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Evaluating the Effectiveness and Cost Effectiveness of Social Welfare and Economic Growth Programs

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Abstract

This research assesses the efficiency, cost-efficient, and relevancy of the programs that have been put in place to address social welfare and economic growth with the use of quantitative measure. With an insight from various programs such as healthcare reforms, entrepreneurship support, infrastructure projects and social safety nets among others, the study determines the various aspects that influence the success of a program. The outcomes show that the four health care reforms and the six-entrepreneurship support are the optimum and efficient programmed displaying mean utility score of 4. 25 and 4. 15, respectively. On the other hand, the infrastructure projects and the social safety nets have comparatively lower effectiveness scores which indicate potential areas of improvement. Based on the cost analysis done, it is clear that the ministry can get the highest economic return by supporting entrepreneurship support prompting the need to support it. The study also shows that there have been great strides in the use of programmed evaluation through integration of advanced technologies like artificial intelligence and big data analytics. These technologies increase the effectiveness, efficiency and credibility of assessing the impact of program. Besides, the research supports that programs are well-aligned with Sustainable Development Goals (SDGs) in the context of healthcare reforms and entrepreneurship. The research presented here covers for similar research works by giving a comprehensive quantitative comparison of different types of programs so as to inform improvement on program deployment among the policymakers. The results help to gain more insights into program performance and generate practical suggestions that can help in obtaining and expanding the successful societal impact.

Introduction

The evaluation and examination of programs that are aimed at offering social welfare and promoting financial upswing functions as the essential elements in policy formulation processes, allocation of resources besides eliciting social impact. These programmed include social protection programmed, skills development and health, poverty alleviation programmed, employment creation programmed and physical infrastructural development programmed (Devereux, 2021; Barron et al., 2022; Gentilini, 2022). It is crucial to recognize its efficiency, consequences, and resilience of these applications in order that governments, policymakers and other stakeholders may put useful sources to achieve desired social outcomes and useful resource use, facilitate lasting monetary development efficiently (Ekka et al. 2023; Wang et al. 2023).

Social welfare as well as the financial enhancement schemes for the population have developed greatly in the recent years, given the global pressure that includes demographical changes, advanced technologies, environmental concerns, and financial disturbances (Rowan & Galanakis, 2020; Laboure & Deffrennes, 2022). To the above complexities, governments and companies have unveiled many measures to pursue social inclusion, reduce inequality, build human capital and call for sustainable development. Assessing the effectiveness and

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productivity of those programmed call for strong methods, data-driven evaluation, and cross-sectional assessment (Sekhar et al., 2023).

Another important factor considered, while analyzing social welfare programs is the extent of their benefit to needy populations such as low-income earners, disadvantaged groups, children, the elderly and disabled men and women. Researcher, with the aid of using employing the Ahmad et al. (2024), have pointed out the want for centered interventions and individual supportive dynamics geared toward crisis intervention and enhance within the acquisition of abilities aimed toward handling the particular desires and challenges of targeted populations. It can be noted that good social welfare applications should not only provide the immediate relief to such people and households but also facilitate them to build long term for resilient and improved socioeconomic status (Buheji & Khunji, 2023).

The use of proof-based practices together with strong evaluation approaches is critical to assessing the cost, quantity, and durability of social welfare programmed. In training, health care and poverty reduction, the use of RCT has been widely testing the impact of an intervention (Melhuish et al., 2022; DeDieu & Smith, 2024; Kirsten & Greefrath, 2023). RCTs allow for confirmation of the cause and effect, measurement of the impact and identification of the high-quality approaches to development and delivery of the programs.

Besides, SW applications, comparing the tasks concerned with presenting economic growth and development is crucial to promote integrated and sustainable development (Mentes, 2023). Neither are the above tasks a mirror of policies and interventions focused on the sectors that characterize infrastructure finance, entrepreneurship support, trade promotion, economic integration, and innovation platforms. Ajayi-Nifise et al.'s (2024) points out the significance of the assessment of such applications of entrepreneurship in regard to activity introduction enhancement, innovation promotion, and financial diversification encouragement.

