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Propondo a Análise de Viabilidade de Investimento em Organizações sem Fins Lucrativos

Proponiendo Del Análisis de Vabilidad de Inversiones em Organizaciones Sin Fines de Lucro

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RESUMO
Os investimentos em projetos sociais apresentam limitações quando se trata de indicadores convencionais de viabilidade econômica. O objetivo deste estudo foi verificar a aplicabilidade de uma proposição sobre o uso do Valor Presente Líquido na avaliação de viabilidade econômica de projetos de organizações sem fins lucrativos que obtêm suas receitas por meio de doações. Como método, este estudo utiliza pesquisa bibliográfica, análise reflexiva e aplicação prática da metodologia de fluxo de caixa descontado adaptada ao Terceiro Setor, utilizando o método de Monte Carlo. Os resultados mostraram compatibilidade da aplicação do Valor Presente Líquido no Terceiro Setor desde que ajustemos as variáveis fluxo de caixa incremental, necessidade de capital de giro e custo de capital às especificidades deste segmento. Assim, a simulação aplicada para avaliar a viabilidade econômica de uma organização sem fins lucrativos reduziu as incertezas quanto a investimentos futuros com valor agregado para a sociedade.

Palavras-chave: Terceiro setor. Valor Presente Líquido. Viabilidade econômica.

RESUMEN
Las inversiones en proyectos sociales tienen limitaciones cuando se trata de indicadores convencionales de viabilidad económica. El objetivo de este estudio fue verificar la aplicabilidad de una proposición sobre el uso del Valor Actual Neto en la evaluación de la viabilidad económica de proyectos de organizaciones sin fines de lucro que obtienen sus ingresos a través de donaciones. Este estudio utiliza como método la investigación bibliográfica, el análisis reflexivo y la aplicación práctica de la metodología de descuento de flujos de caja adaptada al Tercer Sector, utilizando el método de Montecarlo. Los resultados mostraron compatibilidad de la aplicación del Valor Actual Neto en el Tercer Sector en la medida en que ajustamos las variables flujo de caja incremental, necesidad de capital de trabajo y costo de capital a las especificidades de este segmento. Así, la simulación aplicada para evaluar la viabilidad económica de una organización sin fines de lucro redujo las incertidumbres sobre futuras inversiones con valor agregado para la sociedad.

Keywords: Entrepreneurial ecosystem; Public policies; Focus Group.

1. INTRODUÇÃO

Applied Social Sciences in the Administration field have developed and improved technologies, methods, and techniques applicable to organizations. This set of technologies was created, as a rule, for entities that carry out economic activities under highly competitive conditions and to maximize investors' wealth. However, when applying these methods and techniques in segments that do not have profit as a purpose, managers often face gaps that make it hard to adopt this set of scientifically accepted tools in business administration.

This limitation extends to the segments of Third-Sector organizations, such as foundations and associations, which can carry out economic or non-economic activities. However, their positive economic results cannot be shared among their associates or founding partners in both cases. In addition, entities classified as nonprofit correspond to those that survive on fundraising donations from the community and other institutions. These organizations became expressive and with a high number of employees. According to the Brazilian Institute of Geography and Statistics (IBGE), in 2016, private foundations and nonprofit associations reached the number of 236,950 installed in Brazil, generating 2.2 million jobs (IBGE, 2023).

The operating logic of these organizations requires parameters common to the administration of organizations with economic purposes but academic administration manuals do not fill some gaps in managing these organizations. For instance, numerous social projects require a prior assessment of economic results as part of the investment process. Several financing agents for social projects request social and financial information to choose the best project to receive financial support.

For the ex-ante (prior) evaluation to be possible, it is necessary to apply indicators that help decision-making. However, we need to adapt some variables to calculate the economic viability of investments in nonprofit activities. The methodology for assessing the economic viability of investments comprises a set of techniques used with indicators and variables involving time, return, and risk, following the logic of a capitalist economy (market). That means they aim at aggregating wealth over invested capital, which is not the objective of nonprofit institutions. Therefore, these methods must undergo adjustments.

