Research And Strategic Analysis of Project Client Selection Based on Client Assessment System

Jianshu Zheng *, Weihan Wang, Jinqiu Zhang

Maynooth International Engineering College, Fuzhou University, Fuzhou, China, 350108

* Corresponding Author Email: Jianshu Zheng wanguxiaoniu@gmail.com

Abstract. The aim of this study is to select the most suitable clients for the project by establishing a client assessment system, and to conduct a comprehensive assessment and future relevance analysis of the clients through the RSR assessment model and the Granger causality analysis model. First, by analyzing the project conditions and predicted clients, the conditions required for the project were listed, and the performance of past clients on each of the assessment factors was captured and comprehensively evaluated in order to select the highest rated clients. Second, the specific interests and resources of the client were analyzed by analyzing their reports and publicity. Finally, the high correlation with clients is demonstrated by analyzing the program-related factors in the case of China, and the Granger causality test shows a high Granger causality, suggesting that the program is appropriate for the selected clients in the present and the future. In addition, the establishment of a client assessment system, the application of the client ranking and RSR assessment model, and the related strategies against illegal wildlife trade and the findings of the Granger causality analysis are discussed.

Keywords: RSR assessment model, Granger causality analysis, correlation analysis.

1. Introduction

With the continuous socio-economic development and technological advancement, customer assessment system as well as the protection of wildlife has become a hot topic of global concern. This project aims to establish a customer assessment system to provide more efficient inventory management and timely delivery of orders for e-commerce platforms through scientific assessment and intelligent decision support. At the same time, the project is also committed to fighting against illegal wildlife trade and comprehensively combating illegal wildlife trade activities through various measures such as strengthening laws and regulations, enhancing law enforcement, promoting international cooperation, and raising public awareness. This paper will discuss in detail the establishment of customer assessment system, RSR assessment model, customer competitiveness analysis, correlation analysis model and Granger causality test model [1-2].

In the establishment of customer assessment system, we will analyze the historical data of e-commerce platform, use big data technology and neural network model to predict the demand of different merchants in the future period, and conduct a comprehensive assessment of customers based on the assessment indexes in order to select the most suitable customers to participate in the project [3]. At the same time, we will introduce the RSR assessment model to provide a basis for selecting the most competitive clients for the project through weighted ranking and comprehensive scoring of client assessment indicators.

In addition to the establishment of the client assessment system, we will also focus on analyzing the client's competitiveness and measures to combat illegal wildlife trade. By analyzing the competitiveness of clients, we can better understand the strengths and resources of various types of clients and select the most suitable clients for project cooperation. At the same time, we will propose a series of effective measures to fight against illegal wildlife trade, including strengthening laws and regulations, increasing law enforcement, promoting international cooperation, raising public awareness, supporting local communities, and investing in science and technology, so as to comprehensively promote the governance of illegal wildlife trade [4-5].

2. Client Evaluation System

First of all, according to our project analysis, the conditions required for the project and the predicted clients are listed. In order to select the most suitable clients for this project, collect the performance of clients on various evaluation factors in the past, and conduct a comprehensive evaluation to select the clients with the highest score[6]. Then, through the report and publicity of clients, analyze their specific rights and resources. Finally, taking China as an example, the analysis of the relevant factors of the project shows a high correlation, and the Granger causality test shows a high Granger causality, indicating that the project is suitable for selected client both in the present and future.

2.1. Establish Evaluation System

Through the analysis of the project, it can be seen that it needs to be developed gradually from three aspects : establishment, legislation and resources. To match the appropriate implementation of the project 's clients, the need to establish evaluation model.

Based on the relevant literature, 6 evaluation indicators are obtained : decision-making power, land management power, fund, scientific and technological strength, promotion ability and cooperation ability as the figure 1:

