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CAPITAL BUDGETING AS A MANAGEMENT ACCOUNTING INSTRUMENT USED FOR PLANNING PROJECT ACTIVITIES

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Summary. The aim of this paper is to present the role of capital budgeting in planning project activities and to show, using an numerical example, the decision-making process leading to acceptance or rejection of a project. The article was preceded by literature studies on the nature and scope of capital budgeting in undertaking project activities. The main methods used in the article are analysis of sources and document analysis. The research results allows for the unequivocal finding that capital budgeting plays an important role at the planning stage of project activities. The use of capital budgeting tools is a must for entities applying for co--financing from European funds, as well as for other entities that pursue informed rational management decisions in the area of project activities.

Key words: project, management accounting, capital budgeting.

INTRODUCTION

In business practice, projects are an increasingly popular form of activity[1]. This applies both to entities involved in predominantly project-based operation and those for whom projects are only an addition to their core business methods. Notwithstanding, engaging in this type of activity is not straightforward, as it requires the use of specific methods and diverse instruments facilitating the decision whether to approve or reject the given undertaking. Among those are management accounting instruments, including capital budgeting tools. The need to resort to such methods mainly results from the specificity that projects demonstrate, such as having a single objective, displaying a specific organizational structure, having focus on the project, the need for compromise, hardly reliable standards, a substantial impact of the environment, frequent changes to the plans and a different rhythm of operation (Łada and Kozarkiewicz 2007).

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[1] In literature, the concept of „project" has diverse definitions. Some are very general, where the project is treated as a series of mutually linked intermediate tasks (objectives) oriented toward achieving the main goal. Others are rather detailed and indicate that the project is a unique (implemented on a one-off basis) and complex undertaking contained within a finite stretch of time, with a distinctive beginning and end, pursued by a team (or multiple entities in cooperation), in a manner that is relatively independent of the regular business of the enterprise, with the aid of special methods and techniques (Durlik 1995; Trocki et al. 2003).

The aim of this paper is to present the role of capital budgeting in planning project activities and to show, using a specific numerical example, the decision-making process regarding whether the potential project should be approved or rejected.

The example discussed herein constitutes a reference for calculations for any type of enterprises that are commencing project-based activity, particularly those that have not yet fully developed their management accounting systems but intend to pursue projects co-financed by foreign sources.

MATERIAL AND METHODS

In preparing this article, a review was performed of literature concerned with the specificity of projects and the management accounting tools used for planning same. The study showed that management accounting instruments were used at almost every stage of the project life-cycle, i.e. in programming, planning, controlling and completion. At the project planning stage, a significant role among the numerous accounting tools available is played by capital budgeting. Hence, this article discusses the essence and scope of application of capital budgeting as an effective tool used in planning project activities.

The conclusions were drawn using the critical literature review and document analysis methods, as well as deductive reasoning. The theoretical considerations were supplemented by a numerical example of budgeting methods used for planning project activities.

THE ESSENCE AND SCOPE OF CAPITAL BUDGETING

The capital budgeting of projects is a strategic management accounting tool of a complex and heterogeneous nature used at the planning stage of long-term projects. In literature, this concept is considered either from a narrow or a wider perspective. From the narrow perspective, capital budgeting is described as a tool facilitating decisions regarding the choice of the most effective investment projects on the basis of studies and analyses of the consequences that the individual projects will have if pursued. From the wider perspective, it should be understood as the choice of the best project from among a set of those analyzed in the given business environment, as well as the choice of sources of lowest-cost capital allowing for the given project's implementation (Łada and Kozarkiewicz 2007). On the basis of the aforementioned definitions of capital budgeting, the concept can be described as a process that helps identify the investment needs of the enterprise and the available projects, choose the assessment method and criteria, make a final approval of the project for implementation, find the sources of funds and implement control procedures (Nowak 2008).