The necessary adaptations for applying this technique in some segments cannot harm the principles and foundations that support its methodology. Thus, a study on this topic must prioritize the doctrine and, under these foundations, find new methodology adaptations that make them applicable while considering the specificities of the segments under study.

The study by Costa, Tondolo, Tondolo and Longaray (2018) proposed to develop a systematic literature review on performance evaluation in Third-Sector organizations. These authors classified this performance evaluation in several dimensions and, as the research object, the economic/financial performance dimension revealed the function of just controlling and monitoring existing activities. That demonstrates that the economic/financial performance dimension in the study by Costa et al. (2018) does not cover tools or instruments that guide future investment decisions or their results. Therefore, it is clear that discussing prior decisions regarding investments is still incipient.

Given the above, the question that directs this article is the following: How to adapt the Net Present Value (NPV) methodology for application in decision-making in investments of Third-Sector organizations? To answer this question, the present study aims to verify the applicability of a proposition regarding the use of the Net Present Value in evaluating economic viability for projects of nonprofit organizations that form their revenues through donations.

Given this purpose, the present study will use bibliographic and documentary research, reflective analysis, and practical application of the technology variables under discussion. The research is descriptive, and its unit of observation and analysis is the Economic Viability Analysis process and the Net Present Value method.

The proposition of this test in evaluating economic viability for projects of nonprofit organizations may contribute to meeting the demand of these entities, which need to make decisions about their assets. For instance, it applies to expansion projects or the replacement of obsolete noncurrent assets by advanced technologies. Hence, this study collaborates for safer decision-making when investing in assets that bring better results to society, given that nonprofit organizations are of public or social interest in the form of a legal entity.

This study is structured as follows: an exposition on the Net Present Value as an indicator of the Economic Viability of Investments, the Third Sector and its specificities in making decisions on project investments, and a reflexive analysis in applying the investment economic evaluation in Third-Sector organizations through the use of the tool in a given case.

2. NPV AS NA INDICATOR OF ECONOMIC VIABILITY OF INVESTMENTS

Studies on the economic viability of investments reflects on tools that help organizations make assertive decisions regarding cost-benefit optimization when applying resources in a given enterprise.

According to Damodaran (2002), all companies have to invest their resources wisely. He emphasizes that investment decisions include those that create revenues and profits but also others that save resources by retained earnings. It is clear, therefore, that the author adds a connotation of savings and the efficiency of its application in defining investment decisions. Expanding this scope considers organizations whose activities do not aim at a profit but seek to efficiently apply the resources entrusted to them to carry out their mission. Such efficiency means no waste of retained earnings or, perhaps, the reinvestment of surplus results.

Brealey, Mayers, and Marcus (2001) emphasize that the investment decision is fundamental for the success of companies. They state that the assets you buy today may determine the company you will have many years from now and warn about the immobilization of capital since the investment decision is a strategic factor for the enterprise. Investing without an assertive view of significant gains or losses to be absorbed in the future would not be diligent.

One of the primary indicators used in assessing the economic viability of investment decisions is the Net Present Value. It means deducting from the initial investment the present value of cash flows to be generated in the future. The Net Present Value has the following components (Brasil, 2002, p. 8):

$$NPV = \sum_{n=1}^{N} \frac{CF_n}{(1+i)^n} + CF_0$$

CF_n: cash flows incurred in the project

i: discount rate (cost of capital)

n: cash flow time

CF_0: Initial investment (in negative value).

Therefore, the Net Present Value is directly influenced by the sum of project cash flows, the cost of capital applied in the investment, and the time of occurrence of each cash flow. We can see, in this context, that the Net Present Value will be positive if future cash flows received and discounted to present value are higher than spent flows also discounted to present value.

