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Strategic Management in Blood Donation Activities: Increasing Participation and Positive Impact

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ABSTRACT

Background: *Ensuring an adequate blood supply remains a persistent public health challenge, particularly in developing regions. In Bandung City, Indonesia, the daily demand for blood reaches approximately 500 units, while supply remains limited to 200–300 units due to low public awareness and insufficient donor participation. Addressing this gap requires not only awareness campaigns but also structured managerial approaches. This study aims to examine the effectiveness of applying strategic management principles to enhance participation and awareness in community-based blood donation programs.*

Methods: *This study adopted a structured community service design integrating strategic management stages: planning, socialization, implementation, and evaluation. The intervention involved educational sessions delivered by management academics and PMI practitioners, covering donor motivation, health benefits, and strategic organization of social programs. The training was conducted over a four-hour session. Program effectiveness was assessed using a pre-test and post-test approach to measure changes in participants' knowledge and awareness.*

Results: *The program successfully collected 63 blood units, exceeding the initial target of 50 units. Quantitative findings indicate a significant improvement in participants' knowledge and awareness, with an average increase of 32% following the intervention. These results demonstrate that integrating strategic management into community service activities can substantially improve participation outcomes.*

Conclusion: *The findings highlight the critical role of strategic management in enhancing the effectiveness of blood donation initiatives. This approach provides a scalable and replicable model for improving donor participation and ensuring sustainable blood supply in resource-constrained settings.*

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INTRODUCTION

Blood donation is a vital process in which a portion of a person's blood is taken and stored in a blood bank, so it can be used for transfusions for those who need it. In addition to providing significant benefits to the recipient, this activity also brings valuable benefits to the donor's own health. Several studies have shown that regular blood donation can

accelerate the process of blood regeneration in the body and slow down cholesterol oxidation, which in turn can reduce the risk of coronary heart disease (1,2). These benefits result in smoother blood flow and reduce fat buildup on the walls of blood vessels (3,4). Coronary heart disease itself is one of the main causes of death in the world (5).

Considering the importance of blood donation, providing information and education to the public is crucial. Every segment of society, from teenagers to the elderly, needs to understand the benefits of blood donation, both for recipients and for donors themselves (6). This education must include people in rural areas, who often have more limited access to information. With better understanding, public participation in blood donation activities is expected to increase, especially when there is a great need such as a natural disaster or other unexpected event (7–9).

Blood availability is a crucial aspect of healthcare, especially for patients requiring transfusions, such as those undergoing surgery, those with severe anemia, or those who have been victims of accidents. The Indonesian Red Cross (PMI) plays a central role in ensuring an adequate blood supply for the community. However, at certain times, such as December and January, blood availability in Bandung City often experiences a drastic decline (10). This phenomenon is caused by various factors, including long holidays, collective leave, and the tendency for high community mobility at the end of the year, which impacts the number of active donors.

Although blood donation plays a crucial role in healthcare and provides vital support to individuals in need, public participation in blood donation activities still needs to be improved. The Indonesian Red Cross (PMI) in Bandung City faces challenges in meeting the city's blood demand, which normally reaches 500 pints of blood per day, but is currently only able to meet half of that demand. This requires serious attention, given the high demand for blood in Bandung, serving hospitals both within and outside the city.

As management educators, we believe that strategic management principles can be applied to increase public participation and improve the overall impact of blood donation events. Effective management can strengthen the planning, implementation, and sustainability of blood donation events, ensure the smooth running of the event and achieve its objectives. One concrete step taken by the PMI in Bandung City is to increase the mobilization of mobile blood donor units that travel to various locations in Bandung. We also continue to encourage donors, especially those who are expected to donate again, to participate in efforts to increase the city's blood supply.

Amidst efforts to increase blood supply, the PMI also faces challenges related to platelet stock, which is crucial for dengue fever (DHF) patients (11). Although dengue fever cases in Bandung City are currently under control, the need for platelets could increase at any time if there is a surge in cases. Therefore, optimizing blood and platelet collection is a top priority for the Bandung City Indonesian Red Cross (PMI) to ensure sufficient blood availability. Strengthening community participation and improving donor retention strategies are essential to maintain sustainable platelet reserves and enhance emergency preparedness.

The need for blood in Bandung City is a serious concern. According to the Head of the Blood Transfusion Unit of the Bandung City PMI, at least 500 blood bags are needed daily to meet the needs of hospitals and patients. However, the fulfillment of this target is often hampered by the lack of active donors, especially during certain periods such as long holidays or the end of the year. Therefore, outreach through consultation and active community involvement in blood donation activities is very necessary to maintain the stability of the blood supply in the region (12).

