

Technology Contribution Coefficient and Social Return on Investment: Evaluating Technology Assistance in The CSR Program of PT XYZ Banten

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ABSTRACT

Background: Corporate Social Responsibility (CSR) programs are often evaluated through their social outcomes alone, while the technological capability of the beneficiaries that shapes those outcomes receives little attention.

Purpose: This study was conducted with the aim of assessing the contribution of technical assistance and the social impact of PT XYZ Banten's CSR program.

Design/methodology/approach: Data were collected through observations, in-depth interviews, and questionnaires from 20 respondents selected by purposive sampling. The method used is the technometric method to assess the Technology Contribution Coefficient (TCC) and the Social Return On Investment (SROI) method to evaluate the social impact of the program.

Findings/result: The results show that the contribution of technology in Zala Priority is considered "sufficient" to contribute to business processes with the priority of developing its technology components, namely orgaware, humanware, technoware, and inforware. The CSR program is considered to be running well by providing two impacts on PT XYZ Banten and seven impacts on the community.

Conclusion: The CSR program implemented by PT XYZ Banten related to community empowerment of convection businesses is running well so it needs to be maintained and developed.

Originality/value (State of the art): PT XYZ Banten was awarded for its consistency in training, fostering, and empowering the community. A social impact analysis related to PT XYZ Banten's assistance with technological facilities had never been done before.

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INTRODUCTION

The business world has an important role in supporting sustainable development in Indonesia. The development carried out by various companies involves various aspects of life, ranging from political, economic, and socio-cultural, to security aspects. This shows how complex the problems that arise due to the company's business activities (Labetubun et al. 2022). Business implementation based on ethics can realize sustainable development which includes three dimensions, namely the economic dimension, social dimension, and environmental dimension (Labetubun et al. 2022), because, after all, a company cannot be separated from the role of society and the surrounding environment in carrying out its business processes.

The demand to act ethically is poured by the company in the form of a commitment to contribute to the company's social and environmental responsibilities, hereinafter referred to as Corporate Social Responsibility (CSR) (Sultoni, 2020). CSR activities are efforts made by companies to minimize negative impacts and maximize positive impacts on the business activities they carry out on all stakeholders (Anggusti et al. 2021). The obligation to carry out CSR activities in Indonesia is outlined by the government through

policies stipulated in the legislation, namely Law Number 40 of 2007 concerning Limited Liability Companies. In addition, regulations governing CSR in Indonesia are also regulated in Law Number 25 of 2007 concerning Capital Investment, Law Number 19 of 2003 concerning State-Owned Enterprises, Law Number 32 of 2009 concerning Environmental Management, Law Number 4 of 2009 concerning Mineral and Coal Mining, and Government Regulation of the Republic of Indonesia Number 47 of 2012 concerning Social and Environmental Responsibility of Limited Liability Companies.

As a company that is aware and concerned about the importance of maintaining a balance between business, social society, and the environment, PT XYZ Banten as a State-Owned Enterprise (BUMN) that has a strategic role in the benefit of all Indonesian people has carried out its obligations and responsibilities in carrying out business ethics. This is manifested in 64 CSR programs that have been implemented throughout 2020-2021. The CSR program implemented by PT XYZ Banten is designed based on problems that are present in the community and also the needs that need to be met in advancing the social, environmental, and economic life of the community around the company's area. One of PT XYZ Banten's CSR programs that are considered superior is called "Community Empowerment of Convection Businesses"

which partners with one of the convection business actors in Sukalila Village, Banten, namely Zala Priority. This program is implemented in an effort to build the regional economy by encouraging micro-business activities in the local area.

Micro, Small, and Medium Enterprises (MSMEs) have been considered the most important pillar of the Indonesian economy. Based on data from the Ministry of Cooperatives and SMEs (Coordinating Ministry for Economic Affairs of the Republic of Indonesia, 2021), MSMEs contribute to GDP by 61.07%, absorb 97% of the total workforce, and can raise up to 60.4% of total investment. Based on Marlinah (2020), the problems often expressed by MSME actors are limited business capital, difficulty in creating an attractive brand image, lack of creative and innovative ideas in developing a business, difficulty in getting new markets or customers, and not being able to market products digitally. Moreover, the presence of a pandemic worsens the situation which makes the condition of MSMEs in Indonesia even more vulnerable. These problems are also felt by Zala Priority.

In an effort to encourage National Economic Recovery (PEN), PT XYZ Banten through its program has provided business assistance, providing capital in the form of sewing machines, obras machines, cutting machines, steam irons, over deck machines, chain machines, and buttonhole machines, as well as renovating production sites to Zala Priority since 2020. The assistance provided by PT XYZ Banten certainly affects Zala Priority's technological sophistication in its business processes. Technological sophistication in a company can optimize its productivity of the company so that it can increase the social impact of the program. Technological sophistication can be seen from the contribution of each technology component consisting of technoware (facilities), humanware (capabilities), inforware (facts), and orgaware (framework) (UNESCAP, 1989), hereinafter referred to as T, H, I, O. This can be measured using the technometric method which is able to assess the contribution coefficient of technology components or Technology Contribution Coefficient (TCC) which describes the technological status of a business (Yanthi 2018).