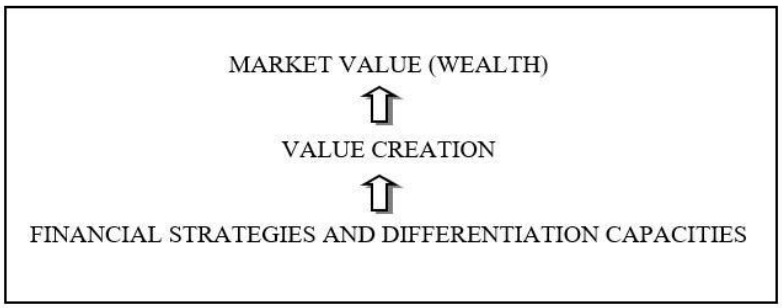
This result provides information regarding the investment's potential to create value. Therefore, it confirms that there will only be value creation if the resulting cash flows are positive to pay investors after covering the cost of capital. Covering the cost of invested capital creates value. Creating value for a company goes beyond the objective of covering the explicit costs identified in sales. It incorporates the understanding and calculation of implicit costs (opportunity costs of invested capital) not considered in the reports by traditional Accounting and, consequently, in qualifying shareholders' wealth (Assaf Neto, 2014).

According to Young and O'Byrne (2003), opportunity cost or cost of capital is the return rate that the capital provider would expect to receive if his money was invested in another project, asset, or similar risky company. The company, then, must maximize the results of its core activity, expecting that the assets provide a return that can meet the expected return by the investor, who abandoned other options under the same risk assumed.

A project would only be acceptable if the Net Present Value were positive or, in other words, if a prior study showed a higher return than expected by its investors. If the Net Present Value is negative, the project is no longer acceptable since it does not add value to investors according to the risk assumed. That means the profitability of the project's assets will not be enough to meet investors' expectations.

Assaf Neto (2014) highlight the use of financial and differentiation strategies so that a company can carry out management that creates value for its investors, as shown in Figure 1:

Figure 1: Summarized view of Value-Based Management



Source: Adapted from Assaf Neto (2014, p.176)

The differentiation capacity of a company in the market will be unfolded by value drivers that improve the company's activities. Each differentiation strategy will focus improvement efforts on value drivers, which lead the company to increase its market value and investors' wealth.

According to Assaf Neto (2014), success in value creation by companies involves implementing a set of financial strategies identified in three dimensions: operational, financing, and investments. It confirms that future investments in a company are as relevant as the operational and fundraising aspects, given that investments must direct an organization to add value for its investors.

Therefore, the economic viability of investment is in line with value creation since a project is accepted when the Net Present Value is positive, indicating assets that present cash flows capable of covering the project's operating expenses and pay investors above their cost of capital. That is the scientifically accepted methodology applied to activities with economic purposes.

3. THE THIRD SECTOR AND INVESTMENT EVALUATION

In its various segmented actions in society, the Third Sector has the role of supplementing/complementing public service. According to Mazza (2013), the Third Sector comprises private entities of civil society that carry out nonprofit activities of public interest. The Third Sector is so named because it differs from the role of the State as the First Sector and institutions with economic purposes as the Second Sector. Therefore, another denomination of Third-Sector institutions is nonprofit organizations.

Considering the specificity of not distributing the surplus, the nonprofit organization reinvests all of its results to operationalize and elaborate projects that will ratify the purpose of its core activity. Nonprofit organizations, as Handy (1984) ponders, have customers for whom their services are intended and must finance their activities, a fact that forces them to think in a way close to those of for-profit organizations.

Pace (2009) adds the need to improve the management of nonprofit organizations, given the relevant scenario in which Third-Sector organizations are operating in their complex internal and external environments. The efficiency of the Third Sector resonates as an alternative to complementing the State's action, which implicitly requires improving the management of resources applicable to the sector.

The efficiency in managing this segment's resources or its absence echoes in thousands of organizations working in the field of social assistance, culture, education, health, volunteering, economic and social development, ethics, peace, citizenship, human rights, democracy, in addition to the defense, preservation, and conservation of the environment (Art. 3 from Law 9790, March 23rd, 1999). In 2015 in Brazil, the number of foundations and associations was over 236 thousand entities. The associative organizations alone generated added value of BRL 43.6 billion, a gross production value of BRL 89.3 billion, remuneration of BRL 24.2 billion, and employment of 2.3 million occupations (IPEA, 2015). Therefore, it points to a robust movement of financial resources in hundreds of thousands of organizations, which are partly applied and immobilized in their assets.

