severe inconsistency.

To assess the magnitude of CI, the Random Consistency Index (RI) is introduced. RI is the average CI obtained from a large number of randomly generated reciprocal matrices of the same order.

$$RI = \frac{CI_1 + CI_2 + \ldots + CI_n}{n}$$

Generally, the larger the matrix order (n), the greater the possibility of random deviation from consistency. The corresponding relationship is shown in **Table 4**.

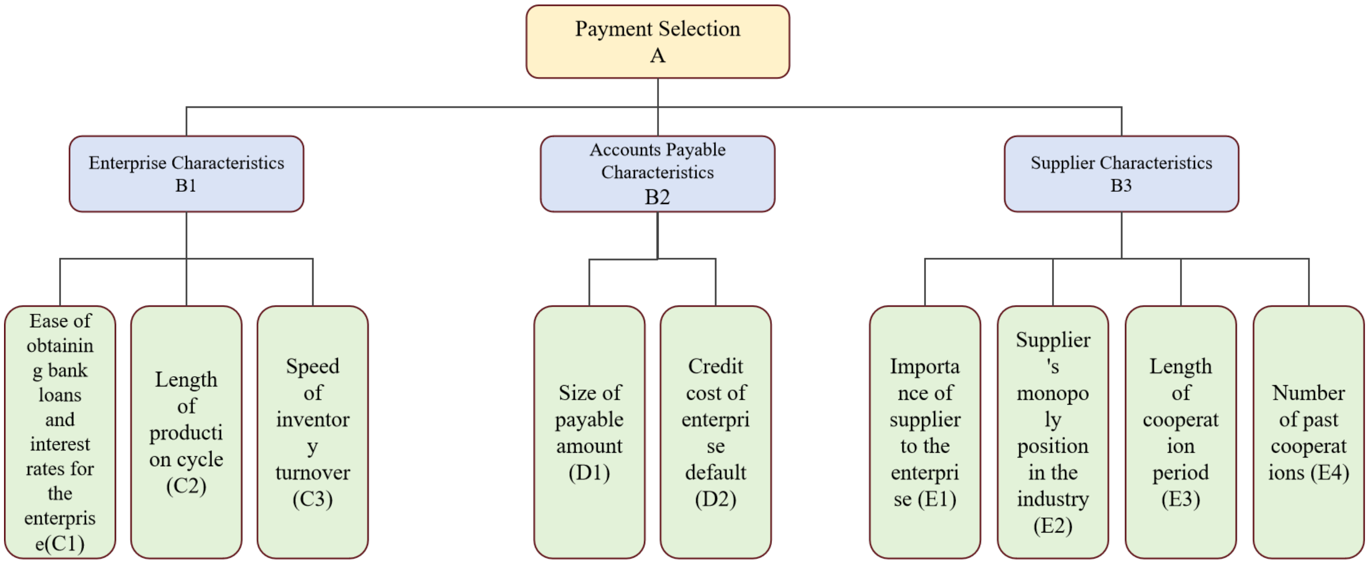

Figure 1 I Hierarchical Structure of Accounts Payable Factors

Table 5 I AHP Data for Criteria Level (B) relative to Goal (A)

	B1	B2	B3
B1	1.000	0.333	0.167
B2	3.000	1.000	0.250
B3	6.000	4.000	1.000

Since deviation from consistency might be due to random causes, when checking whether a judgment matrix has satisfactory consistency, CI must be compared with RI to obtain the Consistency Ratio (CR), using the formula:

$$CR = \frac{CI}{RI}$$

Generally, if CR<0.1, the judgment matrix is considered to have passed the consistency check.

Overall Hierarchy Ranking and Consistency Check

Calculating the weights of all factors at a given level relative to the highest level (overall goal) is called overall hierarchy ranking.

First, the 9 payment influencing factors identified earlier were grouped to form a hierarchical structure, as illustrated in **Figure 1**. The goal level (A) is Payment Selection. The second level (Criteria) consists of three indicators: Enterprise Characteristics (B1), Payment Characteristics (B2), and Supplier Characteristics (B3).

The collected questionnaire data were processed. The four options "Very Important," "Important," "Moderate," and "Unimportant" were assigned scores of 7, 5, 3, and 1, respectively. The average score for each factor was calculated as a preliminary measure of importance. To ensure data quality, expert scoring was also conducted to derive judgment matrices. SPSS 18.0 software was used for AHP analysis to obtain the weights of each influencing factor, along with consistency checks.