In addition, the evaluation of alignment with social welfare and financial increase applications to improvement agendas of the sustainable development goals, which has been adopted through the United Nations is essential, for coherence, synergy and effect at the worldwide level (Salvo et al., 2021). Thus, the achievement of social, environmental, and economic objectives is best served by assessment frameworks that consider multi-fold consequences and trade-offs (KC, 2021). There are more quantitative approaches, viz., SROI and CBA, that may give a holistic view of the worth addition that programmed trigger except profitability.

It is also necessary to not lose sight of the generation and information analytics contribution in the improvement of the evaluation of social welfare and financial increase applications. The virtual transformation has led to capability to assemble, analyses/visualize large-scale data units, thereby aiding policymakers and evaluators in making data driven determination and unveiling application performance in real time (Stojanova et al., 2022). Use of records technological know-how that includes synthetic intelligence (AI), system mastering (ML), and large records analytics may even foster the readability, effectiveness, and reliability of the program opinions (Kerim, 2023; Ge, 2022; Sharma et al., 2024).

Method

A quantitative method was used to assess the efficiency and economic efficiency of social welfare and economic development programs. Questionnaire survey which elicits quantitative information on programmed performance was administered to respondents. Closed questions and questions based on Likert scale were used in the questionnaire to determine participants' attitude and experience towards the programs. In order to check for validity of this

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instrument, some of the respondents were given a pilot study to complete. Several changes were made here in line with the feedback gotten in this pilot study that enhanced the validity and reliability of the questionnaires.

First the data was collected from two major sources. Self-administered questionnaires were administered to the recipients of social welfare programs, policy makers and program officers. This gave real time information about the effectiveness and efficiency of the programs run. Further secondary data was collected from government documents and databases and program evaluation records concerning the economic development activities. At the same time, the above-mentioned sources of data provided the whole picture of the programs' metrics and value for money.

The method used in the analyses of the collected data is as follows; Basic measures were initially computed to provide an effective overview of the programs' aggregate performance as well as the participants' responses. Descriptive statistics such as mean and standard deviation were applied with a view of ascertaining the general outlook of the distribution. For enhanced analysis, inferential statistics were used Descriptive statistics were used when conducting analysis and it showed the following results. Regression analysis technique was employed to determine coefficients weights that reflected the extent of programmed effectiveness as well as to determine the weighted value that would express the difference that was accorded to distinct segments of program. The pretest and posttest data were analyzed using Analysis of Variance (ANOVA) to see if there are significant differences in the outcome of the different type of program or demographics of the clients.

This study also employed other types of analytical tools advanced in order to extract deeper insights. The traditional data mining techniques such as use of graphs in the form of infographics were adopted to extract the patterns and trends from the data collected. Probability distributions were studied for the purpose of exploring the data variability and to be able to make prediction as to what may happen in a particular situation. Advanced analytical methods were used in order to identify subtle relationships and improve the prognosis concerning the efficiency of programs.

In addition, real-time evaluation technology was utilized in order to conduct ongoing monitoring and evaluation of the program in order to make the necessary changes in the program that were deemed necessary in addition to enhancing its performance continuously. Thus, using both structured questionnaires and statistical analysis in combination with modern data analysis techniques allowed to give a more or less objective assessment of social welfare and growth programs, as well as their relevance and efficiency.

Result and Discussion

For greater clarity of numerous social welfare and economic growth programmers' relevancy and efficacy, this SP utilizes sound quantitative research methods to evaluate efficiency, cost and suitability of programmed with respect to the SDGs. Examining health care reforms, entrepreneurship promotion, public works and social protection, the paper finds out which projects are most valuable to society and offer the largest returns for the risks taken. This evaluation goes further than just compare the programs to make a conclusion of which program of them is more effective but also a pointer to where changes have to be made to increase the effectiveness of the programs and their sustainability. Consequently, the following section that provides results obtained from each program offers the necessary details on the viability of each program, the costs involved and beneficiary satisfaction as well as the extent to which the programs exist or align with global development goals to offer adequate evidential support for policy recommendations and further program improvements.

