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STUDY ON THE ANALYSIS AND CONTROL OF COSTS IN GREEN SPACE MAINTENANCE SERVICES

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Abstract: *Management accounting serves as a vital tool for planning, controlling, and optimizing the economic activities of an enterprise. In the field of green space maintenance, it facilitates the identification, recording, and analysis of costs associated with tasks such as lawn mowing, irrigation, tree pruning, planting, and general vegetation care. Key expense categories include consumables, water, fertilizers, fuel, staff wages, equipment maintenance, and transportation. By consolidating these costs, a company can determine the actual cost of the services provided and establish appropriate pricing for monthly or annual service subscriptions. Comparing estimated expenses against actual expenditures plays a crucial role in identifying variances and implementing cost-reduction measures. Consequently, management accounting supports informed decision-making, the efficient use of resources, and increased operational profitability. In conclusion, the proper application of management accounting within green space maintenance services contributes to efficient administration, effective cost control, and the delivery of high-quality services.*

Keywords: *management accounting, green spaces, expenses, cost control, economic efficiency*

Introduction

In recent years, green space maintenance services have become increasingly important, both in terms of urban environmental quality and the efficiency of public and private investments. Parks, green corridors, recreational areas, and the green spaces surrounding buildings require periodic maintenance - such as pruning, lawn care, irrigation, fertilization, pest and disease control, and general cleaning - which entails significant resources, including labor, materials, equipment, fuel, and logistical costs.

Urban green spaces are a vital component of a locality's infrastructure. Parks, public gardens, and the green areas around structures contribute to improved air quality, the mitigation of high temperatures, the support of biodiversity, and the creation of recreational spaces for the public. To sustain these benefits, green spaces require maintenance work that is both planned and carried out on a regular basis.[

Maintenance services encompass a wide range of activities: mowing lawns, watering, trimming hedges, pruning trees and shrubs, planting, fertilizing, controlling pests and diseases, cleaning pathways, and collecting plant debris. The frequency and scope of these tasks depend on the size and type of the green space, climatic conditions, the season, the state of the vegetation, and the desired quality standard.

Material and methods

The purpose of this study is to analyze the cost structure of green space maintenance services and to identify ways in which these costs can be planned, monitored, and controlled more effectively.

The research conducted aims to:

- identify the main cost categories;
- describe methods for recording and analyzing expenses;
- establish relevant efficiency indicators;
- highlight factors that may lead to cost increases;
- formulate control and optimization measures.

This study on the analysis and control of costs in green space maintenance services is based on the application of managerial accounting principles, cost calculation techniques, budgetary control procedures, and economic performance indicators.

Results and discussions

The research began by gathering the economic, financial, and operational information required to evaluate the costs of green space maintenance services. In the context of applied research, such information can be obtained from accounting records, operational reports, procurement documents, work schedules, equipment logs, and service contracts.

An analysis of the expense structure reveals that green space maintenance relies on various categories of resources, the relative weight of which may vary depending on how the service is organized. Costs related to personnel and machinery are generally directly linked to the volume and frequency of the work performed. Tasks such as mowing, hedge trimming, cleaning pathways, and tree pruning require a specific number of staff, a set amount of working time, and the use of appropriate equipment.

Table 1

Comparative table: cost analysis and control in maintenance of green spaces

Aspect analyzed	Situation without systematic recording and control	Situation with activity-based recording and control
Personnel expenses	Costs are monitored in aggregate, without clearly identifying the time allocated to each task.	Working hours and the number of employees are recorded for each intervention, facilitating the calculation of costs per activity.
Equipment and fuel	Consumption, repairs, and periods of equipment downtime may be difficult to attribute to specific tasks.	Equipment usage and fuel consumption are monitored by activity; preventive maintenance can reduce breakdowns and unexpected costs.
Water and materials	Seasonal variations in consumption may remain unexplained, while losses may go unnoticed.	Consumption is monitored according to area, surface, season, and type of work; inventory management helps control stock levels.
Indirect costs	Transportation, administration, and storage costs may be allocated unevenly, distorting the actual cost of activities.	Costs are allocated using consistent criteria, such as working time, number of interventions, or serviced area.
Cost per activity	Monthly or annual totals do not reveal which activities generate the highest expenses.	Unit costs, such as cost per square metre, working hour, or intervention, allow comparisons between activities and areas.
Budget deviations	Budget overruns may be identified too late, and their causes may remain unclear.	Deviations are analysed and documented periodically, distinguishing external factors from organisational or record-keeping issues.
Team and route planning	Uneven staff allocation and inefficient routes may increase working time and fuel consumption.	Team schedules and routes are planned according to the volume and geographical distribution of activities.
Service quality	Cost reduction may become the primary objective, without evaluating its impact on service quality.	Costs are analysed alongside quality indicators to monitor efficiency without compromising maintenance standards.
Reporting and corrective measures	Analysis performed only at the end of the year limits the possibility of timely intervention.	Monthly or quarterly reporting allows early identification of problems and implementation of corrective measures.

Conclusions

The study shows that the analysis and control of costs in green space maintenance services cannot be reduced to merely tracking total expenditures. Green space maintenance is a complex activity that simultaneously utilizes human, technical, and material resources. Cost levels depend on the area being maintained, the type of vegetation, the frequency of operations, seasonal conditions, and how the service is organized. Consequently, effective control requires an understanding of the relationship between the resources consumed and the work actually performed.

Overall, an effective cost-control system should integrate three components:

➢ *detailed record-keeping*, showing the resources consumed for each activity;
➢ *periodic analysis*, through which deviations are identified and explained;
➢ *corrective decisions*, based on data and oriented toward efficiency - rather than merely toward cutting expenses.

In conclusion, cost control in green space maintenance is a management tool, not just an accounting activity. Knowing the true cost of each task, correctly interpreting deviations, and simultaneously pursuing both efficiency and quality can support more realistic planning, more responsible resource use, and better services for the community.