After consolidating questionnaire data and applying the expert scoring method, the influence of the three second-level elements (B1, B2, B3) on A was determined, leading to the construction of the 3rd-order matrix shown in **Table 5**.

Using the sum-product method calculation in SPSS 18.0 software for AHP analysis, the influence degree of the three second-layer elements (B1, B2, B3) on A and the consistency check results were obtained (**Tables 6, 7**).

The calculated CI value is 0.027, the RI value from the table is 0.520, and the CR value is 0.052 < 0.1. The judgment matrix satisfies the consistency check, and the calculated weights are consistent.

The importance of the three third-layer elements (C1, C2, C3) to B1 was obtained, constructing a 3rd-order matrix as shown in the **Table 8**.

Table 6 | AHP Analysis Results for Criteria Level

Item	Eigenvector	Weight	Max Eigenvalue	CI
B1	0.280	9.338%		
B2	0.664	22.132%	3.054	0.027
B3	2.056	68.529%		

Table 7 | Consistency Check Results for Criteria Level Matrix

Max Eigenvalue	CI	RI	CR	Consistency Check Result
3.054	0.027	0.520	0.052	Pass (CR < 0.1)

Table 8 | AHP Data for Sub-factors under B1 (Enterprise Characteristics)

	C1	C2	C3
C1	1.000	0.333	0.143
C2	3.000	1.000	0.200
C3	7.000	5.000	1.000

Table 9 | AHP Analysis Results for Sub-factors under B1

Item	Eigenvector	Weight	Max Eigenvalue	CI
C1	0.250	8.331%		
C2	0.580	19.319%	3.066	0.033
C3	2.171	72.351%		

Table 10 | Consistency Check Results for B1 Matrix

Max Eigenvalue	CI	RI	CR	Consistency Check Result
3.066	0.033	0.520	0.063	Pass (CR < 0.1)

Table 11 | AHP Data for Sub-factors under B2 (Payment Characteristics)

	D1	D2
D1	1.000	0.143
D2	7.000	1.000

Table 12 | AHP Analysis Results for Sub-factors under B2

Item	Eigenvector	Weight	Max Eigenvalue	CI
D1	0.250	12.500%	2.000	0.000
D2	1.750	87.500%		

Table 13 | Consistency Check Results for B2 Matrix

Max Eigenvalue	CI	RI	CR	Consistency Check Result
2.000	0.000	0.000	null	Pass (2nd-order matrix is always consistent)

Table 14 | AHP Data for Sub-factors under B3 (Supplier Characteristics)

	E1	E2	E3	E4
E1	1.000	6.000	7.000	4.000
E2	0.167	1.000	4.000	0.333
E3	0.143	0.250	1.000	0.250
E4	0.250	3.000	4.000	1.000

Table 15 | AHP Analysis Results for Sub-factors under B3

Item	Eigenvector	Weight	Max Eigenvalue	CI
E1	2.381	59.513%	4.259	0.086
E2	0.514	12.853%		
E3	0.223	5.582%		
E4	0.882	22.052%		

Table 16 | Consistency Check Results for B3 Matrix

Max Eigenvalue	CI	RI	CR	Consistency Check Result
4.259	0.086	0.890	0.097	Pass (CR < 0.1)

Using the sum-product method calculation in SPSS 18.0 software for AHP analysis, the influence degree of the three third-layer elements (C1, C2, C3) on B1 and the consistency check results were obtained (**Table 9,10**).

The calculated CI value is 0.033, the RI value from the table is 0.520, and the CR value is 0.063 < 0.1. The judgment matrix satisfies the consistency check, and the calculated weights are consistent.

The importance of the two third-layer elements (D1, D2) to B2 was obtained, constructing a 2nd-order matrix as shown in the **Table 11.**

Using the sum-product method calculation in SPSS 18.0 software for AHP analysis, the influence degree of the two third-layer elements (D1, D2) on B2 and the consistency check results were obtained (**Tables 12,13**).

The calculated CI value is 0.000, and the RI value from the table is 0.000. As this is a 2nd-order matrix (RI=0, CR cannot be calculated), the data inherently satisfies consistency, and the final calculated weights are consistent.

The importance of the four third-layer elements (E1, E2, E3, E4) to B3 was obtained, constructing a 4th-order matrix as shown in the **Table 14.**

Using the sum-product method calculation in SPSS 18.0 software for AHP analysis, the influence degree of the four third-layer elements (E1, E2, E3, E4) on B3 and the consistency check results were obtained (**Table 15,16**).

