Surety Bond Acceptation: Summary Quick Underwriter Method

Debrina Vita Ferezagia[1], Muhamad Kresna Setyadi[2]
[1,2]*Vocational Higher Education Program, University of Indonesia*

***Abstract*: This research aims to evaluate the practical acceptance of surety bonds. Also, this research will calculate a score between 0-10 as a reference for the feasibility of financing from insurance companies. The data used are XYZ company primary data consisting of company establishment deed data or company identity, audited company financial statements, and company operational experience in the project area. The company is currently applying for guarantees to insurance companies for ongoing business projects. The variables used in the calculation analysis are the Character, Liquidity Ratio, and Profitability Ratio variables. The method used is Quick Underwriting Summary. Based on the research results the total score for the Character variable is 2, the variable liquidity ratio is 3.2 and the Profitability ratio is 3,936, so the total score is 9.14. These results are included in the category of good with criteria more than 7.6. The recommendation given is that insurance companies should accept XYZ companies to be given surety bond guarantees.**

Keywords: **Underwriting, Surety Bond, Quick Summary.**

I. INTRODUCTION

In a business cooperation contract in the construction and non-construction fields, the project owner and the contractor want the business collaboration to be completed in accordance with the initial agreement before the contract. Every cooperation contract in this case has a risk of loss during the period. This risk includes the reasons for not fulfilling or implementing agreements, rights, and obligations of each party, and others. In the implementation, the project owner wants the contractor to have a guarantee, called a surety bond. A surety bond guarantee is a two-party agreement, namely between an **insurance company called a surety** and **a contractor called a principal**, where the first party (surety) provides guarantees to the principal for the benefit of a **third party called the Obligee** as the project owner.

The Underwriting process aims to determine the number of premium costs to prospective Insured according to the level of risk provided by the Insurer so that there is fairness between the premium and the risk paid by the Insurer when the risk of loss occurs. Issuance of a policy for prospective Insured is determined based on the underwriting process whether accepted or not.

The nature of the underwriting process is very subjective because of the large involvement of the human element (Ferezagia, 2019) and the guarantee industry does not have a standard way of doing business. If using the old technique, manual evaluation, and a simple checklist can produce data processing that is less supportive (Bakheet, 1999). The Quick Underwriting method is able to provide more accurate results based on a company's financial statement variables. Based on this background, the authors want to examine the process of accepting Principal surety bonds for the benefit of a third party (Obligee) as the project owner.

II. METHODOLOGY

The writer collected data and analyzed the underwriting process that using the quick method. The variables in Suretyship are based on decisions on three contractor variables, such as character variables, capacity variables, and capital variables. Then, there is an additional variable, the continuity variable which is added to the evaluation process. The first evaluation is the Character of the Obligee which is the most qualitative part of the underwriting process. Character evaluation includes the reputation, past performance, and work ethic of the contractor (Rusia, 1992). Capacity includes the quantity and quality of resources required by the Obligee to complete projects, such as management, equipment, labor, and previous experience (Lewis, 2000). Capital reflects the financial strength of the Obligee and its ability to finance the projects carried out and compensate for losses that may occur. Continuity refers to the ability of a construction company to continue work without interruption if the Principal is removed from operations at a critical time (Heffron and Maloney, 1996).

This Quick Underwriting method uses 3 (three) assessment variables, namely Character, Liquidity Ratio, and Profitability Ratio. The assessment weights for each variable are calculated by insurance companies in Indonesia as a basis for calculating the total score. This variable has a different weight, with a variable percentage of Character 20%, Liquidity Ratio 32%, Rentability Ratio 48%. To calculate this method, several documents are needed, such as a company deed or company identity, audited company financial statements, and the company's operational experience in the project.

