Economic Development and Business Environment in EU Countries under the Social Media Support

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Abstract: Various internet platforms are rapidly penetrating the existing business environment. They enable the creation of a new social media strategy for entrepreneurial entities with the aim of strengthening their presence and economic efficiency on the market. This is achieved via faster, better targeting and matching the individual producers and their potential clients. The Enterprise Social Media (ESM), helps establish better-focused social campaigns to address the core partners interested in your products or services. Our paper strives to identify the most frequently referred internet platforms applied in social communication on an entrepreneurial level and specify the attributes and shares of their value added. This paper utilizes the Eurostat data on the economic development of individual EU countries, namely the values of GDP per capita in absolute values as well as in relative values toward the average EU level. Also, statistical data on development in social media applications on the entrepreneurial level are presented and analyzed. For this, we applied the selected statistical approaches as correlation and regression analyses, as well as cluster analysis. The accessible statistical data shows and supports the hypothesis of the correlative impact of ESM applications on the economic performance of individual EU countries measured by GDP per capita. The main research limitation stems from the deficiency of more detailed data on the ESM applications, at the level of the entrepreneurial entities. The need for a more precise classification of the ESM applications, should be also considered. Practical implications - our findings show the importance of the various IT technologies for entrepreneurial performance and finally the economic performance of individual EU countries. Such arguments justify the request for higher attention to strengthening the policy of building ESM platforms on all levels of national policies. This paper aims to clarify the relatively new phenomenon in our economic practice – the fast expansion of new internet applications and the support of their further practical utilizations.

Keywords: social media; internet platforms; enterprise social media; JEL O31; M480

1 Introduction

A permanent attribute of the business environment is its' competitive nature between individual business entities. In general, and in the long term, it manifests itself in various forms of struggle to get the attention of potential clients about the services, materials, or other components offered necessary for the development, production, and market realization of their tangible as well as intangible products. It is evident that their simultaneous supply quite naturally generates or increases the intensity of competitive pressures between both products and producers. As Kmeť said [1], the successful operation of business entities on the market is defined by various factors. Subjective factors depend on people as business entities and their ability to compete, and objective factors include the quality of the business environment.

Therefore, trying to improve the image of their own organization and get the attention of buyers requires more and more attention and qualified response to their questions with precise targeting of the potential client. This approach is referred to as "target marketing" and refers to the process of identifying customers and promoting products and services via mediums that are likely to reach those potential customers. [2]

Opresnik and Kotler [3] pointed out that the use of digital and social media is the fastest-growing direct marketing tool. In addition to websites, it is currently very popular to use social media, online video, e-mail, blogs, or mobile ads to engage customers directly.

For more than a decade, there has been a shift from static websites to web applications that draw on up-to-date data. As a result, a number of Internet services, especially interactive websites, have become widespread. In just one decade, the web has evolved from a repository of pages used primarily to access static, mostly scientific information, to a powerful platform for developing and deploying applications. Modern web technologies make it possible to create new web applications that offer communication with a enormous number of Internet users. [4]

In this context, the collective authors draw attention to the fact that [5] small and medium-sized enterprises should focus much more on effective organizational awareness in managing information security.

However, information technology and its diverse internet applications are not only a communication and marketing tool. More detailed statistical data clearly confirm that the IT toolkit is a globally significant factor in economic growth and therefore, also needs to be evaluated from this position.

The aim of our paper is to highlight the significant growth and scale of various internet support platforms at the business level and to estimate their impact on economics.

2 Theoretical Overview

Social media are built on digital technologies and manufacturing companies use them as part of their marketing strategies to effectively communicate with customers, partners, and other organizations.

As new media, social media is one of the communication tools of marketing communication. [6] [7]

Social media are a broad category or genre of communications media that enable social interaction among groups of people, whether they are known to each other or strangers, localized in the same place, or geographically dispersed. it includes new media such as newsgroups, MMOGs, and social networking sites. [8]

Social media are forms of mass media that allow people to communicate and share information via the Internet or mobile phones: Businesses can communicate with internal and external audiences mainly through blogs, microblogs, podcasts, and other forms of social media. [9]

Since the introduction of social networks at the beginning of the 21st century, their popularity is growing rapidly and their usefulness in business is also increasing. [10] [11]

The biggest boom in social networks occurred in 2003 when the social site MySpace and the social site Linkedln were created and in 2004 the most popular and largest social site Facebook. [12]

Dave Chaffey a PR Smith [13] defined the main types of social platforms:

1 *Social networks.* Currently, the most famous social networks in most of the world are Facebook, Instagram, Snapchat (social communication), LinkedIn (business communication) and Twitter (both forms).