The technical assistance provided by PT XYZ Banten to Zala Priority through the Convection Business Community Empowerment program is expected to create value for its stakeholders. This value can be assessed qualitatively and quantitatively using the Social Return on Investment (SROI) method. SROI is a measurement framework to assist companies in understanding and managing the social, environmental, and economic value they generate.

Previous technometric studies have mostly assessed the technological status of firms, such as textile MSMEs (Antesty et al. 2020) and a production department (Cahyono & Wahyuni 2015), without linking technological capability to the social value of an intervention. Meanwhile, SROI studies of CSR programs (Veronica 2020; Novia et al. 2021; Santoso et al. 2020) quantify social value but, among the studies reviewed here, rarely examine the technological capability of the beneficiary that underlies that value. As a result, it remains unclear which technology components CSR assistance should strengthen and how these components

relate to the social value produced. This study addresses this gap by integrating both approaches in a single case of CSR technology assistance.

The two methods are complementary. Technometric analysis, with AHP-based weights, describes the capability of the beneficiary and indicates which technology components should be prioritized for development (input and process). SROI estimates the social value generated by the assistance (outcome) relative to the investment. Used together, TCC shows where assistance and future development should be directed, and SROI shows whether the resulting value justifies the investment.

This study therefore addresses four research questions: (1) What is the technological capability of Zala Priority, expressed as TCC, after receiving CSR assistance? (2) Which technology components should be prioritized for development? (3) What social impacts does the program generate, and what is its SROI ratio? (4) How do the TCC and SROI results together inform the design of future CSR technology assistance? The study is evaluative and descriptive, so it uses research questions rather than statistical hypotheses. The results are expected to describe the technological capability of the MSME, provide a measurable estimate of social value, and offer managerial implications for PT XYZ Banten in designing the next CSR program period and for Zala Priority in strategizing its technology development.

METHODS

The research was conducted in Sukalila Village RT 06 RW 03, Kepuren Village, Walantaka Subdistrict, Serang City, Banten Province. Data were collected from November 2021 to June 2022. There were 20 respondents in the study consisting of three employees of the TJSL Division of PT XYZ Banten, the owner and 14 employees of Zala Priority, and the local government consisting of the head of RW 03 and the Head of Kepuren Village. The respondents were selected using a purposive sampling technique. Purposive sampling strategically selects respondents with specialized expertise in a particular field or relevant life experience who can provide valuable information.

Primary data was obtained through observations and in-depth interviews with the help of a questionnaire to assess the technology component referring to the instrument from UNESCAP (1989) which was modified according to the object of research. Meanwhile, the instrument used to analyze social impacts refers to an instrument from a CSR consulting company, Senyum Untuk Negeri. Secondary data used in this study were obtained through report documents and evaluation results of PT XYZ Banten's CSR program, Zala Priority's financial records, and various literature from the internet related to the research.

The results of the data obtained were then analyzed using the technometric method to assess the technological components used and SROI to measure the social impact of the program. Furthermore, the stages of the technometric method used in this research are as follows:

Technology component observation

Identifying the technology components (T, H, I, O) used in Zala Priority's business processes. The following is the general scope of each technology component: Technoware includes the physical facilities, equipment, machinery, and infrastructure available; Humanware includes technoware users in business processes; Inforware includes the availability of information that can be utilized by employees in carrying out business processes; Orgaware includes the framework available in the business process.

Sophistication level estimation

Determine the upper limit and lower limit values based on the level of sophistication of the technology components with a qualitative scoring test of 1-9 where 1 is for a simple level of complexity and 9 is for an integrated level of complexity. Each component is then assessed based on the physical facilities owned, the higher the score, the more complex the equipment and systems owned. Criteria for scoring the level of sophistication of technological components in Table 1.

State of the Art (SOTA) assessment

The SOTA assessment of technology components begins with determining the assessment indicators. Each indicator is given a score of 0 for the smallest specification and 10 for the highest specification. According to UNESCAP (1988), the general criteria for evaluating state-of-the-art technoware include assessments of operational complexity and physical attributes, such as equipment, relative to current conditions or the company's standard parameters. Criteria for assessing humanware emphasize creative potential, achievement orientation, and affiliation orientation, each measured against the company's standard parameters. For the inforware component, relevant criteria include information storage methods, information-updating processes, and the accessibility and use of information through information systems. Criteria for the orgaware component address the organization's capacity to motivate employees, models of autonomy in supervision and management, the ability to establish cooperation with stakeholders, and policies related to research and development. The SOTA assessment results for each technology component can be calculated to

determine the level of technological advancement using the following equation:

