

## EVALUATING THE USEFULNESS OF COST ACCOUNTING IN SELECTED BUSINESS ENTITIES IN LIGHT OF THE COVID-19 PANDEMIC — RESULTS OF THE AUTHOR'S SURVEY RESEARCH

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**Purpose:** The purpose of this article is to analyze and evaluate the usefulness of the cost accounting system of selected enterprises in the Świętokrzyskie voivodeship for managing their costs under the conditions of the COVID-19 pandemic.

**Design/methodology/approach:** The article presents the results of the author's survey research. This research was carried out using the Computer-Assisted Web Interview survey method. Business entities from the Świętokrzyskie voivodeship with an entry in the National Court Register were invited to the survey via e-mail. These were commercial companies, mainly limited liability companies and joint-stock companies.

**Findings:** The main conclusion of the study is that the full cost accounting used in business entities is partially useful for effective cost management of the studied entities. With the COVID-19 pandemic, there was little impact on the usefulness of cost information extracted from applied costing.

**Originality/value:** The COVID-19 pandemic has destabilized all areas of economic and social life in Poland. Therefore, an important issue is the analysis and evaluation of its impact, which is still faced today by representatives of various industries and sectors of the Polish economy. The considerations presented here concern evaluating the utility of cost accounting systems in light of the COVID-19 pandemic. This information can be useful for those dealing with cost accounting issues and the effects of the coronavirus pandemic in theory, as well as business owners, controlling managers or accounting services staff.

**Keywords:** cost accounting, commercial companies, COVID-19 pandemic.

**Category of the paper:** research paper, surveys.

### 1. Introduction

The analysis of the socio-economic conditions of the Polish economy, as well as economies in other countries — in particular — in 2020-2021 must take into account the COVID-19 (coronavirus) pandemic. It has caused destabilization of all spheres of economic and social life

in Poland, especially in 2020 and the first quarter of 2021. To this day, entities representing various industries and sectors of the Polish economy still face its varied effects. Therefore, a full assessment of the impact of this pandemic must be multidimensional and address various aspects of entities' business activities.

The lockdown, introduced in Poland in 2020, prevented selected entities from conducting business in full, which resulted in a decline in the level of the earned revenue. However, it was not necessarily associated with a decrease in the level of costs incurred by these entities. This was especially true of the fixed costs of running business, which in most cases did not respond at all to the change in economic conditions caused by the pandemic. This has caused numerous entities to struggle to maintain liquidity. It can be assumed that the need to adapt the business to the specifics of the new economic reality has highlighted the information needs of effective cost management. This became one of the prerequisites for undertaking research on evaluating the usefulness of cost accounting systems used in business entities for effective management of their costs.

The purpose of this article is to analyze and evaluate the usefulness of the cost accounting system of selected enterprises in the Świętokrzyskie voivodeship for managing their costs under the conditions of the COVID-19 pandemic. The article presents the results of the author's survey of selected business entities from the Świętokrzyskie voivodeship. The analysis of the results of the survey gave rise to the conclusion that the cost accounting used in the surveyed companies is partially useful for effective cost management.

### **1.1. COVID-19 pandemic — a synthetic approach**

The COVID-19 pandemic, particularly in 2020–2021, has significantly affected the socio-economic functioning of most European and global economies (Czech et al., 2020; Ligaj, Pawlos, 2021; Wnukowski, 2020). The first cases of COVID-19 caused by the SARS-CoV-2 virus were reported on 17 November 2019 in Wuhan city in central China. Initially, the number of registered cases classified the disease in epidemic terms, but on March 11, 2020, the World Health Organization (WHO) gave COVID-19 a pandemic status (Coronavirus: China's First Confirmed Covid-19 Case Traced Back to November 17 | South China Morning Post; Coronavirus, 2020). In mid-January 2020, the virus spread throughout China, and in mid-February 2020, outbreaks of infection were reported in South Korea, Iran and Italy. The first cases of infection in Poland were registered in early March 2020 (Pierwszy Przypadek Koronawirusa w Polsce - Ministerstwo Zdrowia - Portal Gov.pl, 2020). The virus spread extremely quickly, covering more continents ('Coronavirus Spreads to Antarctic Research Station', 2020; WHO: Europa Stała Się Epicentrum Pandemii Koronawirusa SARS-CoV-2 - Puls Medycyny - Pulsmedycyny.pl). Therefore, specific international measures were taken to counter the spread of these infections. Quarantines, curfews, postponement or cancellation of sports or cultural events, as well as restrictions on border traffic were among the measures introduced. Numerous countries also decided to temporarily close their borders (Coronavirus:

Poland to Close Borders to Foreigners, Quarantine Returnees, Europe News & Top Stories - The Straits Times, n.d.; Denmark Closes Border To All International Tourists For One Month). Lack of sufficient information about the SARS-CoV-2 and COVID-19, at the beginning of the pandemic caused great fear among the public and total disorganization of private and professional life. One of the solutions to curb the coronavirus were the so-called lockdowns, or bans on movement without a legitimate need, introduced by state authorities. The first such restrictions in Poland were introduced on 13 March 2020. On that day, schools, cultural institutions were closed and mass events were canceled, and where possible, work was carried out remotely. The incidence of the disease, both in Poland and around the world, was increasing rapidly, forcing those in power to introduce further restrictions. The implemented restrictions had a significant impact on the operation of business entities, which quickly had to adapt to the new business environment. The decline in their economic activity observed during the pandemic, particularly at the peak of the number of cases, while very deep, was also temporary. In light of the data presented in the literature, the food and hospitality industry, tourism, culture, education, entertainment and recreation, transportation, retail, export, investment and consumer goods manufacturing sectors have been most severely affected by the coronavirus (Stojczew, 2021). Others such as: industries that produce and sell convenience goods, such as: food, or the construction sector have not been strongly affected by the pandemic (Kowalczyk, 2020; Szczepaniak et al., 2020). But there were also those that saw significant growth in turnover during the period, such as: courier services, Internet sales and hygiene products manufacturing.

## **1.2. Economic situation of business entities in Poland during the COVID-19 pandemic**

As mentioned, the COVID-19 pandemic caused a variety of effects on the functioning of individuals and business entities, organizations and institutions in all sectors and industries of the Polish economy, reflected in:

- making it completely impossible to conduct business during the lockdown period (as in the case of the hospitality or food industries),
- the need to adapt the manner and scope of business activities to the conditions of the pandemic, which was usually associated with an increase in the cost of these activities (such as educational activities),
- the development of the scale and scope of existing operations, resulting from a sharp increase in demand for the products and services offered by certain business entities (such as logistics services).

In light of the above considerations, it is cognitively interesting to analyze and assess the impact of the COVID-19 pandemic on the activities of business entities. A number of them had to respond immediately to the situation, ensuring the continuity of ongoing tasks and processes. It was necessary to implement a remote work mode, particularly in those areas of the business where it was possible as well as necessary. This generated the obligation to implement costly IT tools to enable operations in this form. Their use for some entities was a major challenge

(in economic terms as well), particularly for those that thus far had used such solutions in a limited scope or did not use them at all. The new economic reality in which these units had to operate was reflected in the level and structure of their costs. Some business entities noted a deterioration in their financial situation, which also reduced the efficiency of their operations. The pandemic has had a marked impact on financial performance in a number of sectors, according to the Statistics Poland data. According to the survey carried out by the National Bank of Poland, in the second quarter of 2020, as many as 80% of entities in the “hotels and restaurants” industry and half of companies involved in culture, entertainment and recreation recorded a loss (Sytuacja Społeczno-Gospodarcza Polski w Dobie Pandemii, 2020).

Business entities very often reacted to the new economic conditions of conducting business by reducing costs, including sharply cutting investment plans. This is a fairly obvious and widely used solution in practice, however, its effects do not always produce the expected results. The most typical solution, also applied during the pandemic period, is to reduce the number of full-time employees, and therefore, reduce the cost of remunerations, which is usually the largest cost item in a business entity. Therefore, in order to reduce layoffs, the so-called government’s anti-crisis shields were developed and implemented, allowing employers to benefit from subsidies to their employees’ remunerations. The possibility of temporarily reducing working hours and limiting the amount of remunerations paid was also introduced.