III. RESULT AND DISCUSSION

In the Underwriting Process, a new company (Principal) can propose surety bond protection for its project using the Quick Underwriter Summary method as an analysis of the feasibility of a guaranteed candidate (Principal) in determining whether the guarantee of the project is guaranteed or not. Following are the steps to calculate the Quick Underwriter Summary method:

A. Character Variable

In the character variable, there are several tables such as results, conditions, weights, values, and scores. The results table explains that it is guaranteed to have the requested data and information on the operational duration. While in the condition table describes what happened on the results table, such as the presence or absence of documents and the guaranteed operating year. Then the weight table is an explanation of the portion of the results in the table and divided by 3 (three) according to the existing draft.

Researchers took the case at PT. XYZ. The first weight is that if the condition of the guaranteed candidate has an audited report, it will get a weight of 10 (ten), if not, then get a weight of 6 (six). The second weight represents the percent portion of the character variable, the intention is that the audited report section has a 30% rating portion of the 100% character variable. The third weight is the overall portion of the character variable to other variables that is 20%.

Then, the value table is the result of the condition table and first weight. As in PT.XYZ has an audited report which means that the first weight gets a value of 10 (ten). Then, the score table is the result of each of the previous stages with calculations in equations 1 to 4. PT. XYZ has audited financial statements, so the results table says "there". Then these results get a value of 10 based on conditions and weights (F) then the calculation of the audited report score.

$$Score = Result \quad (1)$$

$$Score = W \times V \times 20\% \quad (2)$$

$$Score = 30\% \times 10 \times 20\% = 0{,}6 \quad (3)$$

The provisions for the operational period of PT. XYZ is known to have been 18 years, then in the condition table enter a category of more than 3 years and have a weight (F) 10 in equation 4. Furthermore, the provisions available or the unavailability of TDP (company identity) are known. PT. XYZ has the results of the availability of TDP and then has a value of 10. The results of the calculation of the TDP score in equation 5. Provisions of character variables are the experiences of similar projects that are known to have such experience based on the operational duration of 18 years in equation 6.

$$Score = 25\% \times 10 \times 20\% = 0{,}5 \quad (4)$$

$$Score = 20\% \times 10 \times 20\% = 0{,}4 \quad (5)$$

$$Score = 25\% \times 10 \times 20\% = 0{,}5 \quad (6)$$

Table 1 summarizes the results of the character variable calculations based on the PT XYZ validity document. Character calculation is measured through the Audited Report document, Company Identity (TDP), Operating Duration, and Experience on a similar Project. The total score for the Character variable is the sum of all scores for each variable component is 2.

Table 1. Calculation Results for Character Variables.

Data Component	Result	Condition	Weight		Value	Score
Audited Report	Available	Available	10	30%	10	0,6
		Unavailable	6			
Duration of Operation	18	> 3 years	10	25%	10	0,5
		< 3 years	6			
TDP is available or not	Available	Available	10	20%	10	0,4
		Unavailable	6			
Experience in similar projects	Available	Available	10	25%	10	0,5
		Unavailable	6			

B. Variable Liquidity Ratio

This calculation is used to determine the anticipation of the Principal candidates when urgent funds are needed. Anticipation is like whether the principal has the funds, as well as the determining points for the Principal to get approval in the acceptance of surety bonds. In this liquidity ratio variable, there are several calculations such as current ratio, quick ratio, and networking capital to sales. In this variable table, there is a comparison of PT. XYZ's financial statements for 2019-2018 which is a reference for approving submission of surety bond guarantees. As in the case example, the current ratio of result x (2019) is smaller than the result of y (2018) shown in Table 2.

Table 2. Liquidity Ratio

Current Ratio	2019	X Result	2018	Y Result	Average
current asset	925.125.104.150,00	1,46	1.036.070.998.892,00	1,52	1,49
current liabilities	633.932.250.867,00		680.989.918.400,00		
Quick Ratio					
cash+bank+account receivable+securities	577.643.948.821,00	0,91	636.470.974.623,00	0,93	0,92
current liabilites	633.932.250.867,00		680.989.918.400,00		
NET W/C to Sales					
current asset - current liabilities	291.192.853.283,00	1,92	355.081.080.492,00		
sales	151.315.833.957,00	1,92	316.424.890.313,00	1,12	1,52

Calculation of result x and result y have equation (7) to (10). The result of table x is 1,46 while table y is 1,52. The results of X and Y in the quick ratio are also smaller than the previous year because the trade receivables and current liabilities variable in 2019 is smaller than in 2018. The average results obtained in the quick ratio of equation 11. Then calculate the average net working capital to sales are inversely the same as the other two conditions before, the results of 2019 are higher than in 2018. An average calculation of net working capital to sales equation 12 is obtained.