So far, the evaluation of investments in social projects does not have a common standard. Most entities still do not use evaluation processes as a strategic means to improve their social performance. This picture is even worse in the current scenario, as the development agencies that finance nonprofit organizations more frequently evaluate their projects' effectiveness, efficiency, and effectiveness (Tachizawa, 2007).

According to Voltolini (2004), the ex-ante, or prior, evaluation aims to anticipate the results and impacts that the project may generate and is an excellent resource for knowing in advance if the diagnosis and the hypotheses formulated about the problem are adequate, if the strategies are well designed, if the objectives and goals are clearly defined and dimensioned and if the project presents economic, technical, political viability, if the cost-benefit ratio is satisfactory, and others.

However, in evaluating social projects, we do not always recognize some fundamental variables such as the time of use of the resource, the cost of this capital, and also parameters of economic viability, which highlights some gaps in this procedure.

4. APPLYING NPV IN THIRD SECTOR ORGANIZATIONS

This topic reflects on the applicability of the Net Present Value method for assessing the economic viability of projects in Third-Sector organizations. For this, we first analyze the compatibility of the Net Present Value with the Third Sector, and second, we develop its calculations. The idea arose from consulting Assaf Neto, Araújo, and Fregonesi (2006), who demonstrated in their empirical research the possibility of using Value-Based Management in Third-Sector organizations, including calculating the Economic Value Added (EVA). Thus, this study advances in applying other indicators, specifically the Net Present Value, with the same conceptual basis as Assaf Neto et al. (2006).

4.1 The Net Present Value compatible with the Third Sector

The reasoning that guides this reflection is that, as Third-Sector organizations raise resources from society, it is up to the organization to apply these resources in investments in such a way that they provide a return that covers the minimum attractive rate of return, which may be the organization's weighted average cost of capital, also comprised of a portion of third-party capital.

Thus, by obeying this premise, the nonprofit organization will create value by generating additional cash flow compared to project expenditures. This way, there will be efficient use and application of the resources invested with the return of the surplus to the organization, initiating a virtuous cycle that will benefit society by reinvesting in new viable projects. It is worth mentioning that Third-Sector organizations must show positive results allowing reinvestment in social projects, even though they do not have profitable purposes.

Therefore, profit indicates the efficient use of resources. That means it was possible to cover expenditures, and there are still resources for reinvestment. The surplus at the end of the year is not illegal, as imagined, and allows for expanding the organization's impact on society (Assaf et al., 2006).

As an analogy with for-profit organizations, in which the investor is willing to invest in companies that maximize their wealth, Third-Sector organizations that decided to evaluate social projects under this same dimension, that is, the efficient use of resources with positive results, would probably have greater credibility from society which would be willing to invest in their assets.

Thus, the argument developed here is that the Net Present Value becomes a compatible tool to be applied to the Third Sector and helpful for decision-making when approving projects that create economic value for society since the indicator has, as a sufficient condition, the positive result of the sum of future incremental cash flows brought to present value by the cost of capital required in the project, subtracted from its expenditures.

In a second point of analysis, Third-Sector organizations lack management tools to measure the efficiency and effectiveness of resources applied in projects in this segment (Assaf Neto et al., 2006). Even fundraising notices issued by organizations that promote social investments, in the absence of economic viability indicators, now ask applicant organizations for a set of requirements regarding the management of their core activity, the market, and demand, to seek greater assertiveness in benefiting those organizations that make better use of the resource. Given the difficulty in raising funds, companies that show their efficiency, mainly through structured projects, increase their possibilities of attracting funds from companies committed to acting with social responsibility (Assaf Neto et al., 2006).