SOTA *technoware* (ST_i)

$$ST_i = 1/10 [(\sum_k t_{ik})/kt]$$

SOTA *humanware* (SH_j)

$$SH_j = 1/10 [(\sum_i h_{ij})/jh]$$

SOTA *inforware* (SI)

$$SI = 1/10 [(\sum_m f_{im})/mf]$$

SOTA *orgaware* (SO)

$$SO = 1/10 [(\sum_n o_{in})/no]$$

Notes: tik (Score for the "k" criterion for technoware item i); hji (Score for the "i" criterion for humanware category j); fim (Score for the "m" criterion for inforware); on (Score for the "n" criterion for orgaware); kt, jh, mf, no (Number of criteria for each component)

Dividing each equation by 10 normalizes the ratings to a range between 0 and 1, ensuring all criteria receive equal weight.

Calculation of the contribution of technology components

Component contributions can be calculated based on the established sophistication thresholds and SOTA ratings using the following equation:

$$Ti = 1/9 [L_{Ti} + S_{Ti} (U_{Ti} - L_{Ti})]$$

$$Hj = 1/9 [L_{Hj} + S_{Hj} (U_{Hj} - L_{Hj})]$$

$$I = 1/9 [L_I + S_I (U_I - L_I)]$$

$$O = 1/9 [L_O + S_O (U_O - L_O)]$$

Notes: Ti (Contribution of each technoware item i); Hj (Contribution of each humanware item j); I (Contribution of inforware); O (Contribution of orgaware); U (Upper bound); L (Lower bound).

Table 1. Criteria for scoring the level of sophistication of technological components

Level of sophistication of technological components				
Technoware	Humanware	Inforware	Orgaware	Score
Manual tools	Able to use	Familiarizing oneself with facts	Framework	1 2 3
Mechanical equipment	Able to install	Describing facts	Binding framework	2 3 4
General-purpose equipment	Able to repair	Determining facts	Adventurous framework	3 4 5
Special-purpose equipment	Able to reproduce	Utilizing facts	Protective framework	4 5 6
Automated equipment	Able to adapt	Understanding facts	Stabilization framework	5 6 7
Computerized equipment	Able to improve skills	Generalizing facts	Search framework	6 7 8
Integrated equipment	Able to innovate	Evaluating facts	Leading framework	7 8 9

Source: UNESCAP (1989)

Calculation of the intensity value of the contribution of technology components

Calculations can be determined through the level of importance of technology components using the Analytical Hierarchy Process (AHP) method. The calculations were performed using Excel and Super Decision software. The importance weighting scale based on UNESCAP (1989) is shown in Table 2.

Calculation of the Technology Contribution Coefficient (TCC)

The TCC value can be calculated using the following equation:

$$TCC = T\beta_t \times H\beta_h \times I\beta_i \times O\beta_o$$

Notes: TCC (Technology Contribution Coefficient); T (Contribution value of the technoware component); β_t (Contribution intensity value of the technoware component); H (Contribution value of the humanware component); β_h (Contribution intensity value of the humanware component); I (Contribution value of the inforware component); β_i (Intense contribution value of the inforware component); O (Contribution value of the orgaware component); β_o (Intense contribution value of the orgaware component).

Furthermore, the analysis of the data and information collected during the implementation of this research is measured using the Social Return On Investment (SROI) analysis method to measure the social return value obtained by the company from the investment it made in the implementation of the CSR program of PT XYZ Banten and assess the valuation of the impact obtained by the relevant program stakeholders. The stages of the value measurement process in Social Return On Investment analysis based on Purwohedi (2016) consist of six stages of analysis as shown in Figure 1. This research was conducted only up to stage five, namely the calculation of the SROI ratio.

According to Purwohedi (2016), an activity or program is considered good if the resulting SROI value is positive or more than one. Conversely, if the resulting SROI value is negative or less than one, then the activities or programs implemented do not produce more impact than the investment spent. Thus, the greater the SROI value, the better the activity or program is implemented.

RESULT

Overview of PT XYZ Banten's CSR Program

PT XYZ (Unit Induk Distribusi) Banten is a business unit located in the Java Regional area. There are 64 programs that have been implemented with the scope of the program, which is oriented towards the interests of the smooth running of PLN activities and establishing good relations with important PLN stakeholders, as well as community assistance programs consisting of assistance for victims of natural disasters and non-natural disasters, education, training, or socialization assistance, health improvement assistance, assistance for the development of infrastructure and/or public facilities, assistance for worship facilities and religious activities, nature conservation assistance, and community social assistance in the context of poverty alleviation.