Capital budgeting of the enterprise, which is a multi-stage process, comprises two domains – investment and financial. Making this division allows for separate analyses to be made of the potential undertakings and the available sources of funds for the project activities. The domains later combine at the stage of selecting the project to be pursued through profitability assessment (cf. Fig. 1).
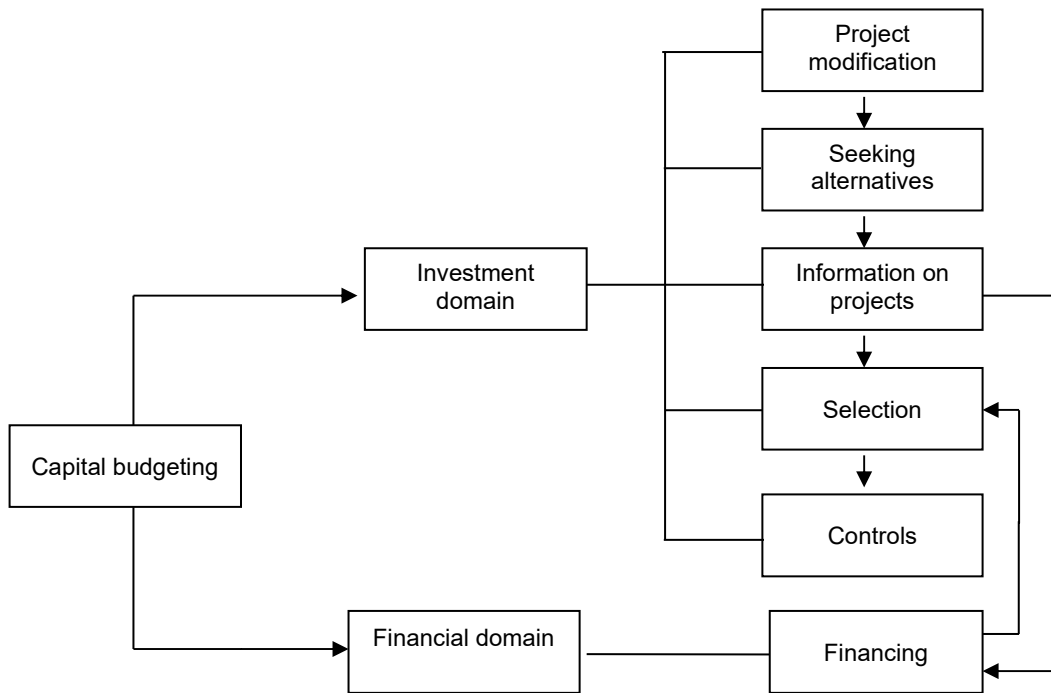
Fig. 1. Capital budgeting structure
Source: developed on the basis of Bek-Gaik (2002).

As is the case with the capital budgeting definition, literature does not provide an unequivocal description of the stages that the process involves. This is so, because sources focus on different elements with different detail. Table 1 presents examples of the budgeting process stages that literature mentions most frequently.

Table 1. Capital budgeting stages, from the wider and narrow perspectives

Capital budgeting stages	
Wider perspective	**Narrow perspective**
1. Identify the objectives and diagnose the current state of the organization in order to develop a long-term investment strategy	1. Identify projects
2. Identify the enterprise's investment needs	2. Seek alternatives
3. Seek alternative investment projects	3. Gather information on projects
4. Gather information on projects	4. Select projects
5. Run a financial study	5. Identify sources of funds for the projects
6. Rank and select investment projects	6. Implement the project and control its execution
7. Approve projects for implementation	
8. Approve the capital budget	
9. Implement the projects and control their implementation	
10. Control the outcomes of the projects pursued	

Source: author's own development based on Łada and Kozarkiewicz (2007) and Bek-Gaik (2002).

As the comparison in Tables 1 shows, the stages that are mentioned in literature coincide, while any differences between them are caused by the different detail with which they are analyzed. Consequently, the budgeting process involves:

— identifying projects by specifying the type of project to be pursued considering that the goals to be achieved must comply with the overall objectives of the enterprise, stakeholder expectations, the enterprise's capacity to obtain resources, and the environment within which it operates;

— seeking alternative opportunities among project variants that guarantee achievement of the same goals, and selecting the one that guarantees achievement of the most favorable strategic objective;

— gathering financial, quality and technical information on the projects and their variants, in order to carry out technical, economic and financial analyses for the purpose of evaluating the feasibility of the particular variants;

— selecting and ranking the potential projects using project profitability assessment measures as part of capital budgeting;

— identifying the sources of funds for the projects;

— implementing the project and controlling its execution.

