

Budgeting as a Method of Cost Management Using a Residential Community as an Example

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This article discusses the role of budgeting as a method of cost management in a housing community in the Greater Poland region, during the period of 2011–2015. General research methods were used, such as analysis of the budgets of the housing community, as well as deductive reasoning and inductive reasoning for conclusions. The analyses contain also cost trends in the examined period, some average costs in the period, cost division into groups, costs per capita, per apartment, etc., but focus mostly on variations between budget plans and their implementation. The analysis of the budgets and their implementation in 2011–2015 shows that budgeting is successfully used to manage a community's finances. Budgeting as a cost management instrument allowed the community to achieve significant reductions in certain categories of costs.

Keywords: budgeting, costs, cost management, residential community.

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Budżetowanie jako metoda zarządzania kosztami na przykładzie wspólnoty mieszkaniowej

W artykule omówiono rolę budżetowania jako metody zarządzania kosztami we wspólnocie mieszkaniowej w województwie wielkopolskim, w okresie od 2011 do 2015 roku. Dla realizacji celu posłużono się ogólnymi metodami badawczymi, takimi jak analiza budżetów wspólnoty z kolejnych pięciu lat, rozumowanie dedukcyjne oraz indukcyjne, na potrzeby sformułowania wniosków. Przeprowadzona w artykule analiza uwzględnia trendy kosztów w badanym okresie, niektóre spośród uśrednionych kosztów w tym okresie, podział kosztów na grupy, koszty w przeliczeniu na mieszkańca, na apartament itp., aby skupić się przede wszystkim na zaobserwowanych zmianach planów budżetowych i ich realizacji. Z analizy budżetów oraz ich implementacji w latach 2011–2015 wynika, że budżetowanie jest z powodzeniem wykorzystywane do zarządzania finansami badanej wspólnoty. Jako instrument zarządzania kosztami pozwoliło ono wspólnocie mieszkaniowej na znaczną redukcję niektórych kategorii kosztów.

Słowa kluczowe: budżetowanie, koszty, zarządzanie kosztami, wspólnota mieszkaniowa.

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1. Introduction

In the literature budgeting, as well as its role, is defined in many ways. Below only a select few are presented that are useful from the point of view of the considerations in this article. So, budgeting can be defined as a method of the company's current management, defining the principles of planning and the use of financial resources in order to effectively carry out the tasks required (Komorowski, 1997, p. 18). The term 'budgeting' emphasizes its functional aspect, including the use of various methods and techniques associated with the preparation, execution and control of the budget; it turns out that budgeting, if understood not as a decision but as a process involving all management activities related to the preparation and execution of the budget, can have a significant influence on economic performance (Komorowski, 1997, p. 16).

Budgeting is also a system for obtaining information which is a kind of an enterprise's resource and an essential element of the decision-making process. Without it, management of an entity cannot be efficient and effective. Through information systems, there should be an ensured supply of a set of reports provided for each level of management. On the basis of appropriate information provided in a timely manner and in an appropriate way, decisions are made (Kotowska, 2012, p. 224). Budgeting is designed to provide reliable information, so the entity is aware of how it expends its cash funds as well as of the areas where costs can be reduced (Michałowska 2014, p. 411).

The main thing is to determine the current demand for information, taking into account the potential demand for information on the part of management in the future (Nowosielski, 2002, p. 40). Regardless of the definition, budgeting is 'the cornerstone' of the management control process in nearly all organizations (Hansen et al., 2003) and is traditionally described as a common accounting tool that organizations use for implementing strategies (Ostergren and Stensaker, 2011). The purpose of budgeting is to give those targets and plans financial values, making the progress easily measurable and transforming strategic ideas into understandable operative actions (Hanninen, 2013). Bud-

geting can be successfully used by large, medium and small firms (Kotowska, 2012, p. 224). Given the diversity of the goals of budgeting, it can be said that the creation of budgets is caused by the desire to achieve objectives that have been included in the financial and operational plans of an entity. In small units (like the residential community audited in this article), the aim of budgeting is to improve financial conditions by reducing costs (Michałowska 2014, p. 410). A traditional budget used by a housing community is a "quantitative expression of a proposed plan of action by management for a specified period and an aid to coordinate what needs to be done to complement that plan" (Zeller and Metzger, 2013, p. 2).

A budget is expressed in financial terms; it is a financial reflection of the organization's annual operating plan. The budgeting process implies setting strategic goals and objectives, developing forecasts for revenues, costs, production, cash flows and other important factors. Moreover, it is a process in which the budget is determined in several rounds of dialogue between higher and lower levels of management. Over the year, the organization checks regularly if the targets are reached (de Waal et al., 2011).

Budgeting is an interesting topic among researchers and practitioners. Over the years, studies were conducted in order to decide whether traditional or alternative budgeting methods are better and have a positive impact on businesses (Cardos, 2014). About 90% of companies from all over the world are using budgets for planning, coordination and evaluation of activities, for motivation, for evaluating the performance of staff, and for supporting the internal control system of the organization (Pietrzak, 2013).