One of the flagship programs implemented by PT XYZ Banten in the scope of community social assistance is the Convection Business Community Empowerment Program which is implemented in Kampung Sukalila RT 06 RW 03, Kepuren Village, Walantaka District, Serang City, Banten with the beneficiaries being the Zala Priority business group. The program was designed based on the needs and problems found in the local community in an effort to improve the regional economy by supporting Micro, Small and Medium Enterprises (MSMEs) in the Kepuren Village area.

Table 2. Importance Weighting Scale

Intensity of importance	Definitions	Descriptions
1	β has the same importance (is equally important)	Two activities contribute equally to a goal
3	One β is more important than the other β (somewhat important)	One activity is more important than another, but that advantage is not very convincing or is insignificant
5	β is of essential importance (quite important)	There is strong evidence and logical criteria indicating that one activity is indeed more important than the other
7	The importance of β is emphasized (very important)	One activity is more important than the others if this can be convincingly demonstrated
9	β is of extreme importance (extremely important)	One activity clearly has the highest priority
2, 4, 6, 8	The value of β falls between the two levels of importance (a middle value between two adjacent values)	A consensus is needed to determine its level of importance

Zala Priority is a fashion business that has several business units, namely Bayu Tailor, Zacky Collection, Laila Butiq, and Sukalila Konveksi. Zala Priority accepts various types of orders ranging from school uniforms, sports uniforms, official uniforms, vests, jackets, gamis, to party clothes. Zala Priority is also willing to accept all types of model and material requests from customers, whether small-scale personal or large-scale.

After receiving assistance, Mrs. Sutihat opened job vacancies for local people who are experts in making clothes. On the other hand, Mrs. Sutihat also opened a free sewing course which is conducted once a week for people who are interested. The number of Zala Priority employees in 2019 was 6 people, in 2020 after receiving CSR program assistance the number of employees increased to 10 people, in 2021 there were 12, and in June 2022 the number of employees had reached 24 people.

In addition to providing assistance in the form of equipment and building renovations as a production site, PT XYZ Banten also provides direction related to marketing and assistance to monitor the development of Zala Priority. With the implementation of the convection business community empowerment program by PT XYZ Banten, Zala Priority can increase its production capacity to meet demand from various regions, ranging from within the city, outside the city, outside the island, to abroad, namely the Netherlands in the form of batik clothes. The clothing production process at Zala Priority includes the process of determining the model, measurement, pattern making, fabric cutting, sewing, and finishing & packaging. The ordering process can be done online or directly by visiting the production site or the Zacky Collection outlet at the Kalodran market. Online orders can be made via WhatsApp, the convection website which can be accessed via the link www.sukalilaserangkonneksi.com, the owner's Facebook named Teh Tihat, or Instagram named Zacky Collection.

Effectiveness of Technology Assistance

Determining the effectiveness of technical assistance at Zala Priority through six stages of work starting from identifying technology components to getting the TCC value. The following is the calculation of the TCC value at Zala Priority.

Identification of technology components

The technoware component, namely the equipment or machinery used for the Zala Priority production process, is quite diverse. In determining the model, stationery and mannequins are used. In the pattern-making process, material chalk, needles, markers, rulers, and meters are needed. In the process of cutting materials, material scissors

and cutting machines are used. The sewing process requires a sewing machine, obras machine, buttonhole machine, KAM/overdeck machine, and chain machine. The finishing & packaging process requires thread scissors, needles and steam irons.

The humanware component consists of owners and employees. Each employee has their own duties, namely as a cutter, sewer, obrasman, buttonhole worker, finishing section and polisher. The inforware component will be evaluated at the company level as a whole. This includes the documents owned by the company and the information dissemination network within the company. The orgaware component is also evaluated at the company-wide level. Some of them are related to company profits, company direction, division of labor, legality, company policies, fulfillment of commitments, and related to research and development.

Sofistication level

The determination of the sophistication limit of the technological components at Zala Priority is based on the results of observations and direct interviews with the owner using general criteria from UNESCAP (1989). Table 3 below shows the results of the assessment of the limits of sophistication of technological components at Zala Priority.

State of the Art (SOTA) Assessment

The criteria used to measure the SOTA value of the technology component were sourced from the literature and discussions with machine experts for convection. The SOTA assessment uses a 1-10 scoring method for the T, H, I, O components. The calculation of the SOTA value for technoware is grouped based on the production process, namely the equipment used at the modeling, measurement, pattern making, material cutting, sewing, and finishing & packaging stages. Humanware is assessed based on the level of position, namely owners and employees, while inforware and orgaware are given an assessment based on the level of the company as a whole.

In the technoware component, there are still many conventional methods such as making designs that still use pencils and paper, various records have not used devices that can be integrated by each employee, the level of work errors is still relatively high, the quality of production is still relatively standard, and the equipment is not yet computerized or digital. Digitalization strategies can encourage businesses to grow and be competitive in the industrial revolution era (Handayani, 2023). Alfarris and Hidayat (2023) also found that using technological machines can increase the competitiveness of convection businesses.