Thus, strategic steps and collaboration from various parties, including the community and donors, are essential to maintain a smooth and stable blood supply, especially with the fast-approaching month of Ramadan. Proper management will be key to optimizing these activities, ensuring that blood needs in Bandung City are met and transfusion recipients receive the support they need. The objectives of this community service activity are: (1) to increase public awareness of the importance of blood donation; (2) to introduce strategic management concepts in social activities; (3) to enhance community participation in blood donation; and (4) to generate positive social impact for both donors and recipients. This community service activity also contributes to strengthening community empowerment and supporting the sustainability of voluntary blood donation programs at the local level.

METHODS

The partner in this initiative is the Bandung City Red Cross, which acts as the provider of blood donation services and medical staff, as well as ensuring that blood donation procedures are carried out safely in accordance with operational standards. In addition, this initiative also involves the local community, educational institutions and healthcare facilities, which support the mobilisation of participants and the dissemination of information about the initiative. The target audience for the initiative is the general public of working age who meet the criteria to be blood donors, including both first-time and regular donors, with the aim of increasing public awareness, knowledge, and participation in voluntary blood donation activities. The initiative is held at a location that is easily accessible to the public and has adequate facilities to ensure the comfort of participants and the smooth running of the entire blood donation process.

The use of strategic management in organizing this blood donation event aims to increase efficiency and effectiveness. The entire series of events has been carefully and systematically organized to ensure the event runs according to plan (13). This activity follows a structured approach that includes the following stages:

Preparation and Coordination

A coordination meeting was held with key stakeholders, including PMI, local communities, and hospitals. During the meeting, the date, location, and target number of donors were determined. Roles and responsibilities of each stakeholder were clearly defined to ensure effective collaboration and smooth implementation of the program. Communication mechanisms and logistical arrangements were also established to support efficient coordination before and during the blood donation activity.

Socialization and Education

The educational intervention was delivered through a structured training session conducted by a team consisting of management academics from Universitas Sains Indonesia and professional practitioners from PMI, who have expertise in strategic management and blood donation services. Structured training interventions have been shown to significantly improve knowledge and behavioral outcomes in health promotion programs (14). The training covered several key topics: (1) the importance and health benefits of blood donation; (2) donor motivation and behavioural awareness; (3) the application of strategic management principles in social activities; and (4) standard procedures for safe blood donation.

These components are consistent with prior studies highlighting that knowledge, motivation, and procedural awareness are key determinants of blood donation behaviour (15). The session lasted approximately four hours and employed a combination of lectures, interactive discussions, and participant engagement activities, which are effective pedagogical approaches in adult learning and community education contexts (16). This approach was designed to encourage active participation, enhance understanding, and strengthen participants' readiness to become regular blood donors.

Implementation of Blood Donation Activity

On the day of the event, both registered and walk-in donors were served according to PMI procedures. Efficient time management and comfortable facilities were prioritized. Participants received snacks, iron supplements, food (yellow rice, fried rice noodles, chili sauce, crackers, and fried tempeh), and a bonus of half a kilogram of raw fish to take home. These incentives were provided to appreciate donor participation and to enhance motivation for future voluntary blood donation activities.

Evaluation and Documentation

To evaluate the effectiveness of the program, a pre-test and post-test design was applied. This approach is widely used to measure changes in knowledge, attitudes, and behaviour following an intervention (17). Participants completed a structured questionnaire before and after the training session. The instrument measured knowledge, awareness, and willingness using a 5-point Likert scale, which is commonly used to assess perceptions and attitudes in social research (18). The collected data were analysed using descriptive statistical methods to compare pre-test and post-test results, as descriptive analysis is appropriate for summarizing and interpreting intervention outcomes in community-based studies (17).

RESULTS

A blood donation event was successfully held on Friday, February 8, 2025, at H&H Cafe, Jalan Pahlawan No. 70, Bandung, West Java. Organized by the Community Service Team of the University of Science Indonesia in collaboration with the Indonesian Red Cross (PMI) and H&H Cafe, the event collected 63 blood bags, exceeding the initial target of 50 bags, indicating a high level of community participation, as higher participation rates are commonly associated with effective community engagement strategies and awareness interventions. The results of the implementation of community service can be seen from the following description:

Quantitative Evaluation of Program Impact

Table 1. Pre-test and Post-test Results of Participants in the Blood Donation Educational Activity

Indicator	Pre-test (%)	Post-test (%)	Improvement (%)
Knowledge about blood donation	58	85	+27
Awareness level	60	88	+28
Willingness to donate	65	92	+27
Average	**61**	**88**	**+27**

The results indicate a significant improvement supported by several key factors. The findings presented in Table 1 show that participants' knowledge about blood donation increased from 58% in the pre-test to 85% in the post-test, while awareness levels improved from 60% to 88%. Similarly, participants' willingness to donate blood rose from 65% to 92%, resulting in an overall average improvement from 61% to 88%. Effective promotion and communication played an important role, as the utilization of social media platforms and local community networks enabled information about the event to be disseminated quickly and efficiently to potential donors.