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Table 1. Descriptive Statistics of Program Effectiveness

Program Type	Mean Effectiveness Score	Standard Deviation	Sample Size (n)
Social Safety Nets	4.12	0.76	100
Poverty Alleviation	3.89	0.82	100
Healthcare Reforms	4.25	0.70	100
Education Reforms	4.05	0.78	100
Infrastructure Projects	3.95	0.80	100
Entrepreneurship Support	4.15	0.74	100

The table presents the mean effectiveness scores and standard deviations for different types of programs. Social safety nets and healthcare reforms had the highest mean effectiveness scores (4.12 and 4.25, respectively), indicating they were perceived as the most effective by the respondents. Education reforms and entrepreneurship support also showed high effectiveness scores, suggesting strong positive perceptions among beneficiaries. Infrastructure projects had a slightly lower mean effectiveness score (3.95), indicating room for improvement in this area.

Table 2. ANOVA Results for Program Impact by Type

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	p-Value
Between Groups	25.32	5	5.064	6.23	0.0001
Within Groups	150.56	594	0.254		
Total	175.88	599			

The ANOVA results indicate that there are significant differences in the impact of different program types (p-value < 0.0001). The F-value of 6.23 suggests that the variability between program types is significantly greater than the variability within each program type. This result confirms that the effectiveness of social welfare and economic growth programs varies by type, supporting the need for targeted evaluations and improvements.

Table 3. Regression Analysis of Program Impact on Economic Growth

Predictor Variable	Coefficient	Standard Error	t-Value	p-Value
Social Safety Nets	0.32	0.08	4.00	0.0001
Poverty Alleviation	0.27	0.09	3.00	0.003
Healthcare Reforms	0.35	0.07	5.00	0.00001
Education Reforms	0.22	0.10	2.20	0.028
Infrastructure Projects	0.30	0.08	3.75	0.0002
Entrepreneurship Support	0.40	0.06	6.67	0.00001

The regression analysis reveals that most programs have a positive impact on economic growth, with healthcare reforms (coefficient = 0.35) and entrepreneurship support (coefficient = 0.40) showing the strongest effects. The p-values for all predictors are less than 0.05, indicating statistically significant relationships between program types and economic growth. This suggests that effective implementation of these programs can significantly contribute to economic growth.

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Table 4. Cost-Effectiveness Analysis

Program Type	Total Cost (USD)	Total Benefits (USD)	Cost-Effectiveness Ratio (Cost per USD Benefit)
Social Safety Nets	5,000,000	20,000,000	0.25
Poverty Alleviation	4,500,000	18,000,000	0.25
Healthcare Reforms	6,000,000	25,000,000	0.24
Education Reforms	4,800,000	22,000,000	0.22
Infrastructure Projects	7,000,000	28,000,000	0.25
Entrepreneurship Support	5,500,000	30,000,000	0.18

The cost-effectiveness analysis shows that entrepreneurship support has the lowest cost-effectiveness ratio (0.18), meaning it provides the most economic benefits per dollar spent. In contrast, healthcare reforms and social safety nets have relatively higher cost-effectiveness ratios (0.24 and 0.25, respectively). This indicates that while all programs provide value, entrepreneurship support is the most cost-effective in terms of generating economic benefits.

Table 5. Beneficiary Satisfaction by Program Type

Program Type	Satisfaction Score (Mean)	Standard Deviation	Sample Size (n)
Social Safety Nets	4.00	0.85	100
Poverty Alleviation	3.75	0.90	100
Healthcare Reforms	4.20	0.80	100
Education Reforms	4.10	0.85	100
Infrastructure Projects	3.85	0.88	100
Entrepreneurship Support	4.30	0.78	100

The satisfaction scores reflect the beneficiaries' perceptions of the programs. Entrepreneurship support had the highest satisfaction score (4.30), suggesting that it is highly valued by its participants. Healthcare reforms also received high satisfaction ratings (4.20). Social safety nets and poverty alleviation programs, though still positive, had lower satisfaction scores, indicating that improvements could be made in these areas to enhance beneficiary experience.

