



Constructing Social Enterprise Performance Measurement System: Based on a Dual Equilibrium Mechanism

Qingjiao Chen¹, Zhi Tang^{2,*}

¹School of Business Administration, Guangxi University of Finance and Economics, Nanning, 530007, China

²School of Innovation and Entrepreneurship, Guangxi University of Finance and Economics, Nanning, 530007, China

*tz@gxufe.edu.cn

Abstract. Aiming at the shortcomings of the existing social enterprise performance measurement system, construct a multi-dimensional performance measurement system from four levels, such as organizational coordination, development stage, economic value, and social value. The first 10 certified social enterprises in Chengdu China are as the cases. Possible contributions: (1) enriching the idea of social enterprise performance evaluation from the perspective of the dual equilibrium mechanism, which helps to promote sustainable development; (2) incorporating new elements such as dual-goal coordination and development stage into the performance measurement system; (3) integrating "Underlying logic" into the evaluation process, which may help to reduce moral hazard.

Keywords: Social enterprise; Dual equilibrium mechanism; Performance measurement system.

1 Introduction

Performance measurement as an important issue faced in impact investing and development has not been well addressed (Perrini et al., 2021)^[1]. Despite the considerable research literature in this area, studies dedicated to measuring output outcomes involving the double bottom line (financial and social performance) or triple bottom line (financial, social, and environmental) remain weak (Urban, 2015)^[2]. For a long time, social enterprises have passively accepted evaluation criteria from third parties and other related sectors, and have less thought about the construction of performance measurement systems from the perspective of adherence to social missions and sustainable development. To make up for the shortage of existing research, a performance evaluation system for social enterprises is constructed from multiple dimensions based on a Dual goal coordination mechanism, which provides measurement tools for objectively evaluating the development status of social enterprises and promoting their sustainable development.

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The theory of social enterprise performance measurement originates from business enterprise research, and there are five common models: cost-benefit analysis, value chain approach, Value chain appreciation analysis, consumer satisfaction approach, and performance trigonometry model. Scholars have modified the common performance evaluation models based on the double bottom line (financial and social performance) or triple bottom line (financial, social, and environmental) characteristics of social enterprises, and two of them are more influential: Social return on investment (SROI) and Balanced Score Card (BSC).

However, SROI has not been promoted in practice, mainly because (1) social enterprises are mostly SMEs, and it is difficult to obtain real, accurate, and comprehensive financial data, and SROI under the condition of lacking reliable data support is invalid; (2) it is difficult to truthfully reflect social values, especially intangible social values, such as self-confidence or self-esteem of marginalized groups (Millar & Hall, 2013)^[3]. (3) the social return of investing in technology conflicts with the values and business logic of social enterprises; (4) SROI is more applicable to the evaluation of resource-intensive organizations (Luke, Barraket, & Eversole (2013)^[4], with poor generalizability. Bull (2007)^[5] introduced the BSC to measure the performance of social enterprises and improved specific indicators in combination with the characteristics of social enterprises. At the same time, they also pointed out the difficulties faced by social enterprise performance measurement: how to measure beyond the dichotomy? How to build more operational measurement tools for social enterprise scale and organizational characteristics? Liu, Eng, and Takeda (2015)^[6] started to focus on the dual goal of measuring social enterprises at both social and economic performance levels and then developed measurement scales. But the measurement framework constructed from a social enterprise marketing power perspective overemphasized the marketing role at the expense of other important factors.

In summary, most of the existing studies on social enterprise performance measurement fail to start from the dual-goal nature of social enterprises, but transfer measurement methods originating from commercial enterprises to public and non-profit contexts, with the following problems: (1) they do not well reflect the fundamental attributes and existence values of social enterprises. (2) Measurement tools are too complex or indicator data are difficult to obtain and not very operable. (3) Measurement is mostly process-, goal-, or output-oriented, with insufficient research from the outcome-oriented perspective. Therefore, constructing a social enterprise performance measurement system based on a dual-goal coordination mechanism can solve the existing problems.

2 Theory and Models

2.1 Performance Assessment Framework

Measurement perspective. Performance measurement is a complex issue involving different subjects of interest and expectations (Bagnoli and Megali 2011)^[7]. Based on measurement tools such as SROI and BSC, this study considers social enterprise

performance measurement from four perspectives: capability, output, outcome, and impact centered on Dual goal equilibrium.

Measurement framework. The criteria for judging the success of social enterprises (Sharir & Lerner, 2006)^[8] are (1) the extent to which social commitment is achieved, (2) the ability to obtain the resources needed to maintain current operations and ensure the sustainability of programs/services, and (3) the resources available for growth and development. Social enterprises, being “truly double bottom-line” (Godfroid & Labie,2022)^[9], need to help themselves when helping others and focus on economic and social values.