One of the most important stages of capital budgeting is obtaining information on projects. This process entails technical, economic and financial analyses to be performed on the basis of the data gathered.

The technical analysis is designed to identify, among other aspects, the human and physical resources that the project will require. Also, the outlays necessary to launch the project and the required costs of its implementation are evaluated.

The economic analysis aims at surveying the market demand for the subject-matter of the project, the price level acceptable for the consumers, and thereby the level of the expected revenue.

In the financial analysis, which is the crucial stage of capital budgeting, the profitability of individual projects is assessed using both simple methods that do not account for the time value of money and complex (discounting) methods that do account for the risk related to pursuing the particular projects (Klinowski 2017). These methods are described in the following section.

METHODS USED IN CAPITAL BUDGETING

As noted above, evaluating the profitability of different investment projects is of particular importance. Such evaluation can be carried out by traditional discounting methods, i.e. net present value, internal rate of return and assessment methods that account for risk and uncertainty, such as sensitivity analysis, scenario analysis and decision-tree analysis. Additionally, methods that do not account for the time value of money can be used as tools assisting project assessment and selection decisions, for instance payback period and accounting rate of return (cf. Fig. 2).

In project evaluation, non-discounting (simple) methods can only play an assisting role. They are usually used at the project preparation stage, or where short-term small projects are being assessed, i.e. those that have short implementation and operation cycles. For calculations, these methods assume the sum of expected inputs and outputs, or their average values. The structures and description of the non-discounting measures are provided in Table 2.

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┌─────────────────────────────────┐
│   Investment evaluation methods │
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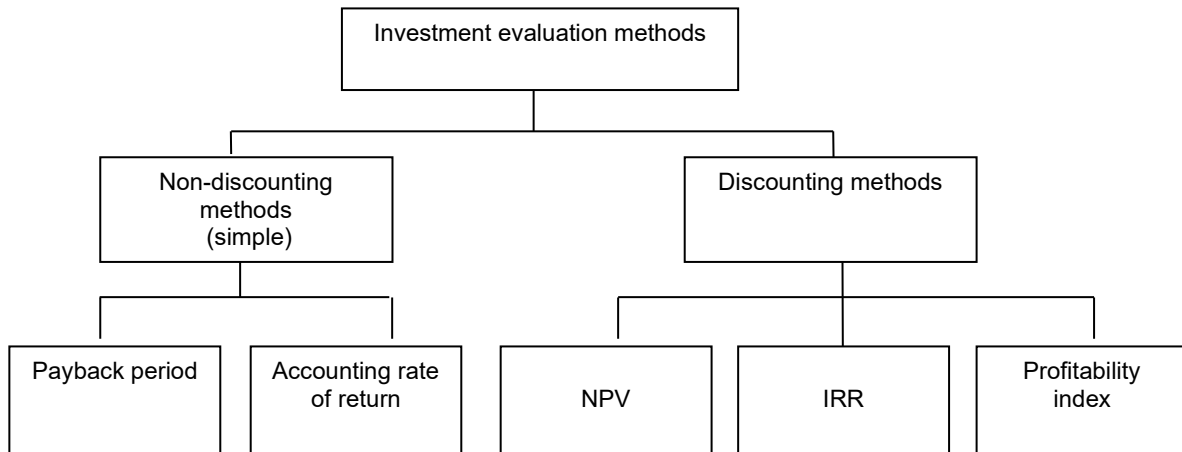
Fig. 2. Methods for assessing investment projects as part of capital budgeting
Source: developed based on Kiziukiewicz (2012).

