

The impact of legislation on the development of accounting digitisation in Poland

Wpływ legislacji na rozwój cyfryzacji rachunkowości w Polsce

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Abstract

Purpose: This article aims to verify the development of the computerisation of business systems in Polish enterprises and to determine whether regulatory changes are a stimulant.

The methodology/approach: The article uses the analysis method applied to secondary data collected and elaborated on by Statistics Poland (Pol. GUS) as part of their original research.


Findings: The analysis demonstrates that more and more Polish enterprises use ERP (Enterprise resource planning) systems in their business activities. The percentage of entities using IT systems for enterprise management is constantly growing among smaller and larger enterprises.


Research limitations/implications: The article is an introduction to in-depth research on accounting digitisation and the digitalisation of accounting processes in business entities, e.g. ERP, RPA (Robotic process automation), including tax settlements.


Practical implications: The development of the Polish tax law regulation aims to develop digital communication between the taxpayer and the tax authority. This condition forces all types of business entities to gradually computerise and even robotise accounting processes and tax settlements.

Originality/value: The article deals with a relevant topic, which is the process of computerisation and digitisation of business. Accounting and related tax settlements are essential elements in this process. The article describes the development in the automation and robotisation of enterprise accounting processes and tax settlements.

Keywords: financial accounting, tax accounting, ERP, RPA, enterprise resource systems, automation, robotisation, ICT (Information and communication technologies).

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Streszczenie

Cel: Celem artykułu jest zweryfikowanie procesu rozwoju informatyzacji polskich przedsiębiorstw w obszarze systemów biznesowych oraz określenie, czy zmiany regulacyjne stanowią stymulant tego procesu.

Metodyka/podejście badawcze: Analiza opiera się na danych źródłowych zebranych i opracowanych przez Główny Urząd Statystyczny w Polsce w ramach badań pierwotnych.

Wyniki: Przeprowadzona analiza dowiodła, iż coraz więcej jednostek działających w Polsce wykorzystuje systemy ERP w toku swojej działalności. Zarówno wśród mniejszych, jak i większych przedsiębiorstw stale rośnie odsetek podmiotów stosujących systemy informatyczne o charakterze biznesowym służące zarządzaniu przedsiębiorstwem.

Ograniczenia/implikacje badawcze: Artykuł stanowi przyczynek do dalszych, pogłębionych badań w zakresie wykorzystania cyfryzacji (np. ERP, RPA) w rachunkowości, w tym do rozliczeń podatkowych.

Praktyczne implikacje: Wprowadzane zamiany w przepisach podatkowych stymulują rozwój cyfrowych form komunikacji między podatnikiem a organem skarbowym. Taki stan rzeczy wymusza na wszystkich rodzajach podmiotów gospodarczych stopniową informatyzację, a nawet robotyzację procesów księgowych, a także rozliczeń podatkowych. Wprowadzanie ustrukturyzowanych form rozliczeń podatkowych przez organy podatkowe implikuje możliwość zastosowania RPA również na szerszą skalę do rozliczeń podatkowych.

Oryginalność/wartość: Artykuł porusza bardzo aktualny i nowoczesny temat, jakim jest proces informatyzacji i cyfryzacji zarządzania jednostką. W ramach tego procesu bardzo ważny element stanowi rachunkowość i związane z nią rozliczenia podatkowe. Artykuł wskazuje dalszą drogę w zakresie automatyzacji i robotyzacji rozliczeń podatkowo-księgowych przedsiębiorstw z organami podatkowymi.

Słowa kluczowe: rachunkowość finansowa, rachunkowość podatkowa, ERP, Robotic Process Automation (RPA), podatki, automatyzacja, robotyzacja, ICT.

Introduction

Today, we witness a systematic increase in bureaucracy, controls and the number of regulations in all sectors of the global economy. Furthermore, the massive increase in the amount of data that must be created, processed and developed generates additional work (Willcocks, 2020, p. 295). On the other hand, we frequently witness issues and challenges relating to human labour. Observations and forecasts of the demographic situation demonstrate that in Poland, there is a systematic decline and ageing of the population, which translates into a decreasing number of working-age people. In addition, the training process for future employees, who will be able to work effectively in increasingly complex environments, is being extended. The above premises result in a reduction in the availability of qualified staff, including in the area of financial accounting, which implies the need to search for alternative solutions in this field.