2. The Aim of the Article and Conceptualization of the Research

This article will discuss the role of budgeting in a residential community (under the assumption that cost reduction is a foreground issue for the community). The community uses traditional budgeting. Regardless of the weaknesses of this method, well described in literature (Hansen et al., 2003; Neely et al., 2003; de Waal et al., 2011;

Pietrzak, 2013), traditional budgeting does have significant advantages. De Waal et al. (2011) identify four main advantages associated with traditional budgeting: it compels planning by helping managers to set realistic goals and requires them to plan specific actions to be able to meet their stated goals; drawing up a budget requires managers to think ahead and to ask “what-if” questions. Also, budgeting promotes coordination and communication. Defining and agreeing upon a budget requires coordinating all the organization’s activities and it also requires communication about the various activities and how these interact and influence the organization’s results. Budgeting aids performance evaluation as well. A properly prepared budget gives the management detailed information about the next fiscal year; it gives the possibility to set objectives easier; it becomes an important tool in the decision making process. Also, budgeting motivates employees to achieve certain goals and to strive for the best.

This paper aims to examine whether entities such as this housing community use budgeting as a tool for cost management and with what result, in the context of the entrepreneurship. Entrepreneurship can be understood as an activity leading to minimize the costs, e.g. by reducing the levels of management (Kanter, 1983). M. Crozier considers entrepreneurial activities as the ability to make calculations that reduce the risk of market activities (cited by Potocki 2000, pp. 20–21). In a broader context, entrepreneurship can be explained as the search for new opportunities, regardless of the currently managed resources (Stevenson et al., 1989) that are sometimes limited by the earlier decisions of the owners (Hart et al., 1995). It is a way of action involving inclinations to take on new, risky and unconventional projects and demonstrating initiative in project search and implementation. It is therefore directed towards development (Kortan, 1997, pp. 77–78). According to A.P. Wiatrak, it is a creative and active effort to improve the existing state of affairs and willingness to take on new activities or even expand existing ones. It aims thereby to achieve complex, multi-faceted material benefits (Wiatrak 2003, p. 26). Entrepreneurship is defined quite similarly by S. Shane – as any activity consisting of identification, evaluation and

exploitation of opportunities to introduce new products and new services, or ways of organizing new markets and raw materials (Shane, 2003, p. 3), or P.F. Drucker – entrepreneurship lies in the interdependence of entrepreneurial and innovative activities that lead to success (Drucker, 1992). The analysis of the community’s budgets presented in this paper then aims to answer the question of whether budgeting lets the community reduce costs of activity, achieve measurable benefits and also find new, better ways to ‘do certain things’, ensuring its greater cost-effectiveness and economic efficiency.

To achieve the objective, general research methods were used, such as an analysis of the budgets of the community over the past five years (2011–2015). Analyses also contain cost trends in the examined period, some average costs in the period, costs divided into groups, costs per capita, per apartment, etc., but focus mostly on variations between budget plans and their implementation. To reach a conclusion, the authors used deductive and inductive reasoning.

3. The Approach to Cost Management and Budgeting Issues in the Residential Community

The approaches of traditional budgeting are numerous, especially because there are no regulations stipulating how and in which form the budget should be used or applied. Factors like organizational structure, the nature and complexity of internal operations, and management philosophy (Haninen, 2013) must be taken into account when budgeting.

The analysis of budgets and reports on their implementation in the audited entity (a residential community in the Greater Poland region) for the last five years (2011–2015) shows that the community has its own way of preparing the budget, which it considers correct. It does so based on:

- a broader perspective – budgets from previous years, in particular the last year’s budget, are treated as the basis for planning for the next year; this is a budget where, should it be modified, changes may only apply to certain items;
- changing trends – the reasoning is as follows: if we consume less energy because

lightbulbs were replaced with LED bulbs, we can plan on less spending every year for this purpose; a typical example of the trend in the studied community is also gradually increasing debt of the inhabitants, which results in the need to plan for higher legal expenses (these are primarily debt collection costs) in part attributable to the community and to take into account a decrease in revenues. On the basis of a few years, it is possible to calculate the percentage of the increasing costs and determine, in the coming year, their estimated value. What can also be taken into account is the costs incurred by having to reverse a negative trend (change restrictions, the possibility of spreading out the debt into installments, the introduction of financial penalties, increasing investment in a law firm, debt collection) or other;

- plans – due to maintenance works, the need for repairs, obtaining permits, plans should include information regarding the expected changes necessary in a given year.

When preparing the budget for the community, requests for proposals for the work planned in the light of full cost (labor costs and operating costs) should be taken into consideration before invitations to tender are prepared. In addition to the cost of performance, operating costs are also taken into account as well as wear costs and all others.

Elements such as voting on changes to the community at a meeting of members should also be considered in the budget, for instance the introduction of new rules that the community must take into account, incurring mandatory fees.

When planning the budget, it is reasonable to consider inventories (their current state) – a good example is the purchase of road salt. Because of different weather conditions in the previous years, existing inventory could remain from last year and should be taken into consideration during the current year.

The audited community also attempts to calculate some average costs. When dividing them into groups, sometimes it is considered advisable to calculate the cost per capita, or at least the cost per apartment.