Table 2. Simple measures for evaluating investment project profitability as part of capital budgeting

Method	Structure of the measure	Description
Payback period	$$Tz = \frac{Ni}{Wi_r}$$ where: Tz – payback period Ni – incurred investment (capital expenditure) Wi$_r$ – annual revenue from investment project	Payback period means the number of years it takes for the original investment to be recovered through accumulated inflows from the project. Approval of the given project for implementation is dependent on a comparison between the achieved outcome and the so-called cutoff period estimated or calculated by the investor on the basis of an assessment of the time value of money. The established payback period must be shorter than or equal to the reference used for the comparison.
Accounting rate of return	$$r_{KS} = \frac{\bar{Zn}}{\bar{I}}$$ where. r$_{KS}$ – accounting rate of return Zn – annual average net profit Ī – annual average net worth of investment project	The accounting rate of return, also referred to as return on investment, is calculated based on the expected income from the project. Literature provides varieties of this method. For instance, the numerator may consider interest on loans taken to finance the project, and the denominator may include total investment, own investment or average capital expenditure.

Source: author's own development.

Contrary to the simple methods, the discounting methods are the main measures used to facilitate decisions on whether the potential investments are profitable or not. This is so, because by including the discounting technique they allow for a comparison between all the diverse volumes of investments and outcomes occurring in the consecutive years. The discounting methods used in project evaluation are presented in Table 3.

Despite their numerous advantages, the investment project evaluation methods discussed above have some limitations, as well, which often necessitate a simultaneous adoption of a number of methods in order to make a final informed decision on the acceptance or rejection of projects. Table 4 presents the advantages and limitations of the most frequent methods used in capital budgeting.

Table 3. Discounting investment project evaluation methods as part of capital budgeting

Method	Structure of the measure	Description
Net present value (NPV)	$$NPV = \sum_{i=1}^{t} Bw(Wt) - Ni$$ where: Bw(Wt) – present (current) value of project inflows Ni – investment Wt – investment inflows in consecutive years	This method is based on the concept of discounting the stream of inflows and calculating the present value across the entire project lifecycle. As established by the investor, the discount rate should reflect the risk, recovery term and other parameters characteristic of the project. The outcome NPV will determine whether the project is accepted or not. With a positive NPV the project can be accepted, with a negative NPV it should be rejected. Where the NPV is zero, the inflows are at a rate of return equal to the discount rate, and the final decision on acceptance should resort to additional criteria. If this measure is used to evaluate two exclusive projects, the one offering a higher net value is preferable.
Internal rate of return (IRR)	$$IRR = r_1 + \frac{NPV_{(D)}(r_2 - r_1)}{|NPV_{(U)}| + NPV_{(D)}}$$ where: r_1 – lower discount rate r_2 – higher discount rate $NPV_{(D)}$ – positive NPV – present net value for lower discount rate r_1 $NPV_{(U)}$ – absolute value of negative NPV for higher discount rate r_2	The internal rate of return, also referred to as the rate of return or the discount rate of return, determines the interest rate that equalizes the sum of future cash flows with the sum of the capital invested. IRR is also defined as an interest rate at which the NPV is zero. IRR is calculated using the successive approximation method to check the NPV at various discount rates until it equals zero. The decision to accept a project is made by comparing the resultant IRR level with the threshold parameter, usually the cost of capital. Thereby, an IRR higher than the threshold parameter suggests the project is profitable, an IRR lower than it says the project should be rejected, and an IRR equal to it does not affect the final decision. The costs of capital is equal to the project's rate of return.
Profitability index	$$E = \frac{\sum_{t=1}^{n} Bw(W_t)}{\sum_{t=1}^{n} Bw(N_t)}$$ where: Bw(W_t) – sum of discounted values of future investment inflows Bw(N_t) – sum of discounted financial investment	This index is a relative measure for assessing the profitability of the project. Its value higher than 1 means the net present value is higher than the value of discounted cash flows and the project has a positive NPV. Therefore, the project can be accepted. Otherwise, it should be rejected.

Source: author's own development.

As the comparison of the advantages and limitations of the project evaluation methods suggests, the most comprehensive and, thus, the most desirable method is the NPV. It accounts for all the inflows and capital expenditure at every stage of the project's life-cycle, the time value of money and the maximization of the present value of future net cash flows. It must be noted, however, that the simple methods, i.e. payback period and accounting rate of return – although they do not meet any of the desirable characteristics of a project profitability measure – are an excellent tool assisting the decision-making process during the project preparation stage, or where short-term small projects are being assessed.