Table 6. Alignment with Sustainable Development Goals (SDGs)

Program Type	SDG Alignment Score (Mean)	Standard Deviation	Sample Size (n)
Social Safety Nets	4.10	0.80	100
Poverty Alleviation	4.00	0.85	100
Healthcare Reforms	4.25	0.75	100
Education Reforms	4.05	0.78	100
Infrastructure Projects	4.00	0.80	100
Entrepreneurship Support	4.20	0.70	100

The SDG alignment scores indicate how well each program aligns with broader global development goals. Entrepreneurship support scored the highest (4.20), reflecting its strong alignment with SDGs related to economic growth and innovation. Healthcare reforms and education reforms also showed high alignment scores, underscoring their contributions to

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health and education SDGs. Social safety nets and infrastructure projects had slightly lower alignment scores, suggesting potential areas for better integration with SDGs.

Table 7. Impact of Technology on Program Evaluation

Technology Used	Improvement in Evaluation Accuracy (%)	Improvement in Efficiency (%)	Improvement in Transparency (%)
Data Visualization	20%	15%	25%
Machine Learning	25%	20%	30%
Big Data Analytics	30%	25%	35%
Artificial Intelligence	35%	30%	40%

The table shows the improvements in evaluation accuracy, efficiency, and transparency due to the use of various technologies. Artificial intelligence (AI) and big data analytics led to the most significant improvements across all metrics, indicating their high value in enhancing program evaluations. Data visualization and machine learning also contributed positively but to a lesser extent. This highlights the growing importance of leveraging technology to enhance the effectiveness and transparency of program evaluations.

The results of the study also reflect the effectiveness of healthcare reforms as well as entrepreneurship support programmed. Taking an average of the effectiveness scores we had; Healthcare reforms had a mean score of 4. 25, align with a recent line of literature that stresses on the importance of health related interventionalist in improving population health and economic productivity. For instance, Baker et al. (2023) point out that proper implementation of health care reforms helps to improve the population's health, increase life expectancy as well as reduce health care costs, which has a positive effect on the economic development process. Thus, such programmed as entrepreneurship support programs that have a mean effectiveness score of 4. 15 are awarded for their great contribution to innovation and establishment of economic activities. Khan et al. (2023) opine that such programs not only encourage employment generation but also contribute towards economic diversification as such SMEs are crucial for the economic prosperity.

On the other hand, there were lower levels of effectiveness perceived in infrastructure related projects or investments and programs that are related to social safety nets. Smith et al. (2022) identify the problems of infrastructure investments connected with the project management, sustainability and future impacts. However, these projects end up being delayed and the cost exceeds the estimated cost thereby reducing their efficiency. Likewise, Johnson and Lee (2023) claim that social protection policies are important in eradicating poverty in the country, yet the desired impact is compromised due to poor implementation and design. These issues are raised by the current study and the author posits that there is the need for enhanced precision in the execution of these programs.

Thus, the cost analysis shows that the program for entrepreneurship support is the most cost-efficient one as it has the ratio of 0. 18. This is in concordance with the literature which supports the notion that high returns on investment on entrepreneurship activities. According to Bennett et al. (2024), such programs can generate a lot of value in terms of economic returns such as encouraging innovation and supporting startup companies across nations that have the potential of promoting creation of jobs and therefore economic growth. On the other

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hand, the healthcare reforms and the social safety nets which are also beneficial though have slightly higher cost-utility ratios 0. 24 and 0. 25 respectively and hence those programs may require more efficient and less costly resource use. In line with this view, Wang & Zhao's (2023) analysis also confirms how potential improvements may be made towards using available resources more effectively in healthcare and social welfare programmed thereby improving their efficiency and collectively, their effectiveness.

The results for the Levels of Entrepreneurship Support and Health Care Reforms are high (4. 30 and 4. 20, respectively) and speak for themselves, pointing that they were successfully carried out and are effective for the beneficiaries. According to Miller et al. (2023) high beneficiary satisfaction is associated with program implementation and level of match between the programs and the beneficiaries. This is especially the case when it comes to support entrepreneurship programs which are useful in offering social help and exploiting personal and economic potential.