The tax authorities in Poland increasingly introduce structured, standard audit files for the purposes of tax settlements. This is to prevent fraud and tax evasion. VAT settlements are currently fully digitised, and there are also plans to computerise income tax settlements and social security contributions in the coming years (Remlein i in., 2022, pp. 50–53).

In recent years, there has been an increase in the technical requirements in business entity accounting (e.g. the implementation of electronic invoices, electronic financial statements prepared in XML, XBRL formats, and the standard audit file for tax). These changes are in line with global trends regarding increased regulation, reporting and verification requirements (Willcocks, 2020, pp. 284–302).

The above technological novelties have made enterprises implement IT accounting systems, then integrate them and create systems that support the management of the entire company (Enterprise Resource Systems). A noticeable trend today is robotisation, i.e. the replacement of repetitive activities based on rules, which are now performed by algorithms that operate on different systems and data sources. Since financial accounting is based on specific rules and procedures and is further based on structural data, it can be assumed that it is a good candidate for undergoing the robotisation process. According to Peccarrelli (2016), accounting and financial processes are among the most likely to be supported or taken over by software robots. Currently, such solutions are applied in entities that specialise in financial and accounting services (Kowalczyk, Napiecek, 2021, p. 7).

The development of the Polish tax law regulation, presented in this article, aims to develop digital forms of communication between the taxpayer and the tax authority. The objective of the paper is to verify the development of the computerisation of business systems in Polish enterprises and to determine whether regulatory changes are a stimulant in this process. The paper uses the analysis method based on secondary data collected and elaborated on by Statistics Poland (Pol. GUS) as part of their original research.

1. Literature review

1.1. The digitisation of tax settlements in Poland

The last decade witnessed the systematic digitisation of tax settlements on the entrepreneur-tax office line in Poland. There has been a shift in communication with the taxpayer from traditional contact, in the form of paper settlements, to settlements using electronic means of communication. These changes bring many benefits, e.g. reduced costs and administrative burdens, more effective audits, and a reduction in tax fraud.

It was the fight against tax fraud, mainly value added tax, that made the Ministry of Finance transfer the tax settlement process to the virtual world. This was intended to strengthen the control and management system of, in particular, the tax on goods and services. Constant changes in the scope of taxes imply problems for entrepreneurs, who must monitor the provisions of tax law on an ongoing basis in order to implement appropriate modifications in their organisation's activities, especially in ERP (Enterprise resource planning) systems. Implementing these changes is labour-intensive and costly. This leads to an increase in the scope of digitisation of tax settlements and their continuous development to reduce costs in the long term (Kowal, Lichota, 2020).

The most important areas of digitising tax settlements completed by 2022 are the introduction of on-line cash registers and the standard audit file for tax (Pol. – JPK).

Based on the Regulation of the Minister of Finance of 29 April 2019 on cash registers (*Journal of Laws* of 2019, item 816 and of 2020, item 732), traditional cash registers were replaced with on-line cash registers. This rendered it possible to automatically transfer data to the central ICT system kept by the Head of the National Revenue Administration (Pol. –KAS) (Hyży et al., 2021).

In accordance with the amended regulations in force since 1 May 2019, taxpayers retained the possibility to keep sales records in the form of cash registers with paper or electronic copies. Confirmations of the fulfilment of functions, criteria and technical conditions for these cash registers have remained in force only for the specified, limited periods for which they were issued, and these periods cannot be extended further than (Hyży et al., 2021):

- 01.08.2019 – for cash registers with a paper record of copies (i.e. two-roll registers),
- 31.12.2019 – for cash registers with an electronic record.

Due to the COVID-19 pandemic, the Minister of Finance, based on the regulation of 10 June 2020, extended the deadlines for keeping sales records using cash registers with electronic or paper copies. Table 1 presents the dates for the commencement of compulsory records using on-line cash registers for individual types of activities

Table 1. Deadlines for the commencement of records using on-line cash registers for individual types of business activities

Deadline for implementing	Type of services
To 31 December 2020	Catering services exclusively provided by catering establishments, including seasonal catering services, and short-stay accommodation services Sale of coal, briquettes and similar solid fuels manufactured from coal, lignite, coke and semi-coke for heating purposes
Until June 2021	Hairdressing, cosmetology, cosmetic, and construction services, medical care provided by doctors and dentists, legal services related to the activities of facilities for improving physical condition – only in the scope of admission

Source: Hyży et al. (2021).