X Result = *Current Asset* ÷ *Current Liabilities* (7)

Y Result = *Current Asset* ÷ *Current Liabilities* (8)

Average = (*X Result* + *Y Result*) ÷ 2 (9)

Average = (1,46 + 1,52) ÷ 2 = 1,49 (10)

Quick Ratio Average = (0,91 + 0,93) ÷ 2 = 0,92 (11)

Average = (1,92 + 1,12) ÷ 2 = 1,52 (12)

The calculation of the score on the liquidity ratio of the current ratio is almost the same as the character variable, but there is a slight difference in the frequency, weight of each rule, and the overall portion of the liquidity ratio variable is 32%. In the current ratio, there are 3 frequencies, if the average result is more than 1, then you will get 10, the results equal to 1 will get 8, and under 1 will get 6. Then the calculation of the quick ratio score is the same as before getting the results in equation 15. Next calculation net working capital to sales score in equation 16.

Score = *W* × *V* × 32% (13)

Score = 40% × 10 × 32% = 1,28 (14)

Score = 30% × 10 × 32% = 0,96 (15)

Score = 30% × 10 × 32% = 0,96 (16)

Table 3 summarizes the results of the Liquidity Ratio Score calculation which is calculated based on the results of PT XYZ's financial statements. Calculation of Profitability Ratio Score is measured through the Current Ratio, Quick Ratio, and Net W / C to Sales. The total score for the variable liquidity ratio which is the total score of each component is 3,2.

Table 3. Liquidity Ratio Score

Component	Frequency		Weight	Value	Score
Current Ratio	> 1	10	40%	10	1,28
	= 1	8			
	< 1	6			
Quick Ratio	> 0,5	10	30%	10	0,96
	= 0,5	8			
	< 0,5	6			
Net W/C to Sales	> 0,25	10	30%	10	0,96
	= 0,25	8			
	< 0,25	6			

C. Variable Profitability Ratio

In this calculation, the formula variable is the same as the liquidity ratio, but the difference is in the provisions of the profitability ratio. X results and Y results, weight, and the portion of the variable profitability in the evaluation method of the Quick Underwriter Summary. This variable has the largest portion of the assessment that is 48% of the total 100% assessment. PT XYZ financial statements in Table 4.

Table 4. PT XYZ Financial Report

Gross Margin	2019	X Result	2018	Y Result	Average
gross profit	17.426.155.667,00	11,52	39.010.238.938,00	12,33	11,92
sales	151.315.833.957,00		316.424.890.313,00		
Profit Margin					
profit before tax	2.059.685.488,00	1,36	4.953.595.736,00	1,57	1,46
sales	151.315.833.957,00		316.424.890.313,00		
Return Of Equity (ROE)					
profit before tax	2.059.685.488,00	4,37	4.953.595.736,00	10,69	7,53
equity	47.136.742.505,00		46.337.530.768,00		
Return Of Investment (ROI)					
profit before tax	2.059.685.488,00	0,19	4.953.595.736,00	0,42	0,31
total asset	1.057.344.132.005,00		1.172.776.858.442,00		

The first calculation is the gross margins of 2019 and 2018. Based on the financial statements the 2019 gross margin has a result of 11,52 while 2018 produces 12,33 based on equations (17) to (20). Furthermore, the stage of profit margin on X result = 1,36 while the Y results = 1,57.