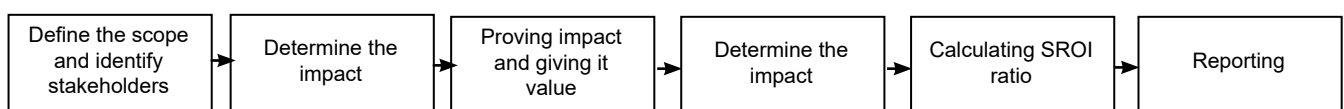


Figure 1. Social Return on Investment analysis stages (Purwohedi, 2016)

Table 3. Zala Priority technology component sophistication cutoff value

Technology components		Level of sophistication		Description
		Min	Max	
Technoware				
1	Model determination	1	3	Model determination still uses manual equipment such as pencils, paper, and mannequins
2	Measurement	1	3	Measurements still use manual equipment such as paper, patterns, and material meters
3	Pattern Making	1	3	Pattern-making still uses manual equipment such as pattern paper, material chalk, scissors, markers, rulers, and material meters
4	Material cutting	1	6	Cutting materials using 2 tools, namely material scissors which are included in manual equipment and material cutting machines which are included in specialized equipment
5	Tailoring	3	6	Sewing uses general-purpose equipment such as sewing machines and special-purpose equipment such as obras, buttonhole machines, KAM machines, and chain machines
6	Finishing & packaging	1	5	Finishing & packaging uses manual equipment such as thread scissors and needles, and equipment for general use, namely steam irons using gas
Humanware				
1	Owner	1	3	Zala Priority employees can use and install parts of the facilities provided according to their functions well. Some employees are able to fix minor damages, but are unable to fix major damages to the machines so they have to call in outside technicians
2	Employees	1	4	

The owner's SOTA value on humanware is 0.70 because the owner who also acts as a designer lacks an innovative nature so the design made is the result of creativity from various reference sources from the internet. The SOTA value of workers in humanware is 0.77 because employee creativity and innovation are still classified as moderate, besides that not all employees can take good care of production facilities, and awareness of cooperation is not high. Previous research (Dewi et al. 2017) found that human resources affect the resolution of obstacles and the success of innovation.

The SOTA inforware value is 0.58. This is because the standardization of business processes is uneven, the information span does not cover all information in the industry but only some of it is obtained through the association of convection business groups in the Serang area, and because the storage and retrieval of information is still done manually using notebooks that are not neatly arranged. In practice, information technology has enhanced delivery services, communication, and sales of goods and services, leading to improved organizational performance (Iswanto et al., 2023).

The SOTA orgaware value of 0.86 is because there is a division of labor according to ability, a profit margin with an ROI of 35 percent where this value is above the average value of the industrial sector (30%) (Arsita, 2021), a long-term company development plan, namely the desire to open a branch, every unemployed resident has a machine to help the production process in their respective homes if there are large orders, and the realization of a convection village. In addition, the legality of the company that has been registered as a CV, the desire to continue developing production facilities and infrastructure such as wanting to buy a border machine in the near future, and the commitment to stakeholders that is always fulfilled also contribute to the high value of orgaware. The company also has plans related to policies to provide adequate facilities and infrastructure and tries to keep up with trends in the industry. Thus, the orgaware component has

the highest SOTA value at Zala Priority. Similar to the results of Sulaksana's research (2023) which shows the orgaware component as the component with the greatest contribution because the company is able to achieve profits and use funds from revenue for research and development activities.

Technology Component Contribution

The contribution value of the technology component is obtained using a combination of the results of the calculation of the sophistication limit value and the SOTA value of T, H, I, O. The results of these calculations show that the contribution value of the technology component at Zala Priority is $T < H < O < I$. The calculation of the contribution value of the technology component shows that inforware has the highest contribution value with a value of 0.593 followed by orgaware worth 0.414, humanware worth 0.363, and in the last position, there is technoware with a value of 0.357. In calculating the total contribution of each component, weighting is required (UNESCAP, 1989). The weight on technoware is divided equally due to limited information related to the proportion of capital used for each process. The weight on humanware uses the proportion of human resources at each position level.

Technology Component Contribution Intensity

The intensity value of the contribution to the technology component is calculated using the Analytical Hierarchy Process (AHP) method with the help of Excel and Super Decision software. The order of values in the calculation of contribution intensity can also be used in prioritizing the development of Zala Priority technology components. Sub-criteria are determined based on the Key Performance Indicator (KPI) of Zala Priority which consists of resource development, production volume target, and sales level. The weighting results show that reliability should be the basis of technology component development with a value of 0.417.

The urgency of need is ranked 2nd with a weight of 0.381 and followed by usability with a weight of 0.202.