The other significant area of digitising tax settlements was the introduction of standard audit files for tax (SAF-Ts, Pol. – JPK). The obligation to use SAF-Ts applied to large entrepreneurs from 1 July 2016, to small and medium-sized enterprises from 1 January 2017, and to micro-entrepreneurs from 1 January 2018. The reform was introduced to enable tax authorities to swiftly verify the correctness of the amounts of income and tax declared by the taxpayer. The result is the increased detectability of irregularities even before fraud is attempted. The Polish JPK consists of the following files (Kowal, Lichota, 2020):

- JPK_KR (containing data from accounting books),
- JPK_WB (containing data from bank statements),
- JPK_MAG (containing data from warehouses),
- JPK_VAT (containing data from the VAT purchase and sale records),
- JPK_FA (containing VAT invoices data),
- JPK_PKPIR (containing data from the tax income and expense account),
- JPK_EWP (containing data from the revenue register),
- JPK_SF (electronic financial statements).

Out of the above-mentioned JPK files, it is mandatory to submit the JPK_VAT file every month, while the remaining files are only sent at the request of the tax authority. After the approval of the financial statements, JPK_SF in the XML format is sent compulsorily once a year, either to the National Court Register or to the National Revenue Administration.

The Ministry of Finance explains that the purpose of introducing JPK was to enable entrepreneurs to transfer data to tax authorities electronically so it would take less time, be less trouble and thereby reduce their costs. However, the most important objective was to shorten the time needed for tax audits and improve their results. This will allow officials, above all, to trace “empty invoices”. In cases where there is no doubt, this method of sharing information makes it possible to avoid detailed audit procedures (Kowal, Lichota, 2020).

The digitisation of settlements is also coming for income taxes. As a result of the changes introduced by the tax reform called the Polish Deal, from January 2023, CIT (Corporate Income Tax) and PIT (Personal Income Tax) taxpayers will be obliged to keep accounting books (JPK_KR), tax income and expense accounts (JPK_PKPIR), and income records (JPK_EWP) (tax records) using computer software. They are also obliged to submit them in a structured form based on the principles provided for in the provisions of the tax code (Pałys, 2020).

Technological innovations in the area of public law influence the development of commercial systems. For example, business units use digital automats (bots) to verify VAT information (input tax) based on comparing data from several sources, i.e. e-mail and an internal transaction system. According to a given sequence of actions, the bot finds electronic documents, compares their substantive content, and on this basis, selectively performs further steps related to the VAT settlement process, thus contributing to the automation of this process (Łada, Mierzejewska, 2021).

In addition, the institution responsible in Poland for the collection and payment of retirement, sickness and health insurance, i.e. Zakład Ubezpieczeń Społecznych (ZUS), also wishes to gradually introduce a uniform insurance file (JPU), starting in 2023. Depending on the number of people employed and insured, the JPU will be sent:

- up to 20 insured people for premiums for November 2023,
- up to 50 insured people for premiums for December 2023,
- 50 or more insured people for premiums for January 2024.

The development of the Polish tax law regulation aims to develop digital forms of communication between the taxpayer and the tax authority. Therefore, it should be verified whether regulatory changes are a stimulant of the development of the computerisation of business systems in Polish enterprises.

2. Data and methodology

The objective of the article is to verify the process of the development of computerisation of Polish enterprises in the field of business systems and to determine whether regulatory changes are a stimulant in this process.

The following analysis is based on the source data collected and elaborated on by Statistics Poland as part of primary research entitled *Wykorzystanie technologii informacyjno-komunikacyjnych w jednostkach administracji publicznej, przedsiębiorstwach i gospodarstwach domowych w 2018 roku* (The use of IT and communication technologies in public administration units, enterprises and households in 2018) and subsequent editions in 2019, 2020 and 2021.