The most significant groups of costs for the housing community are: costs of electric energy, costs of water and sewage, costs

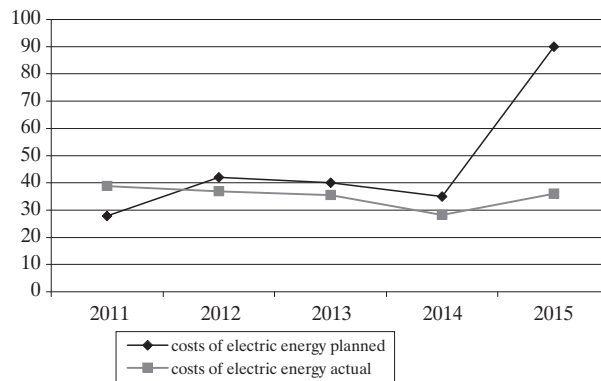
of heat, costs of maintenance of greenery, costs of property management, costs of elevators maintenance, costs of the building insurance, costs of Repair Fund.

Not always are costs considered by the audited community as important ones actually high, comparing to others. However, some of these costs are not shared by the whole community but are charged to chosen groups of members – e.g. costs of elevators maintenance are shared only by residents of staircases where elevators are installed. It is 4 staircases of 10 total. It gives 32 apartments with approximately 128 residents. Other costs, like costs of electric energy, heat or water and sewage, are – wherever possible – distributed over residents according to actual consumption.

The group of costs of various failures (part of Repair Fund costs) is difficult to define in terms of value during the period, and because of that it is troublesome for the community, hence the issue of planning insurance expenses (random events, vandalism) is seen as very important. An attempt was therefore made at failures classification to better plan spending on them. The analysis of past and current events shows that the most frequent failures which the community had to deal with are: seasonal, very costly damage to the heating – valves, temperature controllers in shafts, garage halls; burned out bulbs in staircases and garage halls; crashed barriers in garage halls – torn ropes, damage caused by attempts to manually lift or lower the barriers; door damage – locks, handles, closure regulators (in staircases and garage room); clogging drains (sewerage wells and gutters); failures of ventilation ducts – damage to chimneys, ventilation of dwellings and garages; roof leaks – cracks, stains; devastation of green areas.

Trends of costs (planned and actual) indicated by the community as significant in the examined period are contained in the following charts. A general conclusion, after examination of these costs, is that in every group significant differences are visible between planned and actual costs. The reasons for this are discussed in more detail below, in the analysis of the plans and the implementations of the budgets in the audited period. What is noticeable, and should be seen as a positive sign, is that actual costs turn out to be substantially lower than planned – even if some of

Chart 1. Cost trends of electric energy (planned and actual) in the housing community in 2011–2015 (in thousands of PLN)



Source: based on documentation of the residential community.

them generally show an upward trend. The exceptions are administrative expenses in 2015, but these differences, despite appearances, are not considerable in this case (in terms of value) and neither are costs of water and sewage, maintenance of greenery and partially costs of heat, where the main reasons for noticeable variations are weather conditions that are hard to predict, which is also discussed in detail later in the article.

The first group of costs are the costs of electric energy. The expenditures on electricity were underestimated by the community in the first audited year, which was also the first year of “full operation” for this entity.

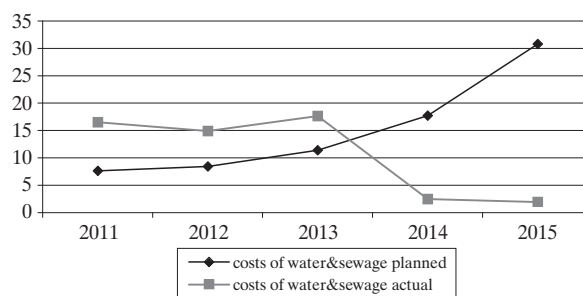
In next years, the community made efforts to plan these costs at the level of actual demand and simultaneously distribute them more equitably among the users.

In the part of these costs that is ‘common’ for all residents (e.g. illumination of staircases and, to some extent, garages), the community consistently strived to implement solutions to reduce these costs, which ended in complete success.

Actual costs of water and sewage, from 2011 to 2013, remain consistently higher than planned, despite raising their level in the community budget plans for the coming years.

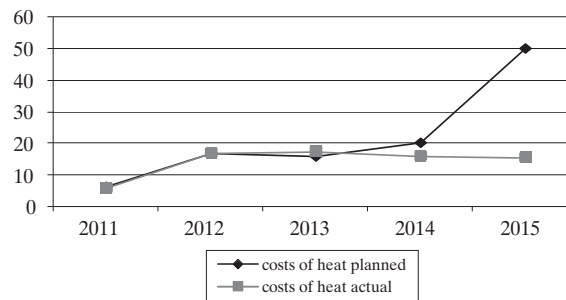
Installing separate meters for water and sewage has not produced the expected significant decrease in these costs, mostly because they are connected with costs of greenery maintenance (watering). It was not until the decisions taken by the community regarding the reorganization of the management of green areas that the expected breakthrough occurred. From 2013, a significant decrease in the actual costs of

Chart 2. Cost trends of water and sewage (planned and actual) in the housing community in 2011–2015 (in thousands of PLN)



Source: based on documentation of the residential community.

Chart 3. Cost trends of heat (planned and actual) in the housing community in 2011–2015 (in thousands of PLN)



Source: based on documentation of the residential community.

water and sewage can be seen. A striking difference between expenditures planned for this purpose in the years 2014–2015 and their actual level has its origin in attempts to predict the consumption of water for the planned but not carried out renovations and rebuildings. The weather conditions in these years are also significant.

The analysis of the costs of heat proves that their prediction is generally proper, and slight deviations can be explained by unpredictable weather conditions in autumn and winter, and also a colder than average spring.