Furthermore, the results of weighting the sub-criteria against the criteria show that resource development is the sub-criterion that has the highest weight on both the usability criteria with a value of 0.613 and the reliability criteria with a value of 0.386, while the sales level has the highest weight on the urgency of need criteria with a value of 0.383. Thus, resource development is an important factor to consider in developing technology components.

Based on processed data that accommodates the consideration of all criteria and sub-criteria in Table 2, a priority order is generated in developing technology components according to the intensity value of the contribution. The 1st priority is the orgaware component worth 0.342, the 2nd priority is the humanware component worth 0.310, the 3rd priority is the technoware component with a value of 0.192 and the last priority is inforware with a value of 0.156 (Table 4). This shows that the contribution of technology components that need to be prioritized to be improved are orgaware and humanware components where the highest value should get more attention for development, then followed by the development of technoware and inforware components. The calculation results in Table 4 also show that the order of the intensity value of each technology component is as follows $\beta_o > \beta_h > \beta_t > \beta_i$. It shows that orgaware component has the highest contribution intensity and inforware has the lowest contribution intensity.

Technology Contribution Coefficient (TCC) value

The final result of the calculation in this study showed a TCC value of 0.41. Table 5 shows the results of the TCC calculation based on the contribution value of the technology component and the intensity value of the contribution of the technology component. Based on Nazaruddin (2008), the value in the interval $0.3 < TCC \leq 0.5$ is classified as "sufficient". Thus, it can be interpreted that the status of the technology level at Zala Priority is included in the "sufficient" category to contribute to business processes. This shows that Zala Priority must continue to develop its technological components to be better in order to compete with competitors

in the industry and win the market.

Compared to research (Cahyono & Wahyuni, 2015), the TCC value of Zala Priority is still below the TCC value of PT XYZ of 0.623 which is at the semi-modern level. However, Zala Priority's TCC value is still in the average position because, in Antesty's research (2020), the TCC value of BBB textile MSMEs is 0.40, YLC is 0.29, BDJ is 0.46, and IWC is 0.44. Technology development is required to enhance the quantity and quality of manufactured goods (Hoiriyah, 2019).

Social Impact of CSR Programs

The determination of the social impact provided by the CSR program and the value of the ratio of social impact to the investment spent is calculated using the SROI method. The following is a calculation based on the SROI stages.

1. Define the scope and identify stakeholders

The following are the scope and stakeholders included in the SROI analysis in this study:

a. Scope

- Activity: the program analyzed is called "Community Empowerment of Convection Businesses" which is implemented in Sukalila Village RT 06 RW 03, Kepuren Village, Walantaka District, Serang City, Banten, with a partner, Zala Priority.
- Financing: The Convection Business Community Empowerment Program is a CSR program funded by PT XYZ Banten in the amount of Rp100,000,000.
- Purpose of the activity: to improve the economy of the local community through Zala Priority's convection business, develop the production capacity and market of the convection business.
- Purpose of the analysis: evaluating the impact of CSR program activities implemented by PT XYZ Banten on stakeholders.
- Time period: the program evaluated in this study is the activities carried out since 2020 with the duration of the studied time of 1 year, namely until 2021.
- Forecast or evaluation: SROI analysis in this study uses evaluative SROI analysis, which evaluates programs that have been implemented.

Table 4. Prioritization of technology component development

Technology components	Contribution intensity value	Ranking
Technoware	0.192	3
Humanware	0.310	2
Inforware	0.156	4
Orgaware	0.342	1

Table 5. Technology Contribution Coefficient Value

Technology components	Total contribution	Contribution intensity value	TCC
Technoware	0.36	0.19	0,41
Humanware	0.36	0.31	
Inforware	0.59	0.16	
Orgaware	0.41	0.34	

b. Key Stakeholder

The identification of stakeholders was traced based on their involvement and role in the Convection Business Community Empowerment Program implemented by PT XYZ Banten. Broadly speaking, stakeholders in the research consist of companies, namely PT XYZ Banten, and non-companies, namely the general public consisting of direct beneficiary MSMEs (Zala Priority) and indirect beneficiaries (Kepuren Village and communities other than Zala Priority employees). Previous research indicates that local actors play a crucial role in the success of CSR programs (Adawiyah & Nugrahaini, 2022). In addition, community participation in planning and implementation is crucial to increasing CSR programs' effectiveness (Nasfi et al., 2024).