In addition, efficient resource management contributed to the successful implementation of the activity through clear task allocation, ensuring smooth coordination among medical personnel, volunteers, and logistical equipment teams. Furthermore, the establishment of clear and realistic targets facilitated systematic monitoring and evaluation throughout the event, allowing organizers to assess progress and optimize overall program performance. These findings demonstrate that the integration of strategic management principles and community engagement effectively enhances participation and strengthens the sustainability of blood donation programs.

Visualization of Results

To enhance data interpretation, the comparison between pre-test and post-test scores is presented in Figure 1, as visual representation improves understanding of intervention outcomes and supports clearer communication of statistical results can be seen from the chart below:

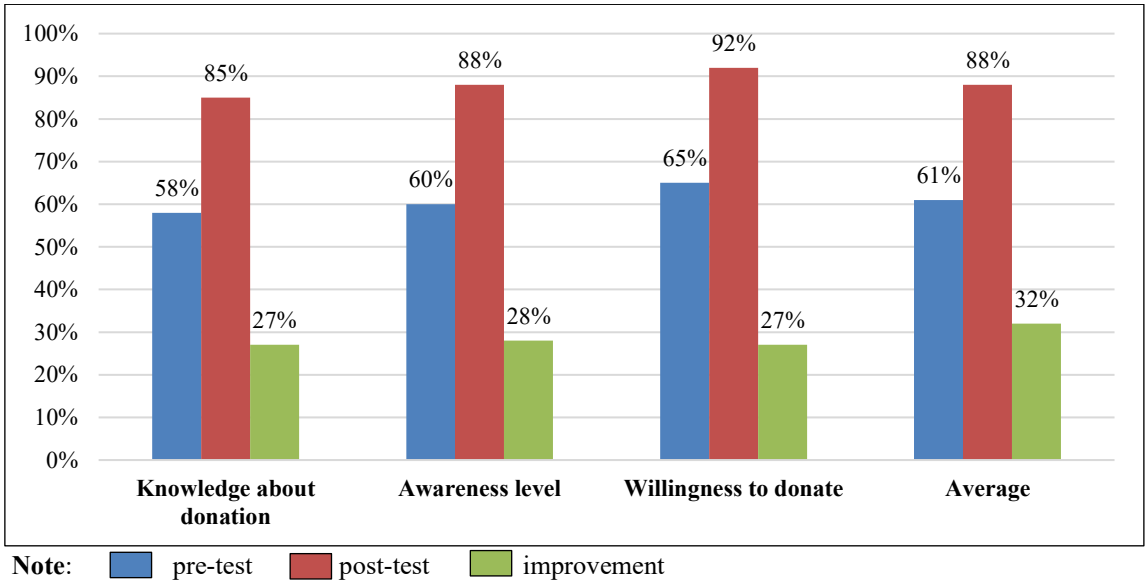


Figure 1. Pre-test, Post-test, and Improvement Comparison of Participants

The figure shows a consistent increase across all indicators. Awareness demonstrates the highest improvement, followed by knowledge and willingness to donate. This confirms that the intervention had a positive impact on participants' understanding and behaviour, consistent with prior research indicating that awareness is a key driver of behavioural change in blood donation. These findings suggest that structured education combined with community engagement strategies can effectively strengthen sustainable blood donation participation.

Visual Documentation

Visual documentation of the activity, including participant engagement, training sessions, and the blood donation process, is presented in Figure 2, as visual evidence is commonly used to support transparency and validity in community-based research reporting (21).



Figure 2. Activity Documentation

The positive impact of this event was not only meeting the need for blood supplies but also raising public awareness about the importance of regular blood donation. Strategic management principles significantly enhanced the event's effectiveness and ensured the success of similar events in the future. Furthermore, this activity strengthened collaboration among stakeholders and encouraged sustainable community participation in future blood donation programs.

DISCUSSION

The blood donation activity carried out by the Community Service Team of the University of Science Indonesia in collaboration with PMI of Bandung City demonstrated that the application of strategic management principles can have a significant impact on increasing community participation in social activities, particularly blood donation, as strategic planning and coordination have been shown to improve participation outcomes in community-based programs (22,23). The successful collection of 63 blood bags, exceeding the initial target of 50 bags, is an indicator of the success of well-structured planning and implementation of the activity, as effective program design and execution are strongly associated with improved performance outcomes. This success is in line with strategic management theory which emphasizes the importance of planning, organizing, implementing, and evaluating in achieving organizational goals (24).