A sharp increase in planned spending for this purpose in 2015, not having any reflection in actual costs, is associated with the vote in the community to postpone a planned major renovation.

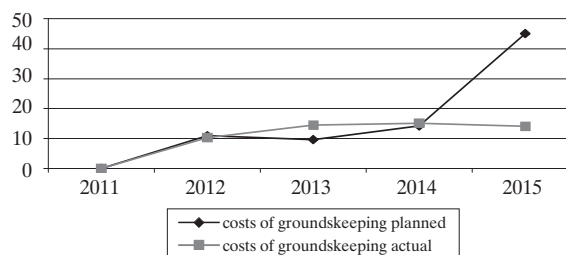
Costs of maintenance of green areas were a problem for the community because of their amount perceived as painful in the settlement for a single member. Starting from 2012, when established green recreational areas around the community's building were listed in the budget as a separate group of

costs, these costs remained consistently higher than planned, while showing a slight upward trend from year to year. Per capita (272 residents), the average costs of greenery in the period 2012–2015 were about PLN 200. Every resident, including children, should pay PLN 49.46 per year, which was unacceptable for many families, especially if the issue of the damage caused by children and pets was raised. It should be noted that in subsequent years, this cost per capita stood at a higher level. (In the opinion of the authors, these costs should be settled not per capita but rather per apartment).

Conflicts around these expenses, as well as their relatively high yearly level, forced the community to seek solutions that would reduce the devastation of green areas and decrease, at least in part, the cost of the groundskeeping.

The actions taken, discussed in the analysis of the individual budgets of the community, allowed for a significant cost reduction in water consumption related to the need for watering plants and led to the inhibition of the growth of cost of green-

Chart 4. Cost trends of groundskeeping (planned and actual) in the housing community in 2011–2015 (in thousands of PLN)



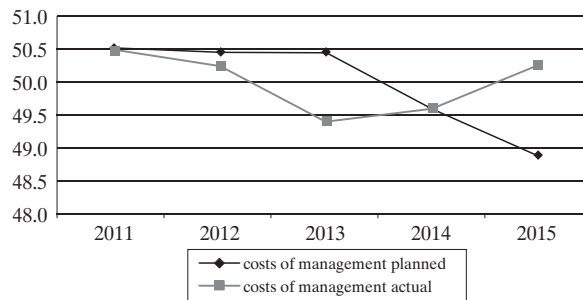
Source: based on documentation of the residential community.

ery. The visible difference between actual and planned costs in 2015 is once again a result of anticipated costs of expected damage to and reconstruction of greenery, due to renovation works, which ultimately were not performed. Administrative costs, like management of the property, were set by the community at a relatively high level oscillating around PLN 50,000 per year. Until 2014, actual costs of management were lower than planned, although did not significantly differ in value. The deviation seen in 2015, showing a higher level of actual costs than that of the planned ones in terms of value, amounted to PLN 1,382.65, which is not really significant.

These costs are accounted for 32 apartments (from 68 in all). The average annual cost of maintenance of the elevators in the audited period is at a level of PLN 18,753.75. It means that the average annual cost per apartment located in a staircase with elevators is PLN 586. Generally, planned costs are not significantly different from actual costs in this case. An exception is the year 2015.

The community's efforts to reduce these costs, or at least keep them at a satisfactory level, are discussed under the analysis of budgets, together with a significant deviation seen in 2015 between the planned and actual costs and the rationality of both actions and plans.

Chart 5. Cost trends of property management (planned and actual) in the housing community in 2011–2015 (in thousands of PLN)

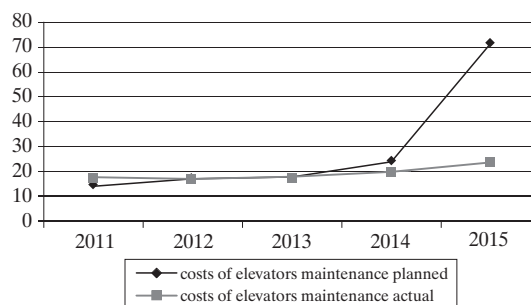


Source: based on documentation of the residential community.

Costs of maintenance of elevators are a group of costs not charged to the whole community, but only to potential users. These costs are high as a result of frequent failures and costly maintenance. They are PLN 20,000 per year.

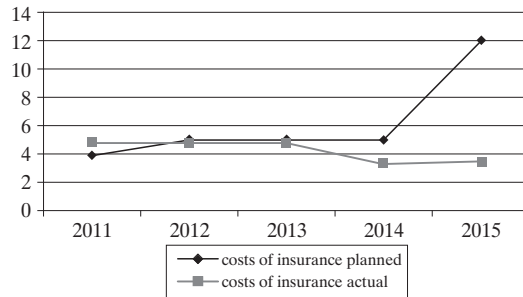
As presented in Chart 7, the planned and actual costs of building insurance and the deviations have their source in the changing prices of the policy and its coverage, some discounts on the premium, and the change of insurer (this last change

Chart 6. Cost trends of elevators maintenance (planned and actual) in the housing community in 2011–2015 (in thousands of PLN)



Source: based on documentation of the residential community.

Chart 7. Cost trends of building insurance (planned and actual) in the housing community in 2011–2015 (in thousands of PLN)



Source: based on documentation of the residential community.

entailed a considerable decrease in costs in 2014). A variation between planned and actual costs in 2015 is discussed in detail while analyzing the community's budget for that year.