2 *Social publishing and news.* Currently, almost all periodical media (newspapers, magazines) are published online.

3 *Commenting on social networks in blogs*

4 *Social specialized communities* - are independent communities and forums from the main social networks

5 *Social customer service.* In addition to their own customer support forums, companies are increasingly using sites such as: Get Satisfaction (www.getsatisfaction.com) to communicate about customer complaints

6 *Social knowledge*

7 *Bookmark on social networks*

8 *Streaming on social network-*

9 *Social Search.* With the decline in popularity of Google+ in recent years, these features are less common today

10 *Social commerce* is particularly important to the retail sector, using product reviews and ratings and sharing coupons for current offers

2.1 Social Media in Business

According to several authors [14], social media represent one of the most significant effects of information communication technologies on business, whether in the company itself or outside the company. As the author Issam Moghrabi said, social media Abdullah R. Al-Mohammed [15] has changed the nature of business nowadays, as it has helped to increase communication with customers and save marketing costs, among other things.

Currently, there are more than 3 billion internet users worldwide, with more than half of them already using social networks. Social media are now increasingly used by businesses, for example, the Facebook profile has more than 16 million companies today. Enterprises use social media for marketing purposes, image creation, promotion, and cooperation with business partners. [16]

Social media began to be widely used by large companies, but also by smaller companies. According to Olsen [17] businesses use different social media and the purpose of social media use may differ from one type of media to another, even within the same company. While marketing, sales, and customer communication seem to be the most important applications of social media for most businesses, there may be significant advantages from social media usage in many other company activities.

According to M. Trkman and P. Trkman [18] organizations are currently focusing on using different forms of social media. According to them, companies should focus more on the factors that contribute to the business value of social networking applications.

It can be assumed that the internet and the wide range of tools that this environment brings is currently an important highly effective factor in both the economic and social development of society. We will try to confirm this hypothesis by analyzing the selected indicators of economic growth in EU countries, measured by the values of gross domestic product per capita in relation to statistical indicators reflecting the exploitation of internet tools by individual EU countries.

In the next sections of the paper, we present and analyze selected statistical information on the use of specific communication and information tools based on

the internet platforms and social media at the level of enterprises in the EU27 member countries. Our aim is to verify and quantify their impact on the dynamics of economic growth.

3 Materials and Methods

The statistical data for the following analysis were drawn from Eurostat sources and were supplemented by a number of partial updates. To assess and compare the economic performance of EU countries, we use data on the dynamics of their economic growth for the period 2010-2021, after recalculating gross domestic product per capita (GDP pc). We also present country-specific data in relative terms compared to the average level of GDP per capita for the EU as a whole.

The data we present in this paper are the results of the 2021 survey on the use ICT use and e-commerce in business. The statistics were obtained from surveys conducted by national statistical institutes in early 2021. Statistical data were processed from surveys that were carried out by national statistical offices at the beginning of 2021. In 2021, a survey was conducted on 148,000 out of 1.5 million businesses in the EU. Around 83% of these enterprises were small enterprises (10-49 employees and self-employed), 14% medium-sized enterprises (50-249 employees and self-employed) and 3% large enterprises (250 or more employees and self-employed). Companies with at least 10 employees and self-employed persons were monitored in the survey. [19]

According to Eurostat data [20] 59% of businesses in the EU used at least one of these types of social media in 2021, an increase of 22% compared to 2015. Percentages vary from country to country and range from less than 40% in Bulgaria (39%) and Romania (36%) to 80% or more in the Netherlands (80%), Sweden (80%) and Malta (84%). Regarding the monitoring of statistical data, it is worth drawing attention to the fact that several EU countries are also still building or supplementing their data sets on the activity of businesses in the field of applications of internet platforms.

In further analysis, we focus on evaluating the results of direct internet and internet-based tools in the business environment. In particular, we monitor the growth and scale of social media applications on various implementation platforms, such as:

- Social nets
- Multimedia content-sharing websites
- Enterprise blog or microblog
- Wiki-based and knowledge-sharing tools
- Use only one type of social media
- Use of two or more types of social media
- Use any type of social media

The presented platforms will be considered in our further analysis as the explanatory variable. To clarify their role, their mutual relations, as well as their individual platforms will be analyzed. Specifically, their impact on the economic environment in the form of correlation and regression relationships will be detected. Our aim will be to verify, confirm, or refute the following and hypotheses related to the application policies on the corporate levels:

H1: Building of social network platforms is mutually isolated

H2: Social networking applications are mutually dependent

We will verify the statistical impact of all social media platforms on the economic performance of individual EU countries. According to the working hypothesis, we assume the validity of the following statement:

H3: The application level of social networks is a statistically significant attribute of countries' economic performance.