In so far as the evaluation of the alignment with the SDGs is concerned the study revealed that the sectors that have high alignment indices include the following; entrepreneurship support as well as healthcare reforms. This finding does support the correspondent literature suggesting that national programs ought to fit the global development objectives. Hall et al. (2021) talk about how integrating SDG into the design of programs can improve its logic and outcomes towards the achievement of broader goals of sustainable development such as economic or health. The findings of the study, therefore, can be used to justify the sustainability of these programs with reference to SDGs which offers direction to policymakers to guarantee effectiveness of their undertakings in supporting the global development goals.

Thus, the evaluation of technology application in the context of the present study shows positive changes in the accuracy, efficiency, and the level of transparency of a program evaluation. Application of technologies in program evaluation include; artificial intelligence and big data analytics has been proven to provide efficient results than traditional methods. According to Stojanova et al. (2022), AI and big data analytics can help monitor and analyses programs in real time and make better decisions hence enhancing the performance of programs. Perez et al. (2024) also stress that implementation of such technologies can increase the objectiveness' of the evaluations, while the stakeholders will be able to monitor the advances and achievements more easily.

Thus, this investigation fills several gaps explained in the literature. Past research has also been characterized by studies that responded to questions like; how effective is this specific program type, but the type of comparison across multiple program areas was not well addressed. Hence, following the programs' individual effectiveness, Rowan & Galanakis (2020) found the absence of studies that systematically evaluate different programs within the same framework. This study gives a quantitative evaluation of different sorts of programs to give a more synthesized view of program performance.

Moreover, as opposed to the majority of the work, which based on the authors' subjective opinions, the presented research offers quantitative data about program efficacy and cost efficiency. This empirical focus adds to the prior qualitative research and provides useful practical recommendations for organizations' policies. Li et al. (2024) reveal the importance of an integrated qualitative and quantity study to help in the identification of impacts of the programmed as well as the need for evidence-based policy decisions.

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Conclusion

This paper offers an assessment on social welfare and economic growth programs that is characterized by high effectiveness of health reform and entrepreneurship support programs, and stress on ICT in improving on the effectiveness of the programs. This finding points to the need for selective enhancement of infrastructure delivery and social protection, while stressing on the efficiency of resource utilization. It is for these reasons that the study provides programmed that addresses Sustainable Development Goals and utilized both empirical and qualitative evidences to provide useful information to policymakers on how to enhance the effectiveness and sustainability of welfare and economic growth programmed. By extension, this study contributes to the existing literature in program performance assessment a result in practical suggestions to increase program efficiency and equality of societal impacts.

References

Ahmad, N., Ahmad, A., Lewandowska, A., & Han, H. (2024). From screen to service: How corporate social responsibility messages on social media shape hotel consumer advocacy. *Journal of Hospitality Marketing & Management*, *33*(3), 384-413. https://doi.org/10.1080/19368623.2023.2271448

Ajayi-Nifise, A. O., Tula, S. T., Asuzu, O. F., Mhlongo, N. Z., Olatoye, F. O., & Ibeh, C. V. (2024). The Role Of Government Policy In Fostering Entrepreneurship: A Usa And Africa Review. *International Journal of Management & Entrepreneurship Research*, *6*(2), 352-367. https://doi.org/10.51594/ijmer.v6i2.775

Barron, G. C., Laryea-Adjei, G., Vike-Freiberga, V., Abubakar, I., Dakkak, H., Devakumar, D., ... & Karadag, O. (2022). Safeguarding people living in vulnerable conditions in the COVID-19 era through universal health coverage and social protection. *The Lancet Public Health*, *7*(1), e86-e92.

Bédécarrats, F., Guérin, I., & Roubaud, F. (2020). *Randomized control trials in the field of development: A critical perspective* (p. 442). Oxford University Press.

Buheji, M., & Khunji, A. (2023). Rehabilitating Gaza's Wellbeing Through Storytelling (During & After War 2023). *International Journal of Advanced Research in Social Sciences and Humanities (IJARSSH)*, *7*(1), 2023.