The costs of Repair Fund and the trend in the examined period show that the community, when planning these costs, takes carefully into consideration growing arrears on the Repair Fund, reflected in implementation of budgets since 2013.

Actual costs, though rising, remain lower than expected. This is a major achievement in view of the above-mentioned group of costs that is so difficult to predict in terms of value and frequency, like costs of various failures.

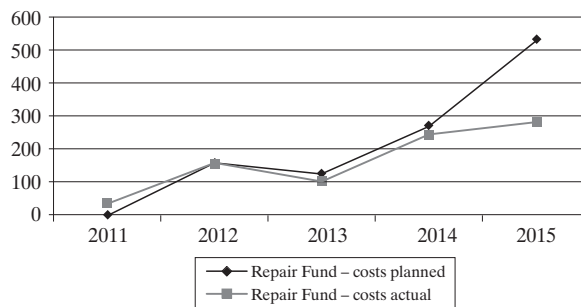
The following tables contain information on selected data included in budgets and reports on their implementation in the considered period. Interpretation of variations and investigation of what impact they had on budgetary decisions in the coming

years allowed for determining how the residential community uses information contained in the budgets for the management of its finances (cost reducing).

Noteworthy are the significant discrepancies between planned and actual expenditures on electricity, water and sewage, building insurance, road salt, postal services, expertise of the planks estimator, and costs included in the budget as 'other'.

The increase in spending on electricity can be explained, on the one hand, by price increases (as in the case of the insurance policy) and, on the other hand, by running the ventilation on the roof of the building as well as exploitation of gates in the garage halls that was more intensive than expected. The cost of water and sewage that was much higher than planned is explained by the lack of separate water meters (almost double increase; the cost of water increases when consumption is measured together with the wastewater)

Chart 8. Cost trends of Repair Fund (planned and actual) in the housing community in 2011–2015 (in thousands of PLN)



Source: based on documentation of the residential community.

Table 1. Budget of the residential community for 2011 and its implementation (selected items) in PLN

Costs			Revenues		
specification	Plan Jan.–Dec.	implementation	specification	Plan Jan.–Dec.	implementation
Working costs			Advance payments	234,707.59	237,966.54
1. electric energy	27,859.22	38,797.83	Repair Fund	34,004.16	33,987.58
2. water & sewage	7,651.67	16,505.44			
3. heat center	6,269.13	5,756.40			
4. building insurance	3,900.00	4,751.00			
5. janitorial	53,724.00	50,700.24			
6. obligatory inspections	5,500.00	4,999.97			
Minor breakdowns and repairs					
1. provision for failures and repairs	15,000.00	15,308.69			
Other costs					
1. road salt	4,500.00	2,316.00			
2. postal charges	1,500.00	544.11			
3. costs of heating	11,344.54	10,892.88			
4. bank charges	900.00	1,151.54			
5. other	16,183.31	8,268.82			
Management	50,494.92	50,479.92			
Elevators maintenance	14,380.80	17,028.90			
Repair Fund					
1. expertise of planks	3,000.00	6,900.00			
2. other minor repairs		25,501.73			

Source: based on documentation of the residential community.

and by the fact that the development of green areas resulted in an increase in water demand (intensive watering of plantings) in 2011. Consumption of road salt, lower than expected, was related to the unpredictable weather conditions in late autumn and winter. Similarly, expenditure on correspondence turned out to be overestimated compared to the real demand. An interesting item is the budget 'expertise of planks' in connection with their planned replacement – the difference between the estimated cost of the service and the actual expense resulting from replacing one kind of planks with other types, which resulted in a significant change in the operating

costs and the required expertise. Other costs are primarily costs associated with unscheduled repairs and reconstructions which occurred and had to be conducted after the budget preparation and with a significant number of small, unplanned repairs and breakdowns, due to the difficulty in predicting their necessity. Higher than expected maintenance costs of elevators resulted from a routine check and the need to replace/repair some of their elements.

The analysis of the 2012 budget indicates that the community can draw conclusions from past events and take them into account in plans for the next year.

Table 2. Budget of the residential community for 2012 and its implementation (selected items) in PLN

Costs			Revenues		
specification	Plan Jan.–Dec.	implemen- tation	specification	Plan Jan.–Dec.	implemen- tation
Working costs			Advance payments	181,932.18	181,932.18
1. electric energy	42,000.00	36 919.09			
2. water	8,000.00	14 497.70	Repair Fund	126,976.17	120,310.86
2a. Service fee – water	150.00	140.07			
2b. Service fee – sewage	250.00	233.13			
3. heat center	17,000.00	16,577.78	Other revenues	7,400.00	7,292.85
4. building insurance	5,000.00	4,752.79			
5. janitorial	50,800.00	45,043.20			
6. obligatory inspections	5,200.00	3,500.00			
Other costs					
1. groundskeeping	11,000.00	10,351.00			
2. court fees	5,000.00	4,442.67			
3. bank charges	1,200.00	1,122.25			
Management	50,464.92	50,251.79			
Elevators maintenance	17,000.00	16,577.78			
Repair Fund					
1. joinery	1,500.00	2,160.00			
2. locksmith	1,800.00	447.23			
3. emergency works	30,000.00	67,040.03			
4. facades	64,000.00	35,881.11			
5. other	58,000.00	46,872.00			

Source: based on documentation of the residential community.