2. Mapping impact

The chain of change transforms the identified problems of Zala Priority into activities or inputs through the CSR program. The activities produce outputs that have an impact on stakeholders.

a. Identifying inputs and assigning input values

The inputs and input values described in Table 6 are costs incurred by PT XYZ Banten as an investment for business capital in Zala Priority provided in 2020. The inputs and values of each input are described in Table 6 with a total value of IDR100,000,000.

b. Output Clarification

Outputs show the changes seen or felt by the beneficiaries of the program. The analysis that has been carried out shows that the outputs of the program are as follows:

- Increased production from 9,563 pieces to 11,066 pieces of clothing due to increased production capacity
- Addition of 16 units of production machines so that the equipment owned by Zala Priority is more adequate
- Increase in the number of customers by 20 customers driven by the results of mentoring that directs Zala Priority to actively market products online

- Increase in profit from 7.5 million rupiahs to 27.5 million rupiah
- Additional workforce of 6 people
- All employees (12 people) received lunch
- There was 1 online news related to the CSR program
- There were 21 people from Kel. Kepuren who received basic sewing training
- Adequate production space with the addition of 1 floor.

c. Benefit Determination

The benefits resulting from a program are the impacts felt by stakeholders in the short and long term.

3. Proving impact and giving it value

Each stakeholder that has been identified feels the impact of the implementation of the program starting from the direct beneficiaries, namely Zala Priority, as well as indirect beneficiaries, namely the government and the community in Kepuren Village. Another stakeholder who feels the impact of the program is PT XYZ Banten itself. At this stage, it is necessary to determine the financial proxy for the indicators of each impact felt by each stakeholder.

After determining the indicators and financial proxies, the next step is to determine the value of each impact. Table 7 below explains the calculation of the financial proxy for each impact. Based on the explanation in the table, the total value of each impact that has been determined based on financial proxies is IDR455.060.000.

4. Determining impact

After obtaining the total value of the impact provided by a program, an evaluation of the impact is needed to avoid excessive values in accordance with the SROI principle of do not overclaim. Table 8 below shows the value of the impact determination by taking into account deadweight, attribution, displacement, and drop-off as a deduction from the entire impact value generated.

Table 6. Input values

Description	Total	Value (IDR)	Total (IDR)
High speed sewing machine	10 pieces	4,000,000	40,000,000
Obrasion machine	1 piece	4,500,000	4,500,000
KM 6in/8in cutting machine	1 piece	3,000,000	3,000,000
15 liter steam iron	1 piece	3,500,000	3,500,000
Overdeck /camput machine	1 piece	9,000,000	9,000,000
MH needle machine 2 chain	1 piece	6,000,000	6,000,000
Buttonhole machine	1 piece	14,000,000	14,000,000
Building renovation	1 lot	20,000,000	20,000,000
	Value Total		100,000,000

Table 7. Impact assessment

Impact	Event calculation	Value (IDR)
1. Zala Priority: 12 person		
Improved quality of convection products	2020 = IDR500,000/month 2021 = IDR100,000/month Reduction = IDR400,000 /month	4,800,000
Increased customer network	Wifi = IDR555,000/month	6,660,000
Increased profitability of Zala Priority	2020 = IDR7,500,000 /month 2021 = IDR27,500,000 /month Improvement = IDR20,000,000 /month	240,000,000
Labor absorption	2020 = 6 employees 2021 = 12 employees Addition = 6 employees Average wage per employee = IDR1,500,000/month	108,000,000
Employee consumption allowance	2021 = 3 million rupiah/month for food costs for business group members	36,000,000
2. Kepuren Village		
Reduce unemployment in the Kelurahan	2020 = 6 people compared to the total workforce of Kepuren urban village 2021 = 12 people compared to the total workforce of Kelurahan Kepuren, Increase = 6 people Social assistance = IDR300,000/month/KK	21,600,000
3. Kepuren Village Community		
Improved sewing skills of training beneficiaries	The number of participants who participated in training during 2021 was 21 people The market cost for a basic sewing course is around IDR1,500,000	31,500,000
4. PT XYZ Banten		
Improved company reputation in the field of CSR	Multiplying 1 news report by the cost of the journalist's coverage fee of IDR 500,000/coverage	500,000
Increased electricity revenue to PT PLN every month	2020 = IDR500,000/month 2021 = IDR1,000,000 /month Increase = IDR500,000 /month	6,000,000
Total impact assessment		455,060,000

Table 8. Impact determination

Impact	2021 (IDR)	Dead-weight (%)	Total (IDR)
1. Zala Priority: 12 person			
Improved quality of convection products	4,800,000	25	3,600,000
Increased customer network	6,660,000	25	4,995,000
Increased profitability of Zala Priority	240,000,000	0	240,000,000
Labor absorption	108,000,000	0	108,000,000
Employee consumption allowance	36,000,000	0	36,000,000
2. Kepuren Village			
Reduce unemployment in the Kelurahan	21,600,000	0	21,600,000
3. Kepuren Village Community			
Improved sewing skills of training beneficiaries	31,500,000	50	15,750,000
4. PT XYZ Banten			
Improved company reputation in the field of CSR	500,000	0	500,000
Increased electricity revenue to PT PLN every month	6,000,000	0	6,000,000
Total			436,445,000

After getting the treatment of reducing the impact value using four filters, the value of the impact is obtained in the amount of IDR436.445.000. In the study, only deadweight was found because PT XYZ Banten is the sole donor in the implementation of the Convection Business Community Empowerment program, so there are no other programs or parties that contribute to the impact felt by stakeholders. This makes there is no attribution value that can reduce the impact felt by stakeholders. The CSR program also does not replace other positive activities but rather adds to existing positive activities in the community, so there is no displacement value that reduces the impact value. In addition, the CSR program is considered to have an impact that can continue to be felt by stakeholders in the long term, which is more than two years, because Zala Priority continues to show development every year seen from the addition of the number of employees, productivity, number of customers, development of production sites, and so on. Thus, there is no drop-off value that can be used as a deduction in the value of the impact received by the community.