Moreover, when increasing its investments, an organization needs to ensure that the efficient use of the applied resources sustains its growing equity. In other words, with the growth of equity, there is a need to hire people and carry out maintenance on equipment, demanding attention to the company's liquidity, which can also be safeguarded by reinvesting the surplus and controlling operating expenses. With respect to hiring people, there are organizations that work with a mixed system of volunteers and professionals in areas that are not suitable for volunteering.

The use of the Net Present Value in evaluating project investments will allow the organization to use a tool that makes it possible to admit only projects that are economically and socially efficient, making it even possible to measure the incremental revenues to be raised from society, to guarantee a healthy liquidity for the institution. Such evidence reaffirms the

compatibility of applying the Net Present Value in the Third-Sector since it improves investment management, both for raising funds and managing assets.

In addition, it allows the analysis of mutually exclusive projects. That is a recurrent situation in scenarios where resources are limited, where one has to choose one alternative among more than one proposal for applying a resource, where the choice of one automatically implies rejecting the others. According to the understanding defended herein, we must select the alternative with the highest Net Present Value on these occasions. When there is a basket of investments, the organization must choose the one that makes it possible to maximize results, given the scarcity of resources to be applied.

4.2 Possibility of calculating the Net Present Value in Third-Sector organizations

As discussed, calculating the Net Present Value depends on the variables of cash flow from the gross investment, cash flow generated in the future by the project, cost of capital, and time. Among these variables, we now analyze those that require adaptations for calculating the Net Present Value in Third-Sector organizations, including the working capital implicit in the project's cash flow.

The cash flow from the gross investment is the amount paid in acquiring and installing the new assets obtained for the project. We should also consider expenses such as freight, insurance, and training in this item. For Third-Sector organizations, the understanding is that the gross investment component does not require any changes, once it is suitable for any market segment.

The cash flow generated by the project consists of comparing projected revenues and expenses, adjusted for economic (and temporary) events that are not included in the result on an accrual basis, in this case, depreciation, and changes in working capital requirement. We need to confront the following components in cash flow: gross revenue, deductions, operating costs and expenses, depreciation, working capital requirement, and residual value.

Due to the specificities of Third-Sector organizations, which by their nature work with donations and specific tax treatment, it is necessary to reinterpret the following components: gross revenue, deductions, and working capital requirement.

Starting with gross revenue, we will consider an analysis already developed by Assaf Neto et al., (2006) for Third-Sector organizations. The revenue presented in the statements refers predominantly to amounts received as a donation, which cannot be directly related to the costs of services provided (there is no proportional relationship between them). Therefore, it is

not possible to state that the company with the highest result was the one that contributed the most to the community.

From this observation by Assaf Neto et al. (2006) about the impossibility of considering the use of revenue from donations as a service provided, which is a specific situation of Third-Sector organizations, this study presents as a proposal for gross revenue the incremental value of services provided to society, according to the product or service of the investment project evaluated. That means that the incremental gross revenue will measure the average value of these services practiced in the market or the amount the government would be willing to pay, such as the Brazilian Unified Health System (SUS) for the segment of health entities. This last option assumes the hypothesis that the State would pay such an amount when providing this service, which represents the value that the State is willing to pay for such service provision since there is an understanding that the Third Sector acts as an extension of the traditional State (Costa & Rosa, 2002).

It is necessary to observe that the incremental gross revenue raised, considering the proposition of this study, is just a reference to compare this revenue with the costs effectively existing in the project, aiming to measure whether or not the project's investment and operating costs will be covered by this revenue, even if it does not charge for the service provided, as it is philanthropic.

For the deductions component, most foundations are immune, given that education or social assistance institutions are supported by Article 150, VI, "c" of the Brazilian Federal Constitution, in which the Union, the States, the Federal District, and Municipalities cannot create taxes on these organizations. Thus, each Third-Sector organization must verify its type of activity and tax situation. If the organization is excempted from taxes on income, assets, and services from its core activity, as defined by law, no cash disbursement will be considered when evaluating the project.