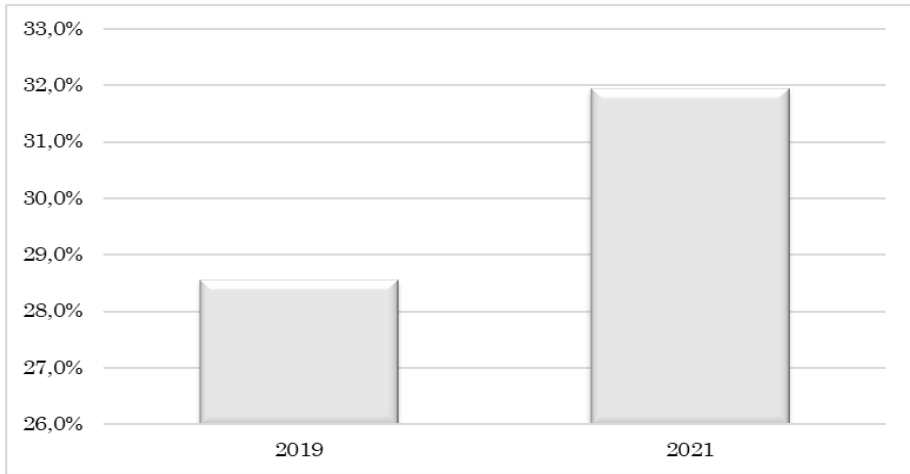
3. Results and discussion

Statutory regulations form one of the elements that impact the computerisation levels of enterprises. Adopting further reporting requirements should increase the percentage of companies that operate an accounting system and other business activities in a digitised form (IDC 2019 for Paślowski, 2020). Our analysis aims to determine whether there has been an increase in the computerisation of Polish enterprises in the period of the described changes in the scope of tax regulations.

Between 2017 and 2021, Statistics Poland conducted surveys on the use of IT and communication technologies in public administration units, enterprises and households. The survey questions concerned the digitisation of entities operating in Poland. The survey included entities with at least ten employees. Some questions directly concerned the use of business IT systems in these units, while others included the analysis of the products of these systems, such as electronic tax returns or e-invoices.

The level of computerisation of Polish entities should be verified primarily based on the scale of use of applications (modules) that integrate the information and activities of a given enterprise at all levels and in most management areas (ERP systems). In 2019 and 2021, Polish units were examined regarding their use of ERP software suites. Chart 1 presents the share of units operating ERP software in units conducting business activities in 2019 and 2021.

Chart 1. Share of units operating ERP software in units conducting business activities in Poland, 2019 and 2021

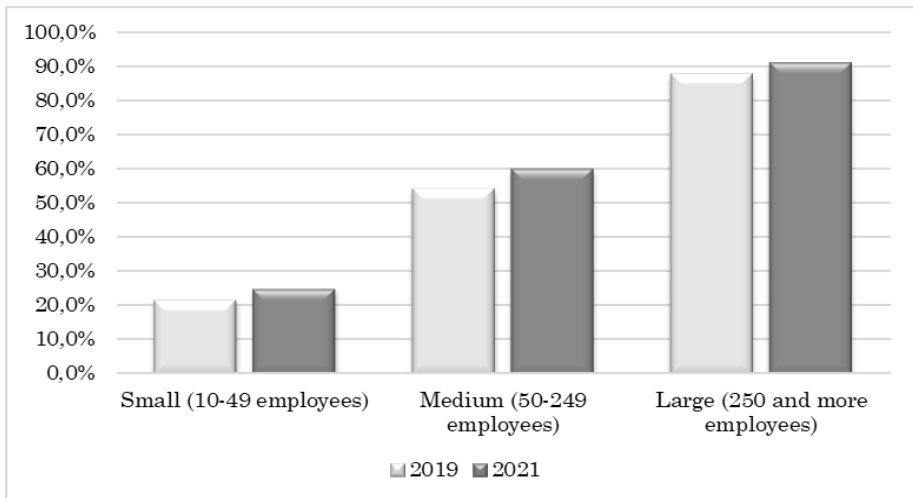


Source: authors' own research based on GUS (2019, 2021).