Table 3. Budget of the residential community for 2013 and its implementation (selected items) in PLN

Costs			Revenues		
specification	Plan Jan.-Dec.	implementation	specification	Plan Jan.-Dec.	implementation
Working costs			Advance payments	158,221.62	158,221.62
1. electric energy	40,000.00	35,408.73			
2. water	11,000.00	17,217.37	Repair Fund	183,040.65	183,040.65
2a. Service fee – water	150.00	245.33			
2b. Service fee – sewage	250.00	409.72			
3. heat center	15,810.00	17,210.80	Other revenues	7,400.00	7,213.95
4. building insurance	5,000.00	4,747.00			
5. janitorial	52,000.00	46,213.20			
6. obligatory inspections	14,656.20	9,585.82			
Other costs					
1. groundskeeping	9,623.00	14,381.63			
2. court fees	5,000.00	7,040.30			
3. bank charges	600.00	529.25			
Management	50,464.92	49,399.65			
Elevators maintenance	17,500.00	17 210.80			
Arrears on operating costs at the end of the year	0.00	14,900.00			
Repair Fund					
1. plumbing	14,310.00	14,195.52			
2. locksmith	800.00	438.45			
3. emergency works	40,000.00	34,466.39			
4. facades	20,883.71	14,580.00			
5. insulation	15,000.00	810.00			
6. renovation of the adjacent areas	26,500.00	3,348.47			
7. roofing works	20,000.00	6,519.00			
Arrears on the Repair Fund at the end of the year	0.00	27,483.99			

Source: based on documentation of the residential community.

The housing community installed water meters, which aimed to reduce costs in this area. However, the need for the care of landscaping in unpredictable weather conditions in the spring and summer largely eliminated the planned savings on the cost of cold water in the year under review. In the budget, there was a new item – costs of greenery, including activities such as pruning, replacing plants, spraying, fertilizing, mowing, etc. Higher spending on electricity was also planned, taking into account its actual level the year before, while at the same time light bulbs were replaced with energy-saving ones. The community also undertook efforts to initiate a replacement of elements of the ventilation in the garage halls. The installation of a modern electronic system of ventilation and its control, shortening the time of ventilation and automatically turning it off when the hall conditions are consistent with established standards, should be reflected in subsequent years as a significant reduction in power consumption. The measures taken resulted in a slight decrease in spending on electricity in that year. Similarly, in the case of costs of maintenance and operation of elevators and costs of failure repairs, lessons were drawn from the past and the community planned for higher spending for this purpose. In the case of maintenance of the elevators, the actual level of spending almost exactly corresponded to the planned costs. Planned costs of unexpected failures and minor repairs, raised to the level of expenditure for this purpose, i.e. PLN 30,000, did not produce the expected result – these costs proved once again to be underestimated since the actual expenditure for this purpose in 2012 amounted to more than PLN 67,000. This resulted from the planned works on the façade of the building because not all of the activities resulting from the schedule of works were actually completed in that year. Moreover, during the works it was also decided to replace some of the materials (cheaper substitutes). The cost of maintenance of the elevators (at that stage), in practice, also proved to be lower by more than PLN 28,000. However, renovation works resulted in a series of gradually revealing minor damage and accidents caused by both residents and property renovation teams, hence the planned

expenditure for this purpose proved to be insufficient.

The budget of the community in 2013 (Table 3) contains new disadvantageous items, namely the backlog in paying fees for running costs and the Repair Fund, which increased the costs of legal proceedings (these are the costs of debt enforcement proceedings) that exceed the planned expenditures for this purpose by more than PLN 2,000.

The increased cost of central heating prompted the community to install temperature controllers in utilized rooms. The community consistently reduced its planned expenditure on electricity, and the actual costs appear to have been lower and lower, while it kept a high level of the cost of cold water, which is again related to the care of green areas and an extremely dry and hot summer. Despite higher spending planned for this purpose, the implementation of the budget is still significantly different from the value planned. Also, other maintenance costs of greenery were higher than planned due to diseased and withered plants, which required replacement of some plantings.

The community overestimated expenses for the necessary technical inspections and certifications, but this was related to the expected additional cost of ‘technical acceptance’ which did not occur because of the failure to complete the works on the façade. There was also the need to carry out works on the roof of a building, associated with the leakage of installed terraces on the roof and flooding of apartments and walls located below, which entailed spending on roofing and insulation, replacement of tiles, etc. These costs were also overestimated compared to the actual costs (part of the requested works was not performed), but noteworthy is the planned expenditure on the renovation of adjacent areas in connection with the expected necessity of cleaning up the area around the building after renovation and restoration to its previous state. Together with the cost of roofing works, it is the main reason for the deviation between planned and actual costs of Repair Fund. In fact, fundamental renovation of green areas was not necessary and damage was minimal as compared to what was expected.