As for the component working capital requirement, the analysis begins with interpreting its concept. According to Brasil (2002), the working capital requirement represents the volume of financing the company needs to run its operations. This volume is the comparison between current assets and current liabilities.

Nevertheless, as mentioned, Third-Sector organizations do not sell products or services. Therefore, even if the spontaneous sources (suppliers and wages payable) granted enough payment terms to carry out the entire operational cycle as if they were financing the operational assets (inventory of raw materials, work in process, and finished products), the organization would subsequently continue settling the obligations of operational liabilities through its

resources since there would be no receipt of revenues generated by selling products. Hence, all capital invested in the operational cycle to carry out the organization's core activity must be considered a cash flow to be paid, representing only an operational disbursement.

The last item in adapting the Net Present Value is the cost of capital. Considering that most Third-Sector organizations do not have third-party capital in their capital structure, the weighted average cost of capital will be the analysis of the cost of equity.

Initially, it is necessary to remember that Net Equity in nonprofit organizations, called Social Equity, comprises its main accounts: social capital, surplus reserves, and accumulated surplus. As the social capital belongs to the company, the surplus does not have a distribution of results. It is invested in the company itself, which will have the mission of converting it into a benefit for society.

What would then be the cost of the equity of a Third-Sector organization? For this calculation, one option is to consider its opportunity cost, which represents the best investment option abandoned in the market under the same risk to invest. However, we cannot calculate the best return on investments of Third-Sector organizations of the same risk, given that there is no distribution of results or economic returns for the donors.

Therefore, the appropriate option would be to represent the organization's cost of capital by the basic interest rate which is the country's risk-free rate since the invested capital, or Social Equity, is owned by society (Assaf Neto et al., 2006). When investing in social projects, society uses its surplus so that the donated resource returns in social benefits through using investments efficiently. In a market economy, interest rates determine the capital allocation between investors. Interest is the price paid for renting money, the amount paid for borrowing capital (Assaf Neto, 2014).

The Selic rate comprises trading federal government bonds for one business day (Brasil, 2002). Due to the nature of government bonds, the Brazilian economy accepts the Selic rate as a risk-free rate and a relevant reference for comprising market interest rates (Assaf Neto, 2014).

This study considers the Selic rate as the cost of equity capital, once it is the remuneration for the investment of surplus by investors who do not want to take risks in the financial market. In this sense, when making donations, the community offers the capital as resources to be invested at a minimum risk by the institution that owns the project.

5. CALCULATION NPV OF A NONPROFIT ORGANIZATION INVESTMENT

We proceeded with the calculation for this study in a foundation that has been present in Minas Gerais State, Brazil, for 25 years, therefore a consolidated institution that has received several recognition awards for its work, such as the title and seal of Citizen Company, awarded by Santa Casa Group from Belo Horizonte city, in recognition for the work carried out by Pediatrics at the Central Hospital, which serves only the Brazilian Unified Health System (SUS).

This foundation has employees and volunteers who work in different activities to carry out its mission. Many of these activities are inserted within its various programs. We highlight in this study the "Transporting Values" program, which provides transport to hospitals, clinics, and ambulatory clinics, for assisted people and their companions. This foundation's income consists of donations made by individuals, companies, and institutions that promote projects for Third-Sector organizations.

To demonstrate the previously developed theoretical reflection, the calculation of the Net Present Value was carried out by simulating the acquisition of another vehicle to drive the foundation's beneficiaries, considering the investment as prior, therefore, returning to the time of the decision of its purchase.

As previously discussed, we adopted prices from the SUS Table of Procedures, Medications, and OPM (Orthoses, Prostheses, and special Materials) (Datasus, 2020a, 2020b) as a revenue value to calculate the gross revenue of services provided. The revenue comes from the transportation of patients and their respective companions.