Table 4. Advantages and limitations of capital budgeting methods

Method	Advantages	Limitations
Payback period	1. Simple, easy to understand and carry out. 2. Prefers short-term projects, where it informs of the liquidity of the capital invested. 3. Project profitability expressed in time units (number of years) has a strong impact on decisionmakers' imagination.	1. Does not account for the time value of money. 2. Does not inform of the project's profitability. 3. Prefers short life-cycle projects, 4. Cannot be an objective decision-making criterion. 5. Does not identify the benefits generated by the project beyond the payback period.
Accounting rate of return	1. Simple, easy to understand and carry out. 2. Easy access to information used as the basis for calculations.	1. Does not account for the time value of money. 2. Rests on profit as the measure of the project's net benefit. 3. Cannot be an objective decision-making criterion. 4. Cannot be used for projects of different levels of risk.
Net present value	1. Net benefit is expressed in net cash flow. 2. Accounts for the time value of money. 3. Identifies the benefits generated by the project across its entire life-cycle. 4. Is an objective decision-making criterion. 5. Links the project with the enterprise's long-term business cycle. 6. Can be used for evaluating both typical and unconventional projects.	1. The choice of the appropriate discount rate is hindered. 2. Does not indicate the relative profitability of the undertaking. 3. Requires the assumption to be made that the discount rate and the net positive cash flow capitalization rate are equal. 4. Does not provide for a possibility to adapt the project to the changing environment.
Internal rate of return	1. The net benefit is expressed in net cash flow. 2. The outcome is easy to interpret and ready for immediate comparison with the required return. 3. Identifies the benefits generated by the project across the entire life-cycle. 4. Is an objective decision-making criterion, 5. Contains information on the level of the project's financial margin. 6. Can be used to evaluate the profitability of an investment project even before its discount rate is known.	1. Requires the assumption to be made that the reinvestment rate of positive net cash flows is equal to the internal rate of return. 2. Does not fully account for the time value of money, because it assumes that the time value of money is equal to the internal rate of return of the given project. 3. A situation is possible where with an increasing discount rate the cash flows do not present a decreasing present value. 4. It is possible that a number of internal rates of return will occur. 5. Cannot be used directly for an absolute evaluation of the profitability of unconventional projects.

Source: author's own development based on Rogowski (2004).

Due to the specific features that different projects demonstrate, their implementation often carries some risk and uncertainty regarding the achievement of the assumed goals. Different methods are used to evaluate the risk and measure it, among which special emphasis is put on the above-mentioned methods accounting for risk and uncertainty, such as sensitivity analysis, scenario analysis and decision-tree analysis. Table 5 presents descriptions of those methods.

Table 5. Project profitability evaluation methods accounting for risk and uncertainty

Method	Description
Sensitivity analysis	This method allows the range of investment risk to be identified. Consequently, it allows for establishing the direction and scale of how the NPV or the IRR respond to the changes of specific factors, such as capital expenditure, cash flows or discount rate, and for singling out the factor that has the largest impact on the NPV or the IRR. Moreover, it helps to set the break-even point for the project. Going below that point causes the project to be unprofitable and subject to rejection.
Scenario analysis	This method makes it possible to compare different economic conditions with the probability of their occurrence, or the so-called outcome situation. This method comes down to developing three scenarios (optimistic, realistic and pessimistic) and identifying the values of factors determining the NPV in each of the situations.
Decision tree	This method is applied where it is possible to estimate the probability of various statuses of nature occurring. Individual decision-making situations are assigned with a probability of the occurrence of the assumed outcomes. The selection procedure is presented graphically in the form of a decision tree.

Source: author's own development.

When deciding to evaluate the given project's profitability, organizations should be guided by various objectives tailored to the individual and unique features of the undertaking. When selecting the profitability measure, it should be remembered that it should account for (Więcław 2011):
− all inflows and financial outlays related to the project's life-cycle;
− the time value of money;
− the accomplishment by the enterprise of its goal by carrying out the project.

These methods for evaluating investment project profitability do not exhaust the list of the available approaches. However, they are the most popular in the practice of organizations that make decisions to run projects.