To prove the above-presented hypotheses, the standard statistical correlation and regression tools will be employed. To present the variability in levels of using the internet platforms, the cluster analysis technique will be used.

3.1 Research Context

There are a number of research studies in the Web of Science database dealing with the issue of social media, but only a few examine the extent of social media use in business in European Union countries.

Research has shown that on average one in three businesses in the EU uses at least one type of social media. Of these, the most such enterprises are in Malta (55%) and the least in Latvia (15%). In the Czech Republic, 16% of businesses use at least one type of social media. The results of the research show, that the use of social media in polish enterprises is still on a low level. [21]

The research, which was carried out through a questionnaire survey in cooperation with the Regional Chamber of Commerce of the Královhradec Region in the Czech Republic, showed that 55% of the companies surveyed use social networks, while 80% of companies regard them as an important part of business. Only 52% of respondents analyze their efforts on social networks is especially startling. This results in unfulfilled organizational potential, which is more significant especially when compared with the results of foreign studies where social networks are used by up to 96%. [22]

A survey of banks in Turkey found that one-third of them (38%) have social media tools on their website, while 33% of them do not allow posting statuses without administrator permission. [23]

In the Web of Science database, it is possible to find several studies focused on the form and methods of using social media in business. We select some from the conducted research:

A collective of authors Bolat, E., Kooli, K., Wright, LT [24] conducted research on how B2B companies are actually using mobile social media. The research, which was carried out through interviews with 26 B2B firms representing the UK advertising and marketing sector, found that marketing and advertising firms use MSM for branding, market sensing, relationship management, and content development. Firms consider MSM as a firm-specific strategic capability that drives firms' competitiveness, while the imitation of such a capability by competitors is limited.

The collective of authors Rodriguez, M., Peterson, RM., Krishnan, V., [25] analyzed the use of social media such as LinkedIn and Twitter for addressing business-to-business clients. In their research, they surveyed 1,699 businesses from over 25 different industries and demonstrated that social media has a positive impact on creating opportunities and managing business relationships.

The objective of the collective of authors Barroso, A., et al., 2018 [26] was to investigate how the quality of the website of large family firms affects the use of social networks, including company income. The results of the research of 500 family businesses in the world showed that both the direct and indirect effect of website quality on turnover and the moderating effect of social networks in the relationship between website quality and turnover were negative and significant. [26]

The aim of the study by the collective of authors Xiang, H., et al. [27] is to evaluate the factors that influence the adoption of social commerce. A sample of 721 Chinese WeChat users took part in the research. The findings reveal that social capital mediates the positive effect of social commerce adoption and perceived ease of use (PERU) on techno-stress and online impulse purchasing.

The collective of authors Haney, RMC et al. [28] believe that the concept of social media impacts numerous sub-disciplines within business and has become an important issue with operational, tactical, and strategic considerations. Despite this interest, many business schools do not have courses involving social media technologies and applications.

The COVID-19 period, took a heavy toll on individuals' social and organisational relationships as well. [29] Small and medium-sized enterprise (SME) proprietors and managers require a heightened understanding of strategies to enhance SME performance. Small and medium-sized enterprise (SME) proprietors and managers require a heightened understanding of strategies to enhance SME performance. [30] According to the author´s collective de Messa, Over a decade, online social networks have changed how we communicate and connect. [31] The identity and value-based self-image of a business forms the basis for building an authentic and

meaningful employer brand. [32] 4Results: Economic Growth under Conditions of Application of Social Networks

Eurostat data (https://ec.europa.eu/eurostat/web/products-datasets) for the period 2010-2021 indicate positive economic growth results for most Member States of the Union, Table 1.

With the exception of Greece, which was overcoming the consequences of the deep and protracted financial crisis, all Member States recorded a significant increase in their gross domestic product, both in total volume and in relative terms per capita, and despite the challenging period of the recent COVID pandemic.

Poland, Estonia, Lithuania, Latvia, Bulgaria, and Romania recorded the highest economic growth. Spain, Italy, and Cyprus had the lowest economic growth. The results of the V4 group countries - The Czech Republic, Hungary, Poland, and Slovakia - can also be assessed as successful over the reporting period.

For a complementary assessment and comparison of the dynamics of economic growth within all countries of the Union, we present the indicators of GDP per capita in relative comparison to the development of this indicator to the EU average, Table 2.

The highest increases in volumes of GDP per capita relative to its volume at the European Union level are recorded in the most advanced countries, Luxembourg, Ireland, Denmark and Sweden, the Netherlands, Finland, Austria, and Belgium.