The following tables show each item considered to calculate the Net Present Value of investment in a vehicle in this organization:

Table 1: Composition of project costs and operating expenses per year in BRL

Fuel	Driver wage charges	Lubricants/ Maintenance	Insurance	IPVA tax	Mandatory insurance lice fee	Total
BRL 8,180.43	Sunk cost*	BRL 1,664.72	BRL 4,114.22	Exempted	BRL 163.33	BRL 14,122.71

Source: Research data. Note. *Cost incurred in the company (not generated by the project).

Table 2: Composition of free services provided to the community

Service provided	Service Number of shifts/mc	Value paid by SUS (BRL)	Revenue generated (BI month
Transport	242	Patient 4.95 Companion 4.95 Total 9.90	2,395.80

Source: Research data.

Table 3: Composition of project cash flow

Year	Investment (CAPEX)	Operating income	Operating costs/ expenses	EBITDA Additional	Residual value	Project cash flow
0	**-95,890.00**					**-95,890.00**
1		**28,749.60**	-14,122.71	**14,626.89**		**14,626.89**
2		**28,749.60**	**-14,122.71**	**14,626.89**		**14,626.89**
3		**28,749.60**	**-14,122.71**	**14,626.89**		**14,626.89**
4		**28,749.60**	**-14,122.71**	**14,626.89**		**14,626.89**
5		**28,749.60**	**-14,122.71**	**14,626.89**	**64,498.43**	**79,125.33**

Source: Research data.

Considering the presented data and the Selic rate of 4.40% (BCB, 2020), the Net Present Value reached BRL 20,506.22. The Net Present Value indicates that the foundation made an investment to meet the demands of its activity with sufficient efficiency to pay the capital invested by society in terms of benefits versus operating costs and expenses. This way, the project is economically healthy, as the organization will operate with a return higher than the minimum required by society (since the project's IRR, at 9.88%, is higher than the Selic rate).

Nevertheless, this methodology tool applied in the decision-making process may lead, through value drivers, to improvements in the project. The drivers, in this case, are the project variables that affect its Net Present Value. A variable that directly affects project performance is the number of shifts. As the Net Present Value is positive, the average of 242 assistances per month is enough to efficiently return to society the investment applied to the foundation (in the form of amounts that the State would pay).

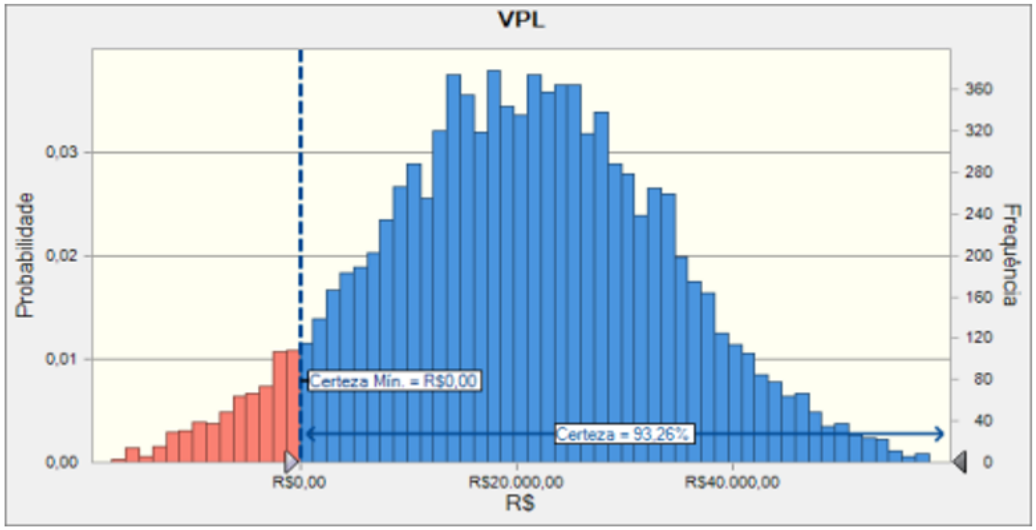
In addition, we found that the minimum demand for assistance for the project to remain viable is approximately 187 per month. This number of shifts is what makes the Net Present

Value equal to zero. We can say that it is the project break-even point concerning the number of services, consisting of strategic information that can guide its execution so that the service provided does not become idle. Therefore, monthly patient shifts must be above this level for the foundation to bring value to society. The minimum number of assistances may serve as a performance indicator in value-based strategic management.