Based on the stakeholder perspective, social enterprises are using business means and social resources to construct an inclusive development system, so that all parties in the system can participate in value co-creation and value sharing, thus achieving self-interest and altruism. To ensure sustainability, the system built by social enterprises as advocates does not sacrifice the interests of any party but considers the reasonable interests of multiple parties. From the perspective of economic value, social enterprises mainly consider the interests of customers, shareholders, and employees. From the perspective of social value, social enterprises mainly consider the interests of beneficiaries, communities, and society.

In addition, according to the life-cycle theory, performance differences exist at different developmental stages. Therefore, developmental stages should be incorporated into the measurement system. Based on the above reasons, a performance evaluation framework for social enterprises is constructed (Figure 1).

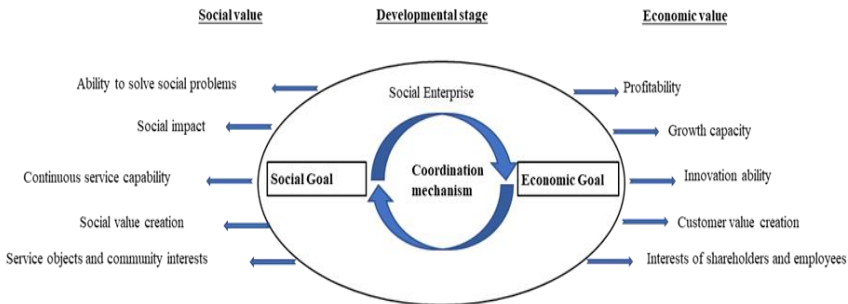


Fig. 1. Measurement framework

2.2 Indicator System

With the evaluation purpose of promoting the sustainable development of social enterprises and based on the goal coordination mechanism, the social enterprise performance measurement system is constructed from four levels: goal coordination, development stage, economic value, and social value (Table 1). According to the life cycle theory, the bricolage ability in the start-up period better reflects the profit potential and the profitability is more appropriately measured by the profitability rate after entering the growth period.

Table 1. Performance evaluation index system of social enterprises

| First-level indicators | The secondary indicators | Secondary index measurement | References | |
|--|---------------------------------------|---|--|---------------------------------------|
| O (Goal coordination) | o1. Dual goals | o11. Clarity of social goals. | Santos et al. (2015) ^[10] ; | |
| | | o12. Degree of correlation between economic and social goals. | | |
| | | o13. Develop social goals to increase sales of products/services. | | |
| | o2. Collaboration will | o21. Employees are aware of social goals. | Liu Zhiyang et al. (2020) ^[11] | |
| | | o22. Employees identify with the company's social goals. | | |
| | | o23. Employee performance appraisal supports the realization of social goals. | | |
| | o3. Information communication | o31. In conflict handling, communication channels are open. | | |
| | S (Development stage) | s. Development stage identification | S = initial stage/development stage/mature stage/decline stage | James(1973) ^[12] |
| | EV (Economic value) | ev1. Profitability or ev1_ Bricolage (Initial stage) | ev1. Profit margin/industry average profit margin. | Salunke et al. (2013) ^[13] |
| ev11. Combine resources by challenging traditional business practices. | | | | |
| ev12. Combine resources in a way that captures value from underutilized resources. | | | | |
| ev2. Growth ability | | ev13. Allocate resources in a way that leads to innovative solutions. | Wang Guohong et al. (2020) ^[14] | |
| | | ev21. Sales revenue growth rate. | | |
| | | ev22. Whether the main work is clear and stable. | | |
| ev3. Innovation ability | | ev23. Clarity and maturity of business model. | Urban et al. (2010) ^[15] | |
| | | ev31. The number of acquired intellectual property rights and patents. | | |
| ev4. Customer value creation | | ev32. New ways of resource integration/operation/delivery etc. | Deng Huilan et al. (2022) ^[16] | |
| | | ev41. Whether the product or service is of high quality at the same price. | | |
| | | ev42. Repeat purchase rate. | | |
| | | ev51. The degree to which promised ROI is achieved | | |
| | | ev52. Salary and benefits/industry average. | | |
| SV (Social value) | sv1. Ability to solve social problems | ev51. The degree to which promised ROI is achieved | Vidal (2005) ^[17] | |
| | | sv11. Solution integrity. | | |
| | | sv12. Solution Maturity. | | |
| | sv2. Social impact | sv13. The feasibility of the solution is verified. | Defourny et al. (2010) ^[18] | |
| | | sv21. Social attention. | | |
| | | sv22. Promote the improvement of relevant legal systems. | | |
| | | sv23. Play a leading or exemplary role. | | |
| | | sv24. To attract more organizations to participate in solving such social problems. | | |
| | | sv25. The number of direct beneficiaries is growing. | | |
| | sv3. Continuous service capability | sv26. The beneficiaries cover a wide range of areas/communities. | Bagnoli et al. (2011) ^[7] | |
| | | sv31. The implemented solutions to social problems are not affected by political events and legislation | | |
| | | sv32. Most of the organization's funding is from the founder, or outside funding is fairly solid. | | |