The preparation and coordination stages involving various stakeholders, such as PMI, local communities, and location partners, enabled the activity to run more effectively and efficiently, consistent with findings that stakeholder collaboration enhances program effectiveness and governance outcomes (22). Determining realistic donor targets also helped the team in monitoring and evaluating performance during the activity, as goal setting has been empirically linked to improved performance and accountability (20).

In addition to quantitative improvements, several strategic factors contributed to the success of the program: (a) Effective Promotion and Communication: The use of social media and local community networks significantly increased participant engagement, as digital communication strategies have been shown to enhance participation in health campaigns (19); (b) Efficient Resource Management: Clear task allocation ensured smooth coordination among stakeholders, which is a critical success factor in program implementation and organizational performance (20); (c) Clear Target Setting: Defined targets enabled better monitoring and evaluation, as goal-setting has been empirically linked to improved performance outcomes (20). These findings indicate that the integration of strategic management principles not only improves operational efficiency but also enhances community participation in social programs, consistent with studies highlighting the role of strategic planning in improving public service outcomes

Furthermore, promotional and educational strategies implemented through social media and community networks have proven effective in increasing public awareness and interest in participating, as digital health communication has been shown to significantly enhance engagement in public health campaigns (19). This supports previous findings that a lack of information and education is a major factor in low blood donation participation, particularly in areas with limited access to information. The education provided not only emphasized the benefits of blood donation for recipients but also for donor health, thereby increasing intrinsic motivation, which aligns with evidence that motivational awareness significantly influences donor behavior (25).

Good resource management also played a crucial role in the success of this activity, as efficient resource allocation is a key determinant of operational effectiveness in organizational settings. A clear division of tasks between medical personnel, volunteers, and committee members ensured that the blood donation process followed PMI procedures, while maintaining donor comfort and safety, which are essential factors influencing donor satisfaction and retention. Providing comfortable facilities and providing simple refreshments and incentives, such as food and groceries, contributed to participant satisfaction and encouraged future donations, as perceived benefits and positive experiences are known to increase repeat donation behavior (26).

In terms of social impact, this activity not only contributed to fulfilling the blood supply of the Bandung City PMI but also raised public awareness of the importance of sustainable blood donation, particularly during periods of high blood shortages such as Ramadan and long holidays, which is consistent with global evidence highlighting the need for continuous donor recruitment to maintain blood supply stability (27). This is highly relevant considering the daily blood demand in Bandung, which reaches approximately 500 bags, is often unmet due to the low number of active donors, reflecting broader challenges in maintaining adequate blood supply in developing regions.

Thus, this activity demonstrates that implementing strategic management in community service activities can be an effective solution to address social issues, including limited blood availability, as strategic approaches have been shown to enhance both efficiency and community engagement (22, 24). Going forward, this activity model can serve as a reference for implementing blood drives in other locations by involving more partners and expanding educational outreach, thereby further enhancing its sustainability and positive impact, in line with research emphasizing scalability and stakeholder collaboration in public programs (22, 23).

Several challenges were encountered during the implementation of the activity. One of the main obstacles was the limited space available at the venue, which had the potential

to cause overcrowding among participants. This issue was addressed by arranging staggered donor schedules and placing a PMI mobile unit outside the café to ensure smooth service flow. Another challenge was the shortage of volunteers, which could have affected operational efficiency during the event. To overcome this, additional volunteers were recruited from Universitas Sains Indonesia and local PMI branches, enabling the activity to run effectively and according to plan.

CONCLUSIONS AND SUGGESTIONS

This blood drive successfully achieved its objectives, both in terms of participation and raising public awareness of the importance of donating blood. The application of strategic management principles played a crucial role in increasing the event's efficiency and effectiveness. The experience gained from this event highlighted the value of good management practices in organizing social events. It is hoped that similar activities can continue to be held regularly and become an integral part of community service programs. We recommend that similar events be held regularly, involving more stakeholders from academia, social organizations, and government agencies. Another recommendation is that universities themselves could organize regular blood drives. This way, academics can contribute positively by providing blood to the Indonesian Red Cross (PMI) as a blood bank. Furthermore, the strategic management approach must be continuously refined to ensure sustainability and broader impact in the future.

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DECLARATION OF USE OF AI IN SCIENTIFIC WRITING

AI tools were used solely for grammar and language editing. The authors take full responsibility for the content and integrity of the manuscript.

CONFLICT OF INTERESTS

There were no conflicts of interest related to the community service activity.

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