X Result and Y Result for gross margin

$$= \frac{gross\ profit}{sales} \times 100\% \quad (17)$$

Average = (11,52 + 12,33) ÷ 2 = 11,92 (18)

X Result and Y Result for profit margin

$$= \frac{profit\ before\ tax}{sales} \times 100\% \quad (19)$$

Average = (1,36 + 1,57) ÷ 2 = 1,46 (20)

Furthermore, the calculation of ROE (return of equity) on the result of x gets 4,37 while the result of y is 10,69 obtained from formula (21). Then calculate the average in equation (22). Furthermore, the calculation of ROI (return of investment) as shown in Table 4 that the result of x is 0,19 while the result of y is 0,42.

X Result and Y ROE (*return of equity*)

$$= \frac{profit\ before\ tax}{equity} \times 100\% \quad (21)$$

Average = (4,37 + 10,69) ÷ 2 = 7,53 (22)

X Result and Y Result for profit margin

$$= \frac{profit\ before\ tax}{sales} \times 100\% \quad (23)$$

Average = (0,19 + 0,42) ÷ 2 = 0,31 (24)

Then proceed to the score calculation phase of each provision. This score calculation is the same as the liquidity ratio only differing in the variable portion, weight, and frequency. In table 4 the gross margin provisions get a value (v) 10 because the frequency is more than 10, so the score obtained is 1,44. Then the calculation of the profit margin score gets an average of 1,46. The average results in Table 5, the frequency section, get a value of 6 because it is less than 7,5.

Score gross margin = *W* × *V* × 48% = 30% × 10 × 48% = 1,44 (25)

Score profit margin = *W* × *V* × 48% = 25% × 6 × 48% = 0,72 (26)

After that, the calculation of ROE scores such as the average results obtained based on table 5 gets results 7,53. The average yield is 10, in equation (27). The last step in calculating the profitability ratio variable score is ROI with an average yield of 0,31 The average of these results on frequency gets a result of 6 because it is far below the standard QUS provisions which are less than 7,5 in equation (28).

Score ROE = *W* × *V* × 48% = 25% × 10 × 48% = 1,2 (27)

Score ROI = *W* × *V* × 48% = 20% × 10 × 48% = 0,576 (28)

Table 5 summarizes the results of the calculation of the Profitability Ratio calculated based on the results of PT XYZ's financial statements. Score calculation for Rentability Ratio is measured through Gross margin, profit margin, and Return of Equity. The total score for the Profitability Ratio variable which is the sum of the component variable scores is 3,936.

Table 5. Calculation of Profitability Ratio Score

Component	Frequency		Weight	Value	Score
Gross Margin	> 10	10	30%	10	1,44
	= 8	8			
	< 6	6			
Profit Margin	> 7,5	10	25%	6	0,72
	= 7,5	8			
	< 7,5	6			
ROE (return of equity)	> 7,5	10	25%	10	1,2
	= 7,5	8			
	< 7,5	6			
ROI (return of investment)	> 7,5	10	20%	6	0,576
	= 7,5	8			
	< 7,5	6			

IV. DECISION

The decision can be concluded that the new Principal can guarantee the guarantee because it gets a total weight that exceeds the standard draft QUS method. The total score is obtained from the sum of all scores of each variable in character, the liquidity ratio, and the profitability ratio. The total score for the Character variable is 2, the variable liquidity ratio is 3,2 and the Profitability ratio is 3,936. The total weight obtained overall yields a value of 9,14 from the acceptance limit of 7,6. The value is almost perfect, so the guarantee application will be issued immediately.

V. CONCLUSION

The Quick Underwriting summary method is a surety bond acceptance method that is quite powerful. The insurance company will guarantee the project submitted by the principal through the analysis of data owned by the principal. This method has more advantages than the classical method which uses the institution of an underwriter. Based on the research results, the Quick Underwriting method provides a definite value for a submission guarantee. The submission limit score is said to be accepted by the underwriter if it has a total score of 7,6. The score obtained is between 0-10, a value of 7,6 is a good enough score as a minimum limit. In the case taken from XYZ company data, the value is 9,14. This means that XYZ company has very good credit, so insurance companies are recommended to accept the surety bond submission process.

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