| | | |
|---|---|---|
| | sv33.The organization has established partnerships with several enterprises. | |
| | sv34.The organization is so strong that social goal-oriented projects can proceed without the support of the founders. | |
| sv4. Social value creation | sv41.The output of social value creation. sv42.The result of social value creation. | Salavou et al. (2020) ^[20] ; Bagnoli et al.(2011) ^[7] |
| sv5. Beneficiaries and community benefits | sv51.Participation of beneficiaries/community representatives. sv52.Satisfaction of beneficiaries/community members. sv53.The capital retention rate of social enterprises for reinvestment of social objectives. sv54.Whether social enterprises have negatively impacted beneficiaries or communities (Item rejected). | Muñoz et al. (2012) ^[21] |

2.3 Weights and Measures

The first-level index weights. AHP is a common method for weight assignments. According to the literature and group discussion, the importance matrix was listed and the software yaahp was used to calculate the first-level indicator weights (wi), and the results are shown in Table 2, and the combination consistency ratio of 0.0000 was met.

Table 2. Importance matrix of first-level indicators

| | O | S | EV | SV | w _i |
|------------------------------|-----|---|-----|-----|----------------|
| O(Goal Coordination) | 1 | 2 | 1/8 | 1/8 | 0.0651 |
| S (Development stage) | 1/2 | 1 | 1/9 | 1/9 | 0.0433 |
| EV (Economic Value) | 8 | 9 | 1 | 1 | 0.4458 |
| SV (Social Value) | 8 | 9 | 1 | 1 | 0.4458 |

Secondary indicator weights. Except for the veto indicators (sv54), because of the large number of secondary indicators and the small difference in importance coefficients between them, the arithmetic means method was used to calculate the weights based on the principle of simplicity and practicality.

Performance measurement. The comprehensive performance of social enterprises is evaluated based on the comprehensive evaluation method. Social enterprise performance is a function of goal coordination, development stage, economic value, and social value, and the measurement formula after unifying the scale of each indicator is as follows.

$$p=f(O,S,EV,SV)=0.0651O+0.0433S+0.4458EV+0.4458SV$$

The formulae for calculating the performance of social enterprises after the start-up period and the growth period are shown in equations (1) and (2), respectively.

$$P=0.0651\frac{\sum o_{ij}}{7} + 0.0433s + 0.4458\frac{\sum ev_{ij}}{12} + 0.4458\frac{\sum sv_{ij}}{18} \tag{1}$$

$$P=0.0651\frac{\sum o_{ij}}{7} + 0.0433s + 0.4458\frac{ev1+\sum ev_{ij}}{10} +0.4458\frac{\sum sv_{ij}}{18} \tag{2}$$

3 Method

3.1 Cases Selection

A case study method was used to test the index system. Ten of the first 12 social enterprises certified by the Chengdu government in Sichuan province were evaluated (the remaining two experienced mission drift and were withdrawn from social enterprise status). To avoid the uncontrollable influence of the evaluation results on the case enterprises, the real names are concealed and represented by codes(Table 3), which does not affect the validity of the study in any way.

Table 3. Sample profile

| Enter-prise | Industry | Social Mission | Main Beneficiaries | Established |
|-------------|--|---|--|-------------|
| a | Dining | Addressing the employment of people with disabilities | Deaf and Dumb | 2017 |
| b | Agricultural supplies | Protect the soil and develop sustainable agriculture | Farmers and related communities in the business area | 2000 |
| c | Social Services | Improve the quality and efficiency of lifelong education services for residents | Community Residents Served | 2015 |
| d | Handicrafts, clothing, travel, etc. | Promoting female home-based employment | Women trained in the project | 2006 |
| e | Education Consulting | Healthy Food and Nutrition | Subjects trained in the project | 2013 |
| f | Aging/High-Tech | Age-appropriate retrofit | Product Users | 2011 |
| g | E-commerce, science and technology promotion, and application services | Boosting farmers' income | Participating farmers | 2017 |
| h | Social Services | Promoting female employment | Entrepreneurs involved in project incubation | 2015 |
| i | Environmental Technology | Protect the environment and enhance resource reuse | Mass | 2017 |
| j | Education | Providing Inclusive Early Learning | Clients | 2018 |

3.2 Data Collection

In terms of data acquisition for the evaluation cases, data were obtained through five main channels:(1) Field visits. The research team conducted the first field visit to the case companies in July 2019 and conducted about 2 hours of in-depth interviews with the founders or top executives of the case companies, which were recorded and photographed for archiving. (2) Internal corporate materials, such as corporate planning materials, project execution reports, and promotional materials. (3) Telephone and WeChat communication. Continuously track the development of the organization through phone calls, WeChat, and the latest progress released by the founder's circle of

friends. (4) "Chengdu Social Enterprise White Paper" (2018-2022). High accuracy and credibility of information.