Budget plan and its implementation in 2014 are as follows:

Table 4. Budget of the residential community for 2014 and its implementation (selected items) in PLN

Costs			Revenues		
specification	Plan Jan.–Dec.	implementation	specification	Plan Jan.–Dec.	implementation
Working costs			Advance payments	163,983.21	163,984.30
1. electric energy	35,000.00	28,274.36			
2. water	14,000.00	2,301.64	Repair Fund	177,279.12	177,278.37
2a. Service fee – water	300.00	56.09			
2b. Service fee – sewage	459.00	94.63			
3. heat center	20,000.00	15,812.94	Other revenues	51,415.21	79,598.34
4. building insurance	5,000.00	3,260.00			
5. janitorial	46,213.20	46,443.00			
6. obligatory inspections	11,563.78	7,973.99			
Other costs					
1. groundskeeping	14,192.28	15,147.75			
2. court fees	8,000.00	1,163.24			
3. bank charges	600.00	541.50			
Management	49,624.00	49,623.84			
Elevators maintenance	24,000.00	19,615.30			
Arrears on operating costs at the end of the year	0.00	16,376.12			
Repair Fund					
1. masonry	213,000.00	150,535.99			
2. joinery	5,000.00	4,133.00			
3. emergency works	40,000.00	44,057.22			
4. appraisals	11,495.59	4,674.00			
Arrears on the Repair Fund at the end of the year	0.00	39,343.85			

Source: based on documentation of the residential community.

There was a continued decrease in spending (both planned and actual) for electricity, which proves that the replacement of light bulbs with energy-saving bulbs and the investment in the intelligent ventilation system gave the expected results, and the unfavorable trend was reversed.

Given the level of expenditure on cold water, a higher cost of consumption was planned than in the previous years. However, actual expenditures for this purpose were decreasing abruptly in 2014. It was an effect of the previous year's decision – due to the need to replant some greenery and constant complaints from inhabitants about the high cost of greenery maintenance – to change the type of plants to those more resilient, especially to drought but also frost. As a result of this decision, in 2014 only lawns required watering. Also, the weather conditions entailed no need for frequent irrigation of green areas. Other expenses for the maintenance of greenery remained at the level of the previous year, which was correctly anticipated and planned for in the budget.

Noteworthy is the downward trend in the cost of management, matching the trend already seen in the previous year, when the manager's remuneration decreased as voted by the residents as a penalty. Spending on central heating decreased, which is associated with the rather mild winter and the completed works on the façade of the building (and hence thermal insulation) and at the same time confirms the correctness of the decision to install temperature controllers.

Higher spending on legal fees in connection with the backlog in payments was planned for in the budget for 2014, which should be considered a logical move, but the implementation of the budget points to an initial overstatement of these cost items. Increased indebtedness of members of the community was related to arrears on payments to the Repair Fund and maintenance costs; however, other incomes of the community increased significantly, which is associated with renting business premises and other space not utilized by the community.

This community, in search of savings, also decided to change their insurer that year, which is reflected in the decrease of the cost of the insurance policy of the building. Then the 'appraisals' item appeared,

covering expenses for the preparation of appraisals in connection with the planned masonry works, the cost of which was also planned.

A significant variation of actual and planned costs in the case of appraisals and masonry, which can be seen in the community budget for that year, is a result of the decision to carry out a limited repair, and thus prepare appraisals for only part of the repair works on the terraces. The revision of the earlier estimates results from the accumulation of arrears on the Repair Fund.

Renovations scheduled for that year were included not only under the 'masonry' item in the budget; the associated potential increase in other costs also found its reflection in the planned spending. Included were the costs of renovation-related appraisals, and moreover provision was made for, among others, much higher power consumption in connection with the power use by teams operating repair equipment and tools, prolonged/more frequent lighting of stairways and rooms being refurbished, and post-heating (much higher planned cost of heating can be explained also by the anticipated expenditure on technical inspection). Higher consumption of water necessary for large-scale masonry works and renovation of the adjacent areas after completion of the works (including new green areas due to the risk of damage to plantings and destruction of lawns) was also planned for, as were more minor breakdowns, based on past experience. It is worthy to note that the actual costs of the maintenance of greenery in 2015 decreased for the first time in the examined period. It proves the effectiveness of the adopted solution, namely replacing ornamental plants with mostly conifers and holly – hardy, undemanding and more resistant to damage caused by kids and pets.

Worthy of a separate discussion is the sharp increase in the planned expenditure on insurance, not having its reflection in reality. It stems from a desire to rationalize the expenditure on elevators maintenance, especially burdensome for some inhabitants charged with these costs. The elevators in the community's building are damaged quite frequently, and the repair costs are a significant item of expenditure for the community, regardless of the relatively high

Table 5. Budget of the residential community for 2015 and its implementation (selected items) in PLN

Costs			Revenues		
specification	Plan Jan.-Dec.	implementation	specification	Plan Jan.-Dec.	implementation
Working costs			Advance payments	168,415.20	168,335.26
1. electric energy	90,000.00	35,898.45			
2. water	30,000.00	1,522.66	Repair Fund	172,847.16	172,823.64
2a. Service fee – water	300.00	169.54			
2b. Service fee – sewage	459.00	286.36			
3. heat center	50,000.00	15,195.88	Other revenues	154,245.63	78,184.70
4. building insurance	12,000.00	3,388.00			
5. janitorial	47,000.00	46,864.00			
6. obligatory inspections	22,000.00	3,908.08			
Other costs					
1. groundskeeping	45,000.00	13,932.51			
2. court fees	3,300,000	1,722.00			
3. bank charges	1800.00	624.06			
Management	48,872.00	50,254.65			
Elevators maintenance	72,000.00	23,336.00			
Arrears on operating costs at the end of the year	0.00	17,888.75			
Repair Fund					
1. masonry	300,000.00	161,852.56			
2. renovation of the adjacent areas	90,000.00	29,865.19			
3. emergency works	120 000.00	39,536.07			
4. appraisals	20,000.00	3,690.00			
Arrears on the Repair Fund at the end of the year	0.00	41,914.09			