According to the data, over a period of two years, the percentage of entities operating ERP systems in their business increased by 3.4 percentage points from 30,271 entities to 34,016.

Chart 2 presents the structure of units operating ERP software in 2019 and 2021.

Chart 2. Structure of units operating ERP software, 2019 and 2021



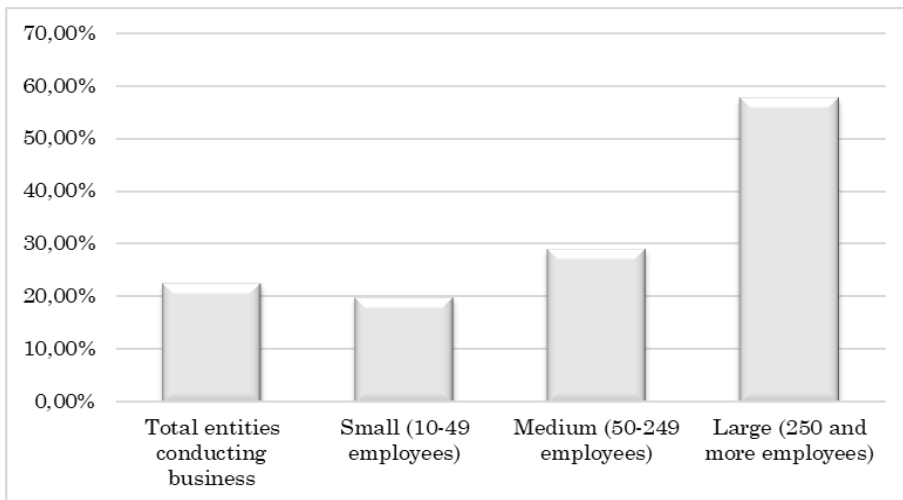
Source: authors' own research based on GUS (2019, 2021).

There was an increase in each size category, with the largest change among the average-sized units, where it amounted to 5.9 percentage points. However, the largest quantitative increase took place in the group of small units. Over two years, 2,878 small entities decided to implement an ERP system.

In 2018, a similar element informing about the use of IT systems for business purposes was examined. The GUS survey determined the number of entities using electronic document management.

Chart 3 presents the structure of units using electronic document management in 2018.

Chart 3. Structure of units using electronic document management in 2018



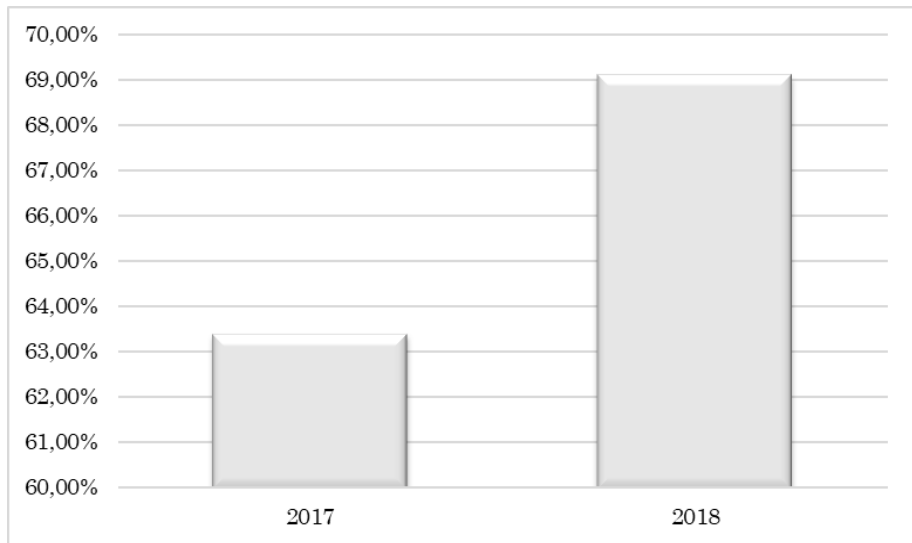
Source: authors' own research based on GUS (2018).

As with the implementation of ERP systems, electronic document management was also used to the greatest extent among large entities in 2018. Although the percentage of units employing more than 250 people that operated and used electronic document management is lower than that of large entities using ERP systems in 2019 and 2021, it still differed significantly from other groups, exceeding 50%.