The calculated CI value is 0.086, the RI value from the table is 0.890, and the CR value is 0.097 < 0.1. The judgment matrix satisfies the consistency check, and the calculated weights are consistent.

Using AHP analysis and calculation, the weights of the 9 factors considered in this paper are obtained as follows:

$$W(C1) = \omega(B1) \times \omega(C1) = 0.0078$$

$$W(C2) = \omega(B1) \times \omega(C2) = 0.018$$

$$W(C3) = \omega(B1) \times \omega(C3) = 0.0676$$

$$W(D1) = \omega(B2) \times \omega(D1) = 0.0277$$

$$W(D2) = \omega(B2) \times \omega(D2) = 0.1937$$

$$W(E1) = \omega(B3) \times \omega(E1) = 0.4078$$

$$W(E2) = \omega(B3) \times \omega(E2) = 0.0881$$

$$W(E3) = \omega(B3) \times \omega(E3) = 0.0383$$

$$W(E4) = \omega(B3) \times \omega(E4) = 0.1511$$

Based on the calculation results, the importance ranking of factors influencing payment is:

Table 17 | Value Assignment for Payment Influencing Factors

Factor (Code)	Assignment		
	1	3	5
Ease of obtaining bank loans and interest rates for the enterprise (C1)	Easy	Moderate	Difficult
Length of production cycle (C2)	Within 2 months	Within 6 months	Over 6 months
Speed of inventory turnover (C3)	Fast	Moderate	Slow
Size of payable amount (D1)	Small	Moderate	Large
Credit cost of enterprise default (D2)	No impact	Moderate	Significant
Importance of supplier to the enterprise (E1)	Moderately Important	Important	Very Important
Supplier's monopoly position in the industry (E2)	Ordinary	Important	Monopolist
Length of cooperation period (E3)	Short	Moderate	Long
Number of past cooperations (E4)	Very Few	Moderate	Many

E1>D2>E4>E2>C3>E3>D1>C2>C1

Construction of the Enterprise Accounts Payable Payment Decision Model

Based on the above analysis, the influence of each factor on payment can be seen. The payment decision model is organized as follows:

$$y = W(C1) \times C1 + W(C2) \times C2 + \ldots + W(E4) \times E4$$

In the equation, "y" represents the payment decision score for the corresponding payable. A higher score indicates a higher priority for payment, requiring greater attention in accounts payable management and corresponding to a higher risk warning level[8].

CASE APPLICATION OF THE ENTERPRISE ACCOUNTS PAYABLE PAYMENT DECISION MODEL

Case Enterprise Background

To verify the operability of the accounts payable payment model in solving practical problems and to demonstrate its application, five enterprises were randomly selected from the list of counterparties of Power Supply Enterprise A. The model is applied under the assumption that payables exist with all five. The model calculates a score for each, determining the relative risk warning level for managing those payables.

Based on the enterprise's actual management context, the 9 payment influencing factors in the model are assigned values under different conditions, as defined in **Table 17**.

Since the three factors "Ease of obtaining bank loans and interest rates for the enterprise" "Length of production cycle" and "Speed of inventory turnover" are determined by the specific conditions of Grid Company A itself, these three items will be assigned uniform scores during the actual assignment process for all cases. The remaining 6 factors will be assigned values based on the specific circumstances of each of the 5 case enterprises.

Model Application and Analysis

Based on historical transaction records and publicly available information from corporate websites and platforms like Tianyancha, relevant information for the sample enterprises was gathered.

Guangdong Electric Power Design Institute (GEPDI)

This enterprise is a high-tech company holding the prestigious National Comprehensive Class-A Engineering Design qualification, wielding significant industry influence and strong market competitiveness. It occupies a leading and dominant position within its sector. Furthermore, it maintains extremely close ties with Grid Enterprise A, collaborating on a substantial number of projects annually, which results in a large volume of transactional funds. Consequently, the value assignments for its accounts payable influencing factors are determined as shown in **Table 18**.

Table | 18 Value Assignment for GEPDI

C1	C2	C3	D1	D2	E1	E2	E3	E4
1	3	3	5	5	5	5	5	5

Substituting the above factor assignments into the payment decision model yields the final payment decision score:

y1=0.0078×1+0.018×3+0.0676×3+0.0277×5+0.1937×5+0.4078×5+0.0881×5+0.0383×5+0.1511×5

Calculated result: y1=4.7981.