## 2. Methods

Fulfilling the purpose of this article required preparing and conducting a survey of a selected sample of business entities. The research in question was conducted in 2021, and thus while the COVID-19 pandemic was still ongoing in Poland. Due to the counter-epidemiological recommendations in effect at the time, regarding the need for social distance, it was decided to use the Computer-Assisted Web Interview method, i.e., computer-assisted survey via one of the Internet portals offering such services.

The purpose of the survey conducted was to *evaluate the usefulness of the cost accounting system of business entities for managing their costs under the conditions of the COVID-19 pandemic*. A proprietary survey questionnaire was developed for the purpose of the presented study, including a total of 23 questions divided into three thematic blocks, including:

- characteristics of the surveyed company,
- assessment of its financial activities under conditions of the COVID-19 pandemic,
- characteristics of cost accounting for effective cost management used in this entity.

2450 subjects from the Świętokrzyskie voivodeship were invited to survey. Due to the fact that the data of the surveyed companies was generated from the online database of the Central Economic Information Center, which publishes contact details of companies with an entry in the National Court Register, commercial companies formed the group covered in the survey. The invitation to the survey, as well as the survey itself, took place online, thus, one of the sampling criteria for the survey was that the company had an email address. The survey was anonymous.

In the end, 1,300 subjects participated in the survey, which accounted for 53% of the total surveyed population. The vast majority, as much as 70%, were represented by limited liability companies, mainly employing up to 9 employees. The largest number of surveyed entities represented the manufacturing and service industries, while the smallest represented the food and catering industries. The survey was conducted over a period of four months. During this time, there was also constant monitoring of the completed questionnaires. During the survey, reminder messages were sent to respondents who did not respond to the invitation they received, asking them to take part in the survey. After the completion of the survey period, a summary survey report was compiled based on the results obtained, the results of which will be presented in the next section of this article.

### **3. Results**

Due to the purpose of the presented considerations as well as the limited volume of the article, this section will present synthetic results of the conducted surveys relating mainly to the third part of the questionnaire. In particular, they will be concerned with the analysis and evaluation of the cost accounting used in the entities studied, for the effective management of their costs under the conditions of the COVID-19 pandemic. However, the evaluation of the financial activities of the surveyed group of companies was analyzed in a separate article (Moskwa-Bęczkowska, 2021).

According to an analysis of the literature in Poland, the most common cost accounting system is full cost accounting (Sobańska, 2009). Its basic thesis is the assumption that the costs of the products are all costs incurred in the unit in relation to their manufacture (Gabrusewicz et al., 2002). Therefore, the adjective “full” used in its name refers to the need to allocate all production costs to the products manufactured. Such a high prevalence of full cost accounting in business practice is due to the fact that it is an obligatory cost accounting system under the provisions of the balance sheet law. This is because the reporting accounting system in force in Poland prescribes accounting entities to determine the financial result, including the preparation of the profit and loss account in accordance with the principles of full cost accounting (Ustawa z Dnia 29 Września 1994 r. o Rachunkowości, 2021).

The above considerations are also confirmed by the results of the survey, which show that the vast majority of respondents — nearly 85% — use the full cost accounting system in their entities. More than 12% of the surveyed companies pointed to variable costing (not analyzed further in the article), and the remaining 3% pointed to other costing systems, such as activity-based costing and target costing (which will also not be discussed further).

The essence of the full cost accounting system and the way costs are accounted for per unit of output make this system useful, primarily for long-term decision-making, rather than for current information needs. This is because this account provides correct cost information only when the unit's capacity is fully utilized. However, in practice, it is often the case that the company does not fully utilize this capacity, resulting in costs not related to production, i.e., so-called fixed costs. These, in turn, including, e.g., production readiness costs, due to the adopted procedure of accounting for costs per products, in the analyzed cost accounting system, cause distortion of unit cost information. And in the long term, revenue from product sales should cover all of the products' own costs, including fixed costs. Therefore, this cost account should rather be used for long-term analysis and evaluation of the level and structure of costs incurred. The results of the survey, on the other hand, showed that the main purpose for which the surveyed companies use the applied full cost accounting is current cost accounting. Answering the question: *for what purposes the cost accounting system is used in their enterprise, a vast majority of respondents* indicated the mentioned current cost accounting (approx. 64%) and cost control (approx. 56%). Table 1 presents, in percentage terms, the remaining responses of the surveyed companies to the above question.