As mentioned, the estimation of changes in the development of computerisation of Polish enterprises can also be analysed based on the products of digital systems. Statistics Poland's research allows us to trace the electronic contacts of entities with public administration without additional paper documents (including payments, where required), including VAT and ZUS returns.

Chart 4 presents the share of units using electronic communication channels with public administration in 2017 and 2018.

Chart 4. Percentage of entities using electronic channels for communication with public administration, 2017 and 2018



Source: authors' own research based on GUS (2018, 2019).

The introduction of regulations modernising the National Revenue Administration forced entities to implement electronic communication procedures. VAT returns are prepared based on XML structures, which naturally influences the popularisation of the use of electronic systems in accounting.

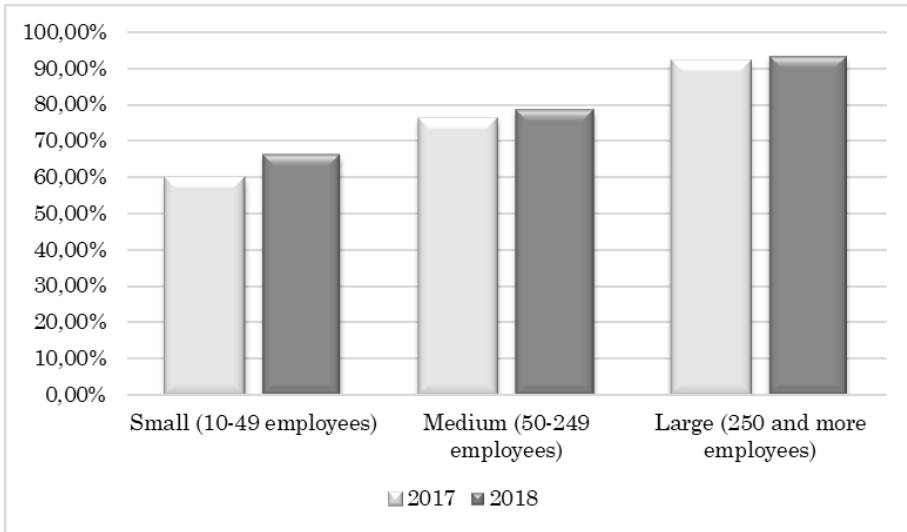
As with the other analysed areas, the largest increase occurred among small entities. Between 2017 and 2018, the percentage of entities employing from 10 to 49 people that used electronic communication with the National Revenue Administration increased by 6.44 percentage points.

Chart 5 presents the structure of units using electronic communication channels with public administration in 2017 and 2018.

The last of the analysed elements is how entities issue electronic invoices. The creation of such documents is closely related to the implementation of electronic business systems, in particular, commercial and accounting systems. Statistics Poland conducted surveys in this respect in 2018 and 2019. The results are presented in Chart 6.

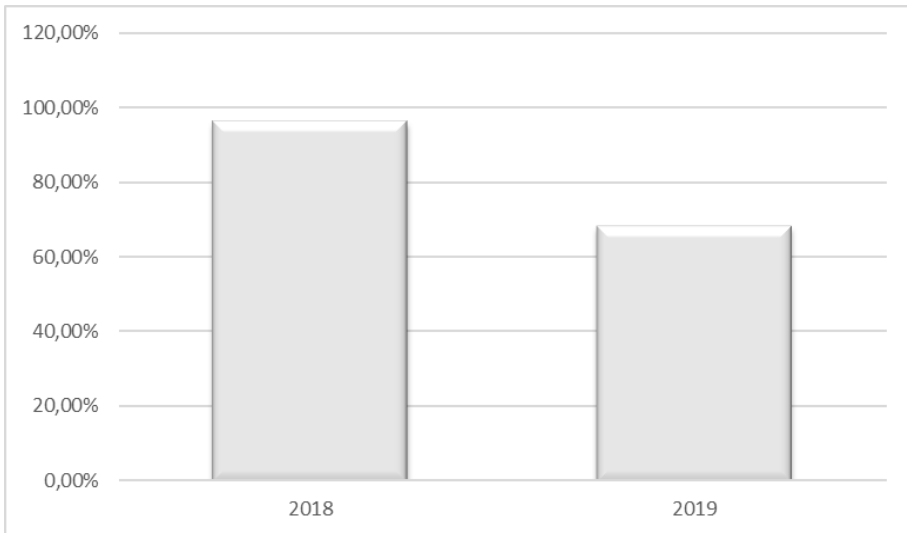
Unlike in the previous analyses, these data show the opposite direction of changes. In 2019, the percentage of entities issuing electronic invoices decreased compared to 2018. What is more, not only did their structure change, but so did the number of entities issuing such documents – from 101,839 in 2018 to 73,922 in 2019. This was observed in every group of unit sizes, as presented in Chart 7.