CAPITAL BUDGETING APPLIED – A NUMERICAL EXAMPLE

According to the present study, capital budgeting methods play a very significant role in project activity. For instance, enterprises applying for financing from European funds for their projects must during the application procedure demonstrate that the proposed undertakings are viable – also by using capital budgeting instruments. Thereby, the share of businesses applying these particular methods can be pictured by demonstrating the number of projects approved for financing, which between 2004 and November 2019 amounted to more than 253 thousand (cf. Fig. 3). These numbers do not account for undertakings that were subject to capital budgeting but were not approved for financing, or those that were implemented without contribution from EU funds.

In order to demonstrate the usability of capital budgeting instruments in planning project activities, the example was analyzed of a project entailing the implementation of a new technology that allows for launching the manufacture of biodegradable packaging for cleaning products.

The project schedule includes, among other thigs, the purchase and assembly of equipment for a new production line, IT services required for the programming of the equipment, commissioning and staff training. It was assumed that all the costs related to the implementation of the new technology would be incurred in Q4 2019. The project was estimated to maintain sustainability for 5 years between 1 January 2020 and 31 December 2024.
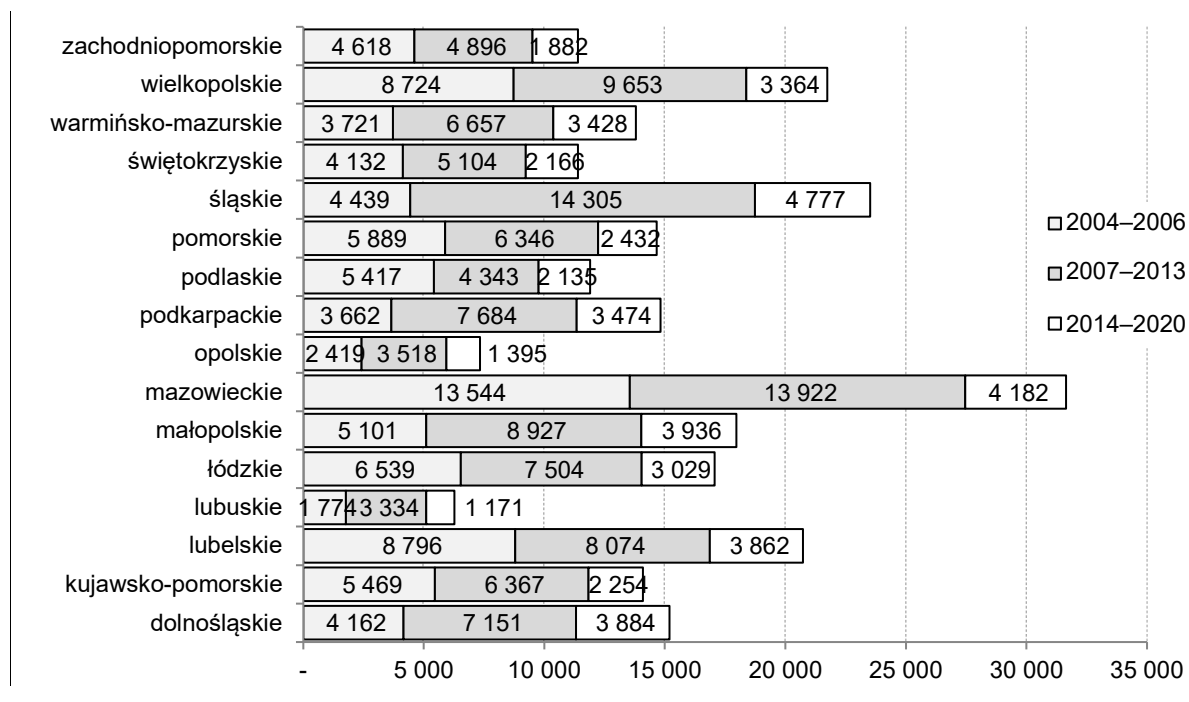
Fig. 3. Structure of projects implemented using contribution from EU funds
Source: own study based on mapadotacji.gov.pl, access: 15.11.2019.