Nevertheless, there is uncertainty linked to the number of services performed. Thus, we added the Monte Carlo method to the analysis, which carries out probability simulations of the selected variables that may impact the project viability (Massari; Gianfrati & Zanetti, 2016). We found the mean based on a history of shifts performed at the institution, which vary monthly.

The observed dispersion of the number of monthly shifts is low. Martins and Theóphilo (2009) suggest empirical rules for interpreting coefficients of variation (Pearson) and attribute that means with low dispersions have relative standard deviations below 15%. Therefore, we defined the random variable "number of assistances" as a simulation assumption and attributed to it a normal probability distribution, with a mean of 242 and a standard deviation of 36 (approximately 15% of the number of assistances mean). Thus, we considered monthly shifts normally distributed with an expected value of 242 per month and a standard deviation of 36. Once we defined the assumptions, 10,000 Net Present Value simulations were performed (sufficient level, according to the literature). Figure 2 illustrates the frequencies.

Figure 2: Probability of the Net Present Value by randomness in servisse



Source: Research data. Note. *VLP*= Net Present Value; *Probabilidade*=Probability; *Frequência*=Frequency; *R$*=BRL

According to the simulation, there is an associated probability of 93.26% that the project has a positive Net Present Value. Despite this, we notice that there is still a risk (of 6.74%) related to the number of assistances not reaching the minimum level sufficient for the foundation to return the investment to society efficiently. Table 4 presents the simulation statistics.

Table 4: Descriptive statistics of the Net Present Value simulations

Statistics	**Net Present Value**
Number of simulations	10,000
Base case	BRL 20,506.22
Mean	BRL 20,363.58
Median	BRL 20,483.69
Standard deviation	BRL 13,467.88
Coefficient of variation	66%
Minimum	(BRL 26,804.18)
Maximum	BRL 73,841.42

Source: Research data

The economic viability analysis result of the social project indicates relevant points for the foundation management. The Net Present Value indicates the efficient use of resources invested by society in social projects, enhancing the creation of economic and social value for the community, allows the identification of the number of assistances to be provided to the community according to the revenue recognized by the First Sector, and establishes the limits of incremental revenue values that must be collected for the project maintenance after its implementation.

By using the Net Present Value methodology in investment evaluation, the Third Sector will add social value to society, and promote effectiveness and sustainability in its activities, making it financially and economically healthy.

6. FINAL REMARKS

The present study aimed to verify the applicability of the Net Present Value method in evaluating economic viability of projects of nonprofit organizations that form their revenues through donations.

The results showed compatibility of the application of the Net Present Value in the Third Sector as long as we adjust the variables incremental cash flow, working capital requirement, and cost of capital to the specificities of this segment. The use of the Net Present Value in Third-Sector organizations makes it possible to measure the creation of social value to evaluate projects regarding their efficiency and financial condition and assess their internal rate of return. In addition, it allows these institutions to identify value drivers for the operational efficiency of surplus social projects. That is because, by detailing the variables number of assistances and operating expenses, it is possible to establish goals that direct management actions to guarantee that the investment made operates with productivity results within the limits of economic viability for the organization and consequently society.

The test carried out in this study, analyzing the viability of investments for nonprofit organizations, contributes to the assertiveness in decision-making on applying resources from society. Therefore, it makes decision-making for investment more rational, measurable, and capable of filling the gap in the viability concerning the project's economic efficiency. In addition, it allows managers in this segment to select projects based on the best Net Present Value result and the limitation of available resources.

Other measures of social quality can surely be applied when evaluating a Third-Sector project. This study was limited to items of economic viability and opens space for future reflections on other indicators to evaluate social projects, such as payback, equivalent annual cost, and a sensitivity analysis of the investment risk.

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