Chart 5. Structure of units using electronic channels for communication with public administration, 2017 and 2018

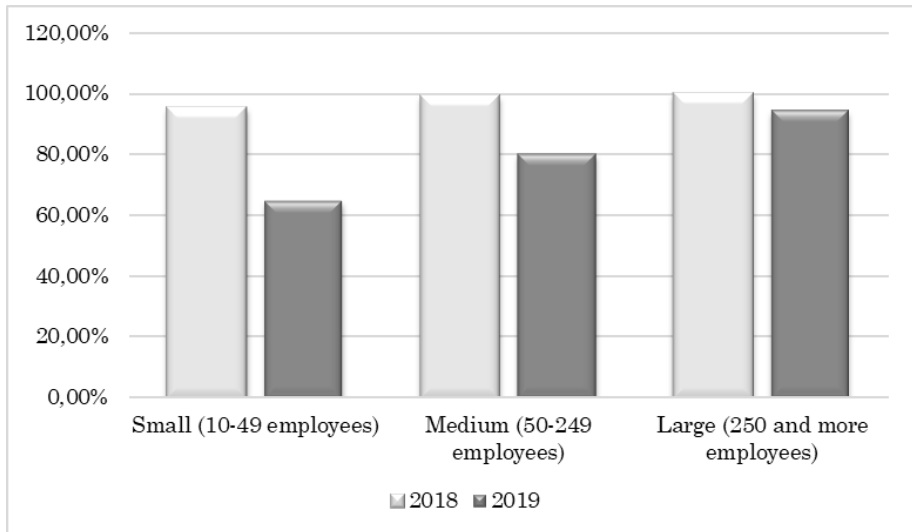


Source: authors' own research based on GUS (2018, 2019).

Chart 6. Percentage of entities issuing electronic invoices, 2018 and 2019



Source: authors' own research based on GUS (2019, 2020).

Chart 7. Structure of entities issuing electronic invoices, 2018 and 2019

Source: authors' own research based on GUS (2019, 2020).

Unfortunately, in the following years, Statistics Poland did not undertake research in this area, so it cannot be determined whether the observed change became a trend.

In conclusion, we can state that the 2018–2021 research by Statistics Poland predominantly demonstrates an increase in the use of IT systems of a business nature among Polish business units. In particular, data on the form of communication with the Tax Administration confirm the impact of tax regulations on the use of digitised financial and accounting systems.

Summary

The study demonstrated that an ever-growing number of entities in Poland use ERP systems in their activities. Among micro, small, medium and large enterprises, the percentage of entities that use IT systems for business management is constantly growing.

Tax settlements with tax authorities are also being gradually computerised. Every year, the number of entities using electronic channels to communicate with public administration increases. The reason is the gradual digitalisation of settlements by the National Revenue Administration. In 2019, the gradual introduction of on-line cash registers for settlements of transactions with natural persons not conducting business activity began. Since 2017, standard audit files for tax have been gradually introduced. Currently, all VAT taxpayers are required to submit JPK files electronically every month. It is planned that in 2023, mandatory

JPK files for income tax (PIT and CIT) and a uniform insurance file will be introduced.

The enacted changes in tax regulations stimulate the development of digital communication between the taxpayer and the tax authority. This forces all types of business entities to gradually computerise and even robotise their accounting processes, as well as tax settlements. The introduction of structured forms of tax settlement by tax authorities also implies the possibility of applying ERP on a wider scale to tax settlements.

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