Based on a cost estimate made by a specialized third party and accepted by the investor, it was established that the project's implementation would require a capital expenditure of PLN 950 thousand. The planned expenses are presented in Table 6.

Table 6. Planned capital expenditure

No.	Capital expenditure	PLN net value
1.	Cost of purchase of production line and software	850,000
2.	Cost of assembly	26,000
3.	Project preparation (permits, attestation, programming, staff training)	30,000
4.	Purchase of necessary material	24,000
5.	Other expenditure not elsewhere classified	20,000
Total expenditure		950,000

Source: author's own development.

In order to establish the products' selling price, the costs of their manufacturing during the project's sustainability period were estimated (cf. Table 7). These costs included:

− depreciation determined according to tax law regulations, pursuant to which the machinery installed as part of the new production line was classified under Group 5 of the KŚT (Fixed Asset Classification), i.e. machinery for the manufacture of products of metal and plastics, assuming a yearly depreciation rate of 14%, and a depreciation rate of 30% for the software for same machinery;

− third-party services, including the costs of maintaining the production line machinery and equipment as determined by the third party;

- the costs of consumption of material and energy (PLN 1.5 per piece) and wages per product unit (PLN 0.9 per unit);
- costs of social insurance and employee services accounting for 20% of costs of wages.

Table 7. Planned costs of manufacturing

No.	Costs [in PLN]	2020	2021	2022	2023	2024
1.	Depreciation	127,000	127,000	127,000	117,000	112,000
2.	Consumption of material and energy	705,750	990,750	1,282,500	1,050,000	975,000
3.	Third-party services	10,000		10,000		10,000
4.	Wages	423,450	594,450	769,500	630,000	585,000
5.	Social insurance and other services	84,690	118,890	153,900	126,000	117,000
Total costs		1,350,890	1,831,090	2,342,900	1,923,000	1,799,000

Source: author's own development.

Additionally, for the purposes of implementing the project the revenue was estimated for the planned sustainability period. It was determined on the basis of an analysis of consumer demand for the new product and the price calculated based on the costs of manufacturing plus a profit margin of 5%. The planned revenue from the sale of biodegradable cleaning product packaging is shown in Table 8.

Table 8. Planned revenue from the sale of biodegradable cleaning product packaging

No.	Item	2020	2021	2022	2023	2024
1.	Planned volume of sales [in units]	470,500	660,500	855,000	700,000	650,000
2.	Planned selling price [in PLN per unit]	3.20	3.20	3.20	3.20	3.20
3.	Planned revenue from sales [PLN]	1,505,600	2,113,600	2,736,000	2,240,000	2,080,000

Source: author's own development.

As part of the capital budgeting process, first the payback period was established by identifying the number of years it would take for the investment to be recovered through anticipated accumulated inflows from the project (cf. Table 9).

Table 9. Planned expenditure on the project

Year	Expenditure [PLN]	Net inflows [PLN]	Accumulated net inflows [PLN]
0	950,000	–	–
1	–	186,460	186,460
2	–	282,510	468,970
3	–	393,100	862,070
4	–	313,250	1,175,320
5		281,000	1,456,320

Source: author's own development.

The analysis indicated that the investment would be recovered after 3 years and 2 months. The enterprise's management found this value to be satisfactory, because the planned project would contribute to profit generation across the entire sustainability period. However, given the constraints of the payback period method, which is a simple project evaluation method, the net present value was identified. The threshold rate of return was established at 9.5%. The assumed rate of return was supposed to cover the cost of capital. The identification of the net present value at a discount factor of 9.5% is shown in Table 10.

Table 10. Establishment of the discount factor and the NPV at r = 9.5%

Year	Cash flows [PLN]	Discount factor r = 9.5%	Present value [PLN]
0	−950,000	1.0000	−950,000.00
1	154,710	0.9132	141,287.67
2	282,510	0.8340	235,616.44
3	393,100	0.7617	299,406.13
4	317,000	0.6956	220,497.05
5	281,000	0.6352	178,498.97
Total present value		3.8397	1,075,306.26
Expenditure			950,000.00
NPV			125,306.26

Source: author's own development.