Guangdong Southern Communication Construction Co., Ltd. (GSCC)

This company holds Class-I qualification in communication engineering construction, possesses considerable industry influence, and has collaborated with Enterprise A on multiple projects, involving large transaction amounts.

Table 19 | Value Assignment for GSCC

C1	C2	C3	D1	D2	E1	E2	E3	E4
1	3	3	5	5	3	3	3	5

Substituting the above factor assignments into the payment decision model yields the final payment decision score:

y2=0.0078×1+0.018×3+0.0676×3+0.0277×3+0.1937×5+0.4078×3+0.0881×3+0.0383×3+0.1511×5

Calculated result: y2=3.6743.

Wuhan Sanxiang Electric Co., Ltd. (WSE)

This company has some regional influence but limited industry-wide impact. Cooperation with Enterprise A has been relatively short, with a moderate number of projects and transaction volumes.

Table 20 | Value Assignment for WSE

C1	C2	C3	D1	D2	E1	E2	E3	E4
1	3	3	1	5	1	1	1	1

Substituting the above factor assignments into the payment decision model yields the final payment decision score:

y3=0.0078×1+0.018×3+0.0676×3+0.0277×1+0.1937×5+0.4078×1+0.0881×1+0.0383×1+0.1511×1

Calculated result: y3=1.9461.

Guangdong Senxu General Equipment Technology Co., Ltd. (GSGE)

This enterprise enjoys relatively high recognition within its industry but maintains general business relations with Enterprise A.

Table 21 | Value Assignment for GSGE

C1	C2	C3	D1	D2	E1	E2	E3	E4
1	3	3	3	5	1	3	1	3

Substituting the above factor assignments into the payment decision model yields the final payment decision score:

y4=0.0078×1+0.018×3+0.0676×3+0.0277×3+0.1937×5+0.4078×1+0.0881×3+0.0383×1+0.1511×3

Calculated result: y4=2.4799.

Guangzhou Baiyun Electrical Equipment Co., Ltd. (GBEE)

This company is a domestic leader and a top enterprise in South China within the power distribution industry. It maintains extremely close ties with Enterprise A, collaborating on numerous projects annually with substantial transaction volumes.

Table 22 | Value Assignment for GBEE

C1	C2	C3	D1	D2	E1	E2	E3	E4
1	3	3	5	5	5	3	5	5

Substituting the above factor assignments into the payment decision model yields the final payment decision score:

y5=0.0078×1+0.018×3+0.0676×3+0.0277×5+0.1937×5+0.4078×5+0.0881×3+0.0383×5+0.1511×5

Calculated result: y5=4.6219.

Based on the calculated payment decision scores above, the order is y3 < y4 < y2 < y5 < y1. These scores represent the relative risk warning levels for managing accounts payable with each supplier. A higher score indicates a supplier whose payable, if delayed, would pose a higher potential risk (due to their importance, monopoly power, high credit cost, etc.), thus warranting higher payment priority.

If payables exist simultaneously with all five suppliers, the order of payment priority (from highest to lowest, corresponding to highest to lowest risk if deferred) should be:

1) Guangdong Electric Power Design Institute (y1)
2) Guangzhou Baiyun Electrical Equipment Co., Ltd. (y5)
3) Guangdong Southern Communication Construction Co., Ltd. (y2)
4) Guangdong Senxu General Equipment Technology Co., Ltd. (y4)
5) Wuhan Sanxiang Electric Co., Ltd. (y3)

This order provides a data-driven, multi-criteria reference for Enterprise A's accounts payable allocation under constrained liquidity.

CONCLUSIONS AND IMPLICATIONS

The outcomes of this research can be used not only for accounts payable payment decision studies but also for enterprise asset allocation and operational risk warning. They can provide strong support for enterprises in formulating scientific and reasonable payment strategies and can issue early warning signals at the initial stages of potential risks, helping enterprises avoid financial and operational risks.

In addition to the factors summarized in this paper, there are numerous other reasons leading to payment delays, such as weak sense of responsibility among staff, irregular debt settlement records, insufficiently in-depth inspection work, and payment disputes arising from other causes. These factors and problems cannot be easily incorporated into the model's decision factors and require enterprises to conduct specific analysis based on actual applications to derive reference results suitable for their own debt settlement management.

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