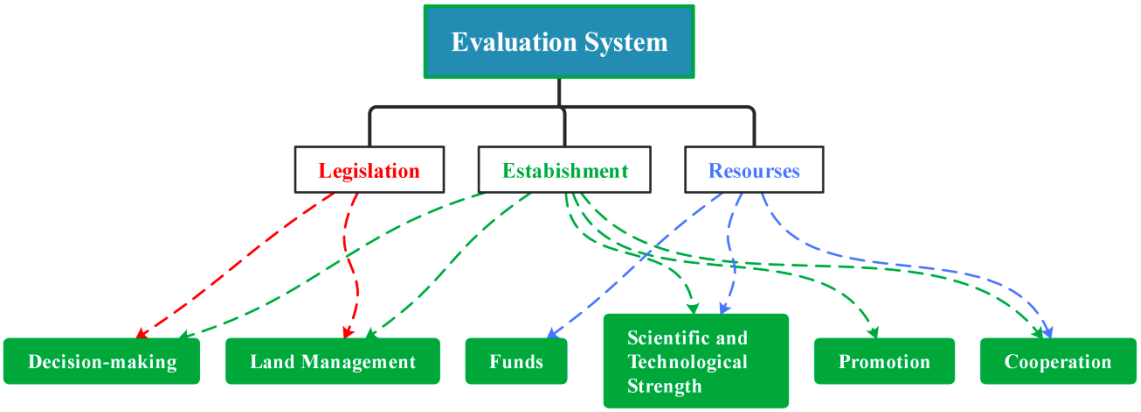

Figure 1: Indicator System

The project requires certain decision-making and management rights and comprehensive resources, so it excludes the individual as the entity of the client, and chooses the relevant United Nations organizations, governments, non-profit organizations, private enterprises, these four collective organizations. In order to select the most suitable client of the project from the four clients, they are scored[7-8].

Sort the four clients based on the six indicators mentioned above, and score them through data search and comparison. The score is determined by the ranking of the client, and the matching table between the ranking and the score is as table 1:

Table 1: Rank and Score

Rank	1st	2nd	3rd	4th
Score	4	3	2	1

If there is a juxtaposition, the scores are summed and then averaged.

For example, If, score: Governments > United Nations-related groups = non-profit organizations > private enterprises, then, non-profit organizations and United Nations-related organizations score is $\frac{2+3}{2}$, both results are 2.5. Clients Scores of Indicators are shown in table 2.

Table 2: Clients Scores of Indicators

Indicators	Decision-making	Land Management	Funds	Scientific and Technological Strength	Promotion	Cooperation
Relevant United Nations Organizations	3	2.5	4	3	4	4
Governments	4	4	3	4	3	3
Non-profit Organizations	1.5	2.5	2	1	2	2
Private Enterprises	1.5	1	1	2	1	1

2.2. RSR Evaluation Model

Based on work, we used the RSR system for further ranking. The basic idea of RSR method is to rank the evaluation indicators, and the average value of the rank is used as the evaluation standard, which is suitable for the comprehensive evaluation of the indicators of different measurement units. We use RSR as follows :

1) Data Normalization : Because the data set is a rule of grading, all of them are positive indicators. For positive indicators:

$$z_{ij} = \frac{x_{ij} - x_{min}}{x_{max} - x_{min}} \tag{1}$$

2) Construct Matrix : Assuming that the evaluation object is *n* and the evaluation indicator is *m*, the data matrix $n \times m$ is constructed

$$R = \begin{pmatrix} R_{11} & R_{12} & \cdots & R_{1m} \\ R_{21} & R_{22} & \cdots & R_{2m} \\ \vdots & \vdots & & \vdots \\ R_{n1} & R_{n2} & \cdots & R_{nm} \end{pmatrix} \tag{2}$$

and the rank value is calculated. In order to simplify this process, the non-integer rank sum ratio method is used to improve the shortcomings of the RSR method. Because there is a quantitative linear correspondence between the compiled rank and the original indicator value, it overcomes the disadvantage that the quantitative information of the original indicator value is easily lost when the RSR method is ranked [9].

For the benefit-type indicators:

$$R_{ij} = 1 + (n-1)\frac{x_{ij} - \min(x_{1j}, x_{nj}, \cdots, x_{nj})}{\max(x_{1j}, x_{nj}, \cdots, x_{nj}) - \min(x_{1j}, x_{nj}, \cdots, x_{nj})} \tag{3}$$

For the cost-type indicators:

$$R_{ij} = 1 + (n-1)\frac{\max(x_{1j}, x_{nj}, \cdots, x_{nj}) - x_{ij}}{\max(x_{1j}, x_{nj}, \cdots, x_{nj}) - \min(x_{1j}, x_{nj}, \cdots, x_{nj})} \tag{4}$$