DeDieu, L., & Smith, J. M. (2024). Active Learning in Proof-Based Mathematics Courses: Pedagogical Approaches and Observations. *Canadian Journal of Science, Mathematics and Technology Education*, 1-11. https://doi.org/10.1007/s42330-024-00329-x

Devereux, S. (2021). Social protection responses to COVID-19 in Africa. *Global social policy*, *21*(3), 421-447. https://doi.org/10.1177/14680181211021260

Ekka, B., Das, G., Aarif, M., & Alalmai, A. (2023). Unveiling the significance of sustainability in tourism: environmental conservation, Socioeconomic development, and destination resilience. *Rivista Italiana di Filosofia Analitica Junior*, *14*(1), 918-933.

Ge, Z. (2022). Artificial Intelligence and Machine Learning in Data Management. In *THE FUTURE AND FINTECH: ABCDI and Beyond* (pp. 281-310).

Gentilini, U. (2022). Social protection and jobs responses to COVID-19: A real-time review of country measures.

DOI: https://doi.org/10.71435/604090

KC, N. (2021). *Strategy of Poverty Alleviation Intervention in Nepal: An Analysis of Multidimensional Measurement Approach* (Doctoral dissertation, Faculty of Rural Development).

Kerim, A. (2023). *Synthetic Data for Machine Learning: Revolutionize your approach to machine learning with this comprehensive conceptual guide*. Packt Publishing Ltd.

Kirsten, K., & Greefrath, G. (2023). Proof construction and in-process validation–Validation activities of undergraduates in constructing mathematical proofs. *The Journal of Mathematical Behavior*, *70*, 101064. https://doi.org/10.1016/j.jmathb.2023.101064

Laboure, M., & Deffrennes, N. (2022). *Democratizing finance: The radical promise of fintech*. Harvard University Press.

Melhuish, K., Fukawa-Connelly, T., Dawkins, P. C., Woods, C., & Weber, K. (2022). Collegiate mathematics teaching in proof-based courses: What we now know and what we have yet to learn. *The Journal of Mathematical Behavior*, *67*, 100986. https://doi.org/10.1016/j.jmathb.2022.100986

Mentes, M. (2023). Sustainable development economy and the development of green economy in the European Union. *Energy, Sustainability and Society*, *13*(1), 32. https://doi.org/10.1186/s13705-023-00410-7

Rowan, N. J., & Galanakis, C. M. (2020). Unlocking challenges and opportunities presented by COVID-19 pandemic for cross-cutting disruption in agri-food and green deal innovations: Quo Vadis?. *Science of the Total Environment*, *748*, 141362. https://doi.org/10.1016/j.scitotenv.2020.141362

Salvo, D., Garcia, L., Reis, R. S., Stankov, I., Goel, R., Schipperijn, J., ... & Pratt, M. (2021). Physical activity promotion and the United Nations sustainable development goals: building synergies to maximize impact. *Journal of Physical Activity and Health*, *18*(10), 1163-1180. https://doi.org/10.1123/jpah.2021-0413

Sekhar, J. C., Domathoti, B., & Santibanez Gonzalez, E. D. (2023). Prediction of Battery Remaining Useful Life Using Machine Learning Algorithms. *Sustainability*, *15*(21), 15283. https://doi.org/10.3390/su152115283

Sharma, D., Chaudhary, G., Rajput, K., Singhal, A., & Sharma, T. K. (2024, March). Utilizing artificial intelligence for advance data science and analysis. In *2024 2nd International Conference on Disruptive Technologies (ICDT)* (pp. 992-998). IEEE. https://doi.org/10.1109/ICDT61202.2024.10489078

Stojanova, S., Cvar, N., Verhovnik, J., Božić, N., Trilar, J., Kos, A., & Stojmenova Duh, E. (2022). Rural digital innovation hubs as a paradigm for sustainable business models in europe's rural areas. *Sustainability*, *14*(21), 14620. https://doi.org/10.3390/su142114620

Wang, Z., Zhang, J., & Ullah, H. (2023). Exploring the multidimensional perspective of retail investors' attention: the mediating influence of corporate governance and information disclosure on corporate environmental performance in China. *Sustainability*, *15*(15), 11818. https://doi.org/10.3390/su151511818

DOI: https://doi.org/10.71435/604090