**Table 1.**

*Purposes of using cost accounting in the surveyed companies*

Market	%
short-term cost planning (within a period of up to 1 year)	48.89%
long-term cost planning (within a period exceeding 1 year)	26.67%
current costs accounting	64.44%
analysis of costs incurred in the past	33.33%
control of costs	55.56%
calculation of unit costs	23.33%
calculation of costs of selected processes occurring in the enterprise	20.00%

Source: Own elaboration.

Analyzing the data presented in Table 1, it is worth noting that long-term cost planning, and therefore the main objective of the full costing concept, is the least important according to the surveyed entities. This answer was chosen by only 27% of respondents.

The results of the survey confirmed the thesis that the full cost accounting used in the surveyed enterprises is of little use for effective cost management of these units — see Table 2.

**Table 2.***Evaluating the usefulness of the cost accounting system — cost management*

Market	%
fully useful	45.56%
partially useful	47.78%
not useful at all	6.67%

Source: Own elaboration.

As can be seen from the above data, for nearly half of the surveyed companies, the cost information generated from the cost accounting system used is partially useful for the effective management of their operations, with no connection at all to the COVID-19 pandemic. In their view, the full cost accounting system provides limited scope for obtaining detailed cost data. The economic conditions for the operation of these companies during the coronavirus pandemic therefore did not affect the desire to obtain more cost information. This was declared by nearly 55% of the surveyed companies. Their possible need for information stems from the inadequacies of the costing concept itself rather than the surrounding economic conditions caused by the coronavirus pandemic. A critical analysis of this cost accounting system has shown that it is primarily determined by a number of conditions arising from various pieces of legislation. The specifics of the full cost accounting used, on the other hand, make it impossible to obtain detailed information about the causes, structure and locations of costs, making the cost information generated by this accounting method useful primarily for reporting rather than management purposes, according to nearly 43% of respondents.

The most desirable information from the point of view of effective cost management is knowledge of the level and structure of costs incurred, which is used, i.a., for reliable calculation of unit costs. This is what is missing from the full cost accounting system, where cost information is often in aggregate form. Therefore, respondents were asked to identify necessary changes to their cost accounting system — the answers given are presented in Table 3.

**Table 3.***Proposal for changes in the cost accounting system of the surveyed enterprises*

Market	%
simplification of existing procedures for recording, accounting and calculating costs	25.00%
detailing the existing procedures for recording, accounting and calculating costs	21.88%
development of the cost planning function	21.88%
implementation of an IT system to expand scope of cost information	25.00%
introduction of a new cost accounting system	9.38%
there is no need to make any changes to the existing system	18.75%

Source: Own elaboration.

As can be seen from the data presented in Table 3, the simplification of the existing procedures for recording, accounting and calculating costs, and the implementation of an IT system to expand the scope of cost information would bring the greatest improvement in terms of the usability of the applied cost accounting system in the surveyed companies.

## 4. Summary

The analysis of the results of the surveys allows to draw a conclusion on the usefulness of the cost accounting system for managing costs under the conditions of the COVID-19 pandemic. Namely, the change in the operating conditions of the market sector as a result of the coronavirus pandemic did not have a significant impact on the utility of the cost accounting system used in the surveyed business entities. The account, according to more than half of the respondents, is either partially useful or not useful at all for effective collection and management of cost information. Rather, this judgment is based on the identification of the flaws and inadequacies in the full cost accounting concept itself. The pandemic period undoubtedly made it difficult or completely impossible to conduct business, but it did not provide a basis for identifying additional information needs from the range of costs incurred. Perhaps this is due to the peculiarities of the surveyed companies, which, despite the difficult socio-economic conditions of conducting business caused by the pandemic, have mostly maintained positive financial results. And while the full cost accounting system they use does have flows, it also makes it possible to prepare mandatory financial statements and to analyze costs in specific accounting systems.

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