With the assumed rate of return, this project showed a positive value, which indicated its profitability provided it was co-financed by external funds from a loan bearing a 9.5% interest rate. However, the enterprise decided to expand the analysis by determining the interest rate at which the NPV was positive. For this purpose, the internal rate of return (IRR) was identified. The value of the discount factor at which the NPV was negative was sought using the successive approximation method. As a result of the search, the NPV was established at the rate of return r = 16% (cf. Table 11).

Table 11. Establishment of the discount factor and the NPV at r = 16%

Year	Cash flows [PLN]	Discount factor r = 16%	Present value [PLN]
0	−950,000	1.0000	−950,000
1	154,710	0.8621	133,307.69
2	282,510	0.7432	209,950.95
3	393,100	0.6407	251,842.53
4	317,000	0.5523	175,076.28
5	281,000	0.4761	133,787.76
Total present value		3.2743	904,028.21
Expenditure			950,000
NPV			-45,971.79

Source: own study.

As table 11 suggests, the net present value (NPV) was negative at a discount rate of 16%. Therefore, as the threshold (positive and negative) values were known it was now possible to determine the internal rate of return (IRR).

$$IRR = r_1 + \frac{NPV_{(D)}(r_2 - r_1)}{\left|NPV_{(U)}\right| + NPV_{(D)}}$$

where:

r_1 – lower discount rate

r_2 – higher discount rate

$NPV_{(D)}$ – positive NPV – net present value for the lower discount rate r_1

$NPV_{(U)}$ – absolute value of negative NPV for the higher discount rate r_2

$$IRR = 9,5\% + \frac{125\,306,26\,(16\% - 9,5\%)}{\left|-45\,971,79\right| + 125\,306,26} \approx 14,26\%$$

For the undertaking in question, the internal rate of return, being the return on investment (the interest on the principal), was 14.26%. Thus, the undertaking would have also been profitable at a borrowing rate of 14.26%.

CONCLUSIONS

The literature review shows that capital budgeting plays a significant role at the project planning stage. However, the application of specific capital budgeting methods calls for appropriately aggregated information, which is provided through management accounting. This is so, because such information does not only comprise values, but frequently also quantitative and qualitative data. Moreover, the specificity of different projects requires that account should be taken of the individual characteristics of the given undertaking, which includes identifying the project implementation schedule and the financial, physical and human resources.

The empirical example of the implementation of a new technology allowing for launching the manufacture of innovative biodegradable cleaning product packages shows that using capital budgeting instruments facilitating the decision to accept or reject a project requires that a project implementation schedule be made, the required investments be identified, and the costs of project maintenance be estimated. Estimating the values of the individual components is a difficult task, as frequently the planned undertakings are of a unique nature, which prevents invoking any analogies. Thereby, with every project the expenditure and costs need to be estimated from scratch, i.e. without the ability to refer to actual values derived from other projects.

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BUDŻETOWANIE KAPITAŁOWE JAKO INSTRUMENT RACHUNKOWOŚCI ZARZĄDCZEJ WYKORZYSTYWANY PRZY PLANOWANIU DZIAŁAŃ PROJEKTOWYCH

Streszczenie. Celem artykułu jest określenie roli i znaczenia budżetowania kapitałowego przy planowaniu działań projektowych. Opracowanie artykułu poprzedziły studia literaturowe w zakresie istoty i zakresu budżetowania kapitałowego w podejmowaniu działalności projektowej. Główną

metodą stosowaną w artykule jest analiza źródeł oraz metoda dedukcji i indukcji. Przeprowadzone badania pozwoliły na jednoznaczne stwierdzenie, że budżetowanie kapitałowe pełni istotną rolę na etapie planowania działań projektowych. Wykorzystanie narzędzi budżetowania kapitałowego jest koniecznością dla podmiotów ubiegających się o dofinansowanie z funduszy europejskich, jak i dla innych jednostek, które dążą do świadomego podejmowania racjonalnych decyzji zarządczych w obszarze prowadzonej działalności projektowej.

Słowa kluczowe: projekt, rachunkowość zarządcza, budżetowanie kapitałowe.