Source: based on documentation of the residential community.

costs of maintenance and inspection and required repair and replacement of structural elements which have their source in the normal wear and tear. The community decided to approach insurance companies, desiring to conclude an insurance contract covering elevator failure risk; the community predicted that the insurance premium for this type of cover would be high but profitable in view of high costs of repairs and maintenance in the long run. Also, the insurance premium was meant to be spread over all members of the community, including those who occasionally used elevators and might be as well suspected of vandalism as visiting non-residents and those who were obliged to bear the costs of maintenance 'automatically' because they lived in staircases with elevators. It would also put an end to conflicts around these costs, second only to disputes about the maintenance of greenery.

However, the risk of this type from the point of view of insurance companies is uninsurable (Monkiewicz, 2000, pp. 35–37). In the absence of insurance coverage, the community decided to solve the problem of the cost of elevator operations in a different way. An agreement was signed with the firm servicing the elevators in which, for a fixed fee, crash risk was borne by the service provider. If a failure occurred, repair was done at the expense of the servicing firm, whether the damage resulted from normal wear and tear or was the result of vandalism or an accident. The obligation to repair was independent of the number

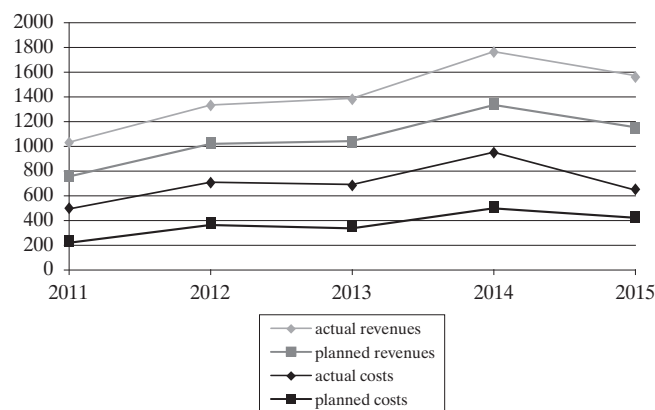
of failures reported in a year. That year, this type of agreement resulted in a drastic increase in the planned expenditure on the maintenance of elevators, which took into account possible serious damage or failures resulting from carrying out renovation works in the building. The actual cost of maintenance of elevators accounted for slightly more than 30% of the planned cost. Because bearing this cost was unacceptable from the point of view of the residents of chosen apartments only, all residents were obliged to pay this cost. The future will show if this solution proves to be truly beneficial in the context of cost reduction (not per capita, but overall).

Since the planned repair works were not completed in 2015, the implementation of the budget for operating costs associated with these activities significantly deviates from the planned values. In the case of water consumption, this is also related to the relatively cool spring and equally cool and stormy summer, which significantly reduced the need for watering green spaces. The operating costs of central heating did not increase in 2015 despite relatively low temperatures persisting over a long period, but declined slightly, which confirms once again the relevance of investment in thermostats.

A worrying phenomenon is the observable decline in revenues compared to what was expected, with a continued increase in the debt of the community members.

As shown in Chart 9, revenues in the audited period outweigh the costs each

Chart 9. Costs and revenues of the housing community in the period 2011–2015 (in thousands of PLN)



Source: based on documentation of the residential community.

time, and the actual costs are lower than those planned, while actual revenues are higher than planned.

4. Conclusions

In view of the above findings, the answer to the question of whether budgeting lets the community reduce its costs of activity, achieving measurable benefits, and whether it lets the community find new, better ways to operate, ensuring its greater cost-effectiveness and economic efficiency, is generally affirmative.

The analysis of the budgets of the community and their implementation in 2011–2015 shows that budgeting is successfully used there as an instrument of management accounting to manage its finances. The use of budgeting by the community as a method of cost management in the examined period allowed for a significant reduction of certain categories of costs – primarily consumption of water or electricity and heating and maintenance of green areas. In the case of energy and central heating costs, taking remedial action allowed for the reversal of negative trends – in the observed period they declined systematically. In the case of the cost of water consumption, its reduction is spectacular, and appearing variations between the planned and actual volumes should not be judged negatively due to the fact that water consumption (as well as heating costs) is also influenced by weather, which is unpredictable and independent of the community's action. The community's efforts aimed at rationalization of operating costs as well as its efforts to find additional sources of revenue (renting unutilized space) are rational and mostly result from inference on the basis of the analysis of the observed variations between planned and actual costs, allowing those responsible for the finances to determine the cause of these variations and their place of origin. This brings the desired effects.

An analysis of ventures undertaken by the community shows possible corrective actions because of occurring deviations (such as replacing light bulbs with energy-saving ones, installing temperature controllers, water meters). These activities also fit the signing of a new agreement with the elevators servicing firm, giving the community a chance to avoid future variations

in repair costs due to difficult-to-predict (in terms of volume and value as well as causes) failures. The community postulates corrective actions to eliminate the formation of variations in the future (the decision to change the management of green areas). A source of the most significant variations is the large renovation planned for 2015, then not performed (due to the rising indebtedness on the Repair Fund account). The decision to postpone it is hard to criticize under reduced revenue.

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