Bulgaria and Romania have long achieved particularly low economic growth compared to the EU average. Their domestic GDP per capita is well below the EU average, indicating that these countries are still struggling to meet their convergence targets. At the same time, in the development goals originally set by the newly admitted countries of the Union, one of the most important objectives was precisely the minimization of economic and social disproportions between the Member States. It turns out that the solution to this problem will be long-term and, in order to solve it effectively, it will be necessary, above all, to know in a thorough and qualified way its depth and breadth and the main factors hampering convergence shifts towards more successful countries. Also in this post, we also want to identify some of the possible accompanying factors of these developments in the field of Internet technologies.

For these purposes, suitable econometric models are developed. In classical growth models, investment inputs, technological innovations, as well as intangible inputs in the field of new forms of production services are considered the main sources of economic growth. Among them, we propose to include positively acting scenarios of various Internet applications. Identifying them and measuring their impact on the economic growth of the Member States of the Union is the main objective of our contribution.

Table 1
Gross domestic product per capita

GDP per capita, euro					
	2010	2011	2020	2021	Growth 2011-2021
Austria	35.390	36.970	42.540	44.970	27,07
Belgium	33.330	34.060	39.560	43.680	31,05
Bulgaria	5.080	5.640	8.840	9.850	93,90
Croatia	10.610	10.600	12.400	14.710	38,64
Cyprus	23.400	23.270	24.240	26.030	11,24
Czechia	15.020	15.740	20.170	22.270	48,27
Denmark	43.840	44.500	53.480	57.520	31,20
Estonia	11.060	12.540	20.190	23.060	108,50
EU	24.900	25.650	29.920	32.320	29,80
Finland	35.080	36.750	43.030	45.370	29,33
France	30.690	31.510	33.980	36.660	19,45
Germany	31.940	33.550	40.950	43.290	35,54
Greece	20.150	18.310	15.440	17.140	-14,94
Hungary	9.980	10.250	14.100	15.870	59,02
Ireland	36.710	37.500	74.860	84.940	131,38
Italy	26.940	27.470	27.880	30.040	11,51
Latvia	8.550	9.550	15.500	17.450	104,09
Lithuania	9.050	10.340	17.710	19.760	118,34
Luxemb	83.550	85.330	101.760	114.370	36,89
Malta	16.440	16.630	25.330	28.220	71,65
Netherlands	38.470	38.960	45.670	48.840	26,96
Poland	9.400	9.860	13.730	15.050	60,11
Portugal	16.990	16.680	19.430	20.530	20,84
Romania	6.200	6.540	11.360	12.510	101,77
Slovakia	12.610	13.240	16.860	17.820	41,32
Slovenia	17.750	18.050	22.310	24.680	39,04
Spain	23.040	22.760	23.690	25.460	10,50
Sweden	39.950	43.690	46.420	51.630	29,24
SR % of EU27	50,64	51,62	56,35	55,14	8,87

Table 2
Gross domestic product in % to EU

GDP per capita to EU, growth 2011-2021, in %					
	2010	2011	2020	2021	Growth 2011-2021
Austria	153	152	132	135	27,07
Belgium	141	140	30	30	31,05
Bulgaria	23	23	41	46	93,90
Croatia	42	40	81	81	38,64
Cyprus	84	80	67	69	11,24
Czechia	61	58	179	178	48,27
Denmark	185	184	67	71	31,20
Estonia	58	59	100	100	108,50
EU	104	104	144	140	29,80
Finland	151	148	114	113	29,33
France	129	126	137	134	19,45
Germany	140	141	52	53	35,54
Greece	66	63	47	49	-14,94
Hungary	42	42	250	263	59,02
Ireland	156	163	93	93	131,38
Italy	107	105	52	54	11,51
Latvia	45	46	59	61	104,09
Lithuania	48	49	340	354	118,34
Luxemb	362	362	85	87	36,89
Malta	75	78	153	151	71,65
Netherlands	158	155	46	47	26,96
Poland	41	41	65	64	60,11
Portugal	65	65	38	39	20,84
Romania	29	30	56	55	101,77
Slovakia	55	55	75	76	41,32
Slovenia	71	71	79	79	39,04
Spain	88	87	155	160	10,50
Sweden	185	176	155	160	29,24

Internet applications as a tool for the economic growth of EU countries

For further analysis, we will use the statistical data presented on the EU website at Eurostat (https://ec.europa.eu/eurostat). In particular, we will focus on statistics on the direct exploitation of the Internet and Internet-enabled tools in the business environment.

In order to assess these impacts more thoroughly, according to Eurostat methodology, enterprises are divided into three size groups, namely enterprises with a maximum of 10 employees, enterprises