The $X_i\ (1 \le i \le 6)$ represents the results of the normalization of the same trend of decision-making power, land management power, funds, scientific and technological strength, promotion ability and cooperation ability. $R_i\ (1 \le i \le 6)$ represents the rank of the six indicators. The rank value calculation results are obtained :

3) Calculate the RSR and Rank Clients:

$$\text{When weighting same,} \qquad RSR_i = \frac{1}{n \times m}\sum_{j=1}^{m} R_{ij}, \tag{5}$$

$$\text{When weighting not same,} \quad WRSR_i = \frac{1}{n}\sum_{j=1}^{m} W_j R_{ij} \tag{6}$$

Hint: R_{ij} is the rank of the jth indicator of the ith object, W_j represents the weight of the jth indicator, and the sum of weights is 1. The larger the value of RSR_i, the better the evaluation object.

The RSR scores and rankings for clients are shown in the table 3:

Table 3: Clients Ranking

Clients	RSR RSR Value	RSR Rank
Governments	0.87	1
Relevant United Nations Organizations	0.85	2
Non-profit Organizations	0.44	3
Private Enterprise	0.29	4

It can be seen that the government's RSR score is the highest, so based on the model, the government is the most appropriate client.

2.3. Client's Competence

To combat the illegal wildlife trade, governments can implement the following strategies:

1. Strengthen Laws: Enact tough regulations and penalties against poaching and trafficking.
2. Enhance Enforcement: Increase patrols and monitoring in wildlife hotspots, utilizing technology like drones.
3. Promote International Collaboration: Work with other countries and organizations to disrupt cross-border smuggling routes.
4. Educate the Public: Raise awareness about impacts of wildlife trade to reduce demand.
5. Support Local Communities: Provide alternative livelihoods to those involved in or affected by wildlife trade.
6. Invest in Technology: Use data analytics and AI to track illegal activities and predict poaching patterns.
7. Judicial Cooperation: Ensure the legal system can effectively prosecute wildlife crimes.

2.4. Correlation Analysis Model

Using data collected from 2010 to 2021, an analysis was conducted on eight indicators of concern to the government, which include Nature Reserves Amount, Nature Reserves Area, Forest Area, and the government's desired Contribution Tertiary to GDP, GDP, total

population, per capita renewable inland freshwater resources (Freshwater Per Head), and

Duties and Import Duties. Determine which indicators have been included in the development needs while reducing the goal of illegal wild trade, and which indicators will develop with the development of the project and which indicators will be related.

The existing data were normalized before using Spearman correlation analysis to make determinations. The Spearman correlation coefficient is defined as the Pearson correlation coefficient between ranked variables. For samples with sample size n, n raw data are converted into hierarchical data, and the correlation coefficient ρ is:

Raw data are assigned a corresponding level based on their average descending position in the overall data. The Heat map of Pearman Correlation is shown below:

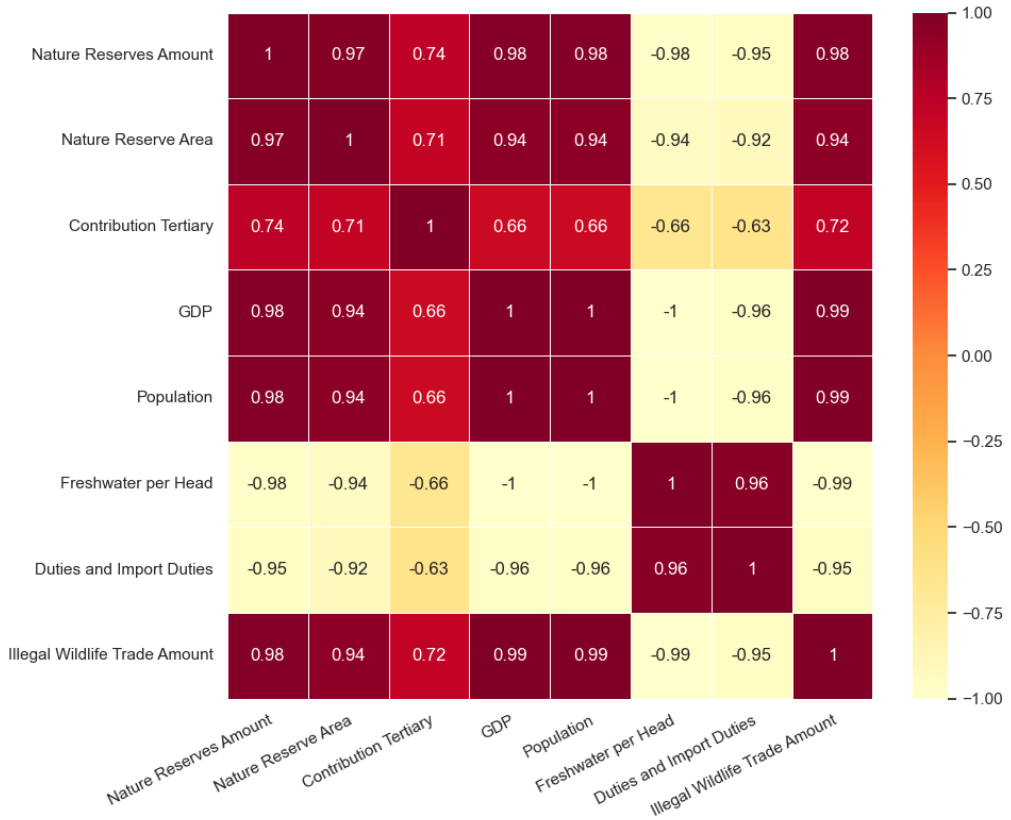

Figure 2: Heat map of indicators' correlation

It can be seen from the figure 2 that freshwater per head, duties and import duties have a strong negative correlation with the criminal of wildlife. There is no correlation between the contribution tertiary and the criminal of wildlife, and the rest are positively correlated[10].

2.5. Granger Causality Test Model

Although the correlation analyse is clear, but only care the current state. So, we provide a more adequate statistical study through the Granger causality test, pointing out its possible future associations through the Granger statistical causality.

To test whether there is a Granger causality between one variable and another variable, x_t's test of y_t causality can be done by testing, and the model of whether all lag variables of x_t can be removed in the equation with y_t as the explained variable. The equation with y_t as the explained variable is expressed as follows:

$$y_t = \sum_{i=1}^{k} \alpha_i y_{t-i} + \sum_{i=1}^{k} \beta_i x_{t-i} + u_{1,t} \tag{7}$$

α_i, β_i is a series of coefficients.

The null hypothesis of x_t for Granger non-causality for y_t is

$$H_0: \beta_1 = \beta_2 = \cdots = \beta_k = 0 \tag{8}$$

If the estimated value of the regression parameter of any lagged variable of x_t is significant, the null hypothesis is rejected, indicating that x_t has Granger causality to y_t. The following results are obtained as table 4:

Table 4: Granger Causality Test

Matching Samples		P
Nature Reserves Amount	Illegal Wildlife Trade Amount	0.037
Natue Reserves Area		0.658
Contribution Tertiary		0.199
GDP		0.98
Population		0.009
Freshwater per Head		0.006

Hint: P is a measure of Granger causal correlation, more significant closer to 0.

The data in the analysis table: nature reserves amount, freshwater per head, population. These three indicators have a strong Granger causal correlation towards Illegal Wildlife

Trade Amount.

3. Conclusions

Through the implementation of this project, we have established a scientific and effective customer evaluation system to provide more efficient inventory management and order delivery services for the e-commerce platform, effectively reducing inventory costs and improving order fulfillment efficiency. At the same time, we used the RSR evaluation model to conduct a comprehensive assessment of our clients and selected the most competitive clients to participate in the project, laying a solid foundation for the smooth implementation of the project.

In the fight against illegal wildlife trade, we have proposed a series of comprehensive and effective measures, including strengthening laws and regulations, reinforcing law enforcement, promoting international cooperation, and raising public awareness, etc., which have made a positive contribution to the protection of wildlife and the maintenance of ecological balance. Through the use of correlation analysis model and Granger causality test model, we found some key information and laws, which provide important references for future research and practice.

In summary, this project has not only achieved remarkable results in the establishment and operation of the client assessment system, but also made positive exploration and efforts in fighting illegal wildlife trade. It is hoped that our work can provide useful insights for research and practice in related fields and contribute to the sustainable development of the society and economy and the protection of the ecological environment.

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