5. Determining the SROI ratio

The SROI ratio can be obtained through the comparison of net present value with the total input or investment value. The following is the calculation of the SROI ratio in the Convection Business Community Empowerment program:

$$\text{SROI Ratio} = (\text{Net Present Value of Benefit}) / (\text{Value of Inputs}) = (\text{Rp } 436.445.000) / (\text{Rp } 100.000.000) = 4,36$$

The results of the above calculations show that the SROI ratio is 4.36:1 which indicates that the program is running well or feasible so that the ratio value is more than 1, in line with what is stated by Purwohedi (2016). The meaning of the value of 4.36:1 is that for every Rp1 invested by the company will produce a social value of Rp 4.36 felt by stakeholders.

Thus, the CSR program is considered to have an impact that exceeds the investment value so the program is worth maintaining. Compared to the impact of other programs, the SROI value generated by PT XYZ Banten can be considered high. In the Microhydro CSR program by PT PJB UP Paiton studied by Veronica (2020), the resulting SROI value is 2.29. In the Empowering Pepper Farmers in Petaling Banjar Village program studied by Novia et al. (2020), the SROI value given is 1.76. However, there is a greater SROI value, namely the CSR program "Sentra Industri Bukit Asam" Dusun Batik Kujur Tanjung Enim researched by Santoso et al. (2020) worth 5.39.

Managerial Implications

Based on the research results, Zala Priority should plan development on technology components according to their priorities to increase the TCC value so that it can improve the status from 'sufficient' to even higher. The higher the technology status, the easier it is for Zala Priority to survive in the fashion industry and compete with other competitors. In orgaware development, network expansion can be done to establish long-term cooperation in order to get more

stable income and make policies that can strengthen the organization, in humanware development, the action that can be taken is to provide training and motivation to employees according to their needs to achieve company goals, in technoware development Zala priority should seek capital to increase the sophistication of the machines used and start to learn the use of digital devices to improve the quality and effectiveness of production, in inforware development that can be done is to provide access to information on fashion trends by presenting various references from the internet, magazines, TV stations, etc., expanding the span of management information in the industry, and tidying up all documents. Zala Priority can do the development one by one according to their ability.

In addition, PT XYZ Banten should be able to create similar programs in other areas so that the social impact provided is wider and more evenly spread across various regions in Banten. This is based on the Convection Business Community Empowerment Program that has been implemented in Kepuren Village has been running well and has had a significant impact on stakeholders, including PT XYZ Banten itself. The company's reputation in the eyes of the community and government is getting better so that it can reduce or eliminate any risks that may occur and minimize existing problems.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results of the analysis and discussion in the previous chapter, it can be concluded that the TCC value at Zala Priority is 0.41 and can be classified into the "sufficient" category in contributing to business processes. The development of technology components that must be carried out based on their main priorities by Zala Priority is on orgaware, humanware, technoware and inforware components.

There are nine impacts received by stakeholders from the implementation of the "Community Empowerment of Convection Businesses" program, including improved product quality, increased customer network, increased profits, employment, and efficiency of employee meal costs at home felt by Zala Priority employees. There is a reduction in unemployment felt by the Kepuren Village government, an increase in the company's reputation of PT XYZ Banten in the field of CSR in the community, and an increase in electricity usage from convection production, and for the Kepuren Village community other than Zala Priority employees is an increase in basic sewing skills. The SROI ratio resulting from the implementation of the program is 4.36: 1, which means that every Rp1 invested by PT XYZ Banten provides a social impact worth Rp4.36 to stakeholders. This proves that the CSR program implemented by PT XYZ Banten related to community empowerment of convection businesses is running well so it needs to be maintained and developed.

Recommendations

In this study, of course, there are many limitations and shortcomings that occur so there are several suggestions that can be written, namely: In researching the effectiveness of technology, it can be compared with similar companies to see whether the technology used by the company is better or vice versa. The criteria used in the SOTA assessment can be further deepened following the guidelines from UNESCAP (1989) so that the results given will be more accurate. In determining the social impact, this research only evaluates the impact of the program within a one-year duration so that for further research it is better to examine further the resulting impact by calculating the value of the impact up to the duration of the next five years. Future research can be conducted on different industries so that the research results can be used as a comparison of various industries.

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