4 Evaluation

The full score of the evaluation index system is 5 points. The case evaluation results are shown in Table 4. Except for case c, the performance scores of the sample social enterprises are above 3, with the highest score of 4.23. SPSS27.0 is used for systematic cluster analysis, and the cluster pedigree is shown in Figure 2. According to the clustering results, the performance evaluation rating of 7 social enterprises in the sample is "good", and 3 are "medium", which is in line with the actual situation. The evaluation results are more consistent with the actual situation, reflecting the rationality of the index system. The indicator system we have built can be used to compare the performance of social enterprises in different industries. At the same time, it can also show the synergy of economic and social goals.

Table 4. Performance evaluation results

| Case | Performance | O | S | SV | EV | p |
|------|-------------|------|---|------|------|------|
| a | | 4.43 | 2 | 3.52 | 3.97 | 3.76 |
| b | | 4.43 | 2 | 3.92 | 4.23 | 4.05 |
| c | | 4.14 | 2 | 2.08 | 3.40 | 2.84 |
| d | | 4.29 | 2 | 2.60 | 3.50 | 3.13 |
| e | | 4.14 | 2 | 2.67 | 3.73 | 3.25 |
| f | | 4.29 | 2 | 3.38 | 4.23 | 3.80 |
| g | | 4.14 | 2 | 3.60 | 3.70 | 3.66 |
| h | | 4.29 | 2 | 3.42 | 3.80 | 3.63 |
| i | | 4.57 | 2 | 3.65 | 4.40 | 4.01 |
| j | | 4.71 | 2 | 4.10 | 4.40 | 4.23 |

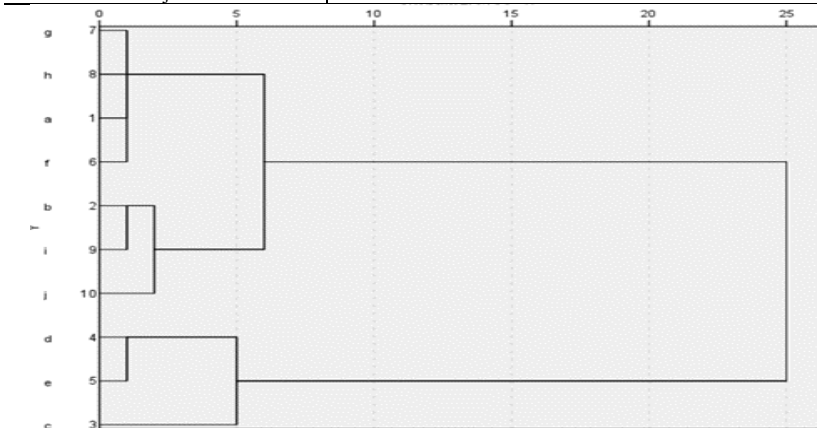


Fig. 2. Spectrum diagram

5 Conclusion

Based on the dual-goal coordination mechanism, the social enterprise performance measurement system is built from four levels: goal coordination, development stage, economic value, and social value. It may contribute to (1) Enriching the social enterprise performance evaluation ideas from the perspective of Dual equilibrium mechanism, and providing a feasible reference for promoting the sustainable development of social enterprises. (2) Incorporating the "development stage" into the performance evaluation system and emphasizing the characteristics and contributions. (3) The introduction of "negative indicators" and the integration of "underlying logic" into the evaluation process may help to reduce moral hazard.

There are some shortcomings in this study. First, the sample size is small due to the identification of social enterprises, but this does not affect the scientific and applicability of the measurement reflection. Secondly, the development stages are not adequately presented in the evaluation system, and only the differences in profitability are considered. Future research directions(Hota et al,2023; Paul-Brian,203)^[22-23]: (1) Reflecting the differences in performance measurement of social enterprises at different stages and mission types. (2) Improving the measurement of social value output and impact effects. In conclusion, although there is no "one-size-fits-all" method to measure performance, every idea is an improvement of the existing measurement system, and an evaluation system based on a dual-goal coordination mechanism is one of the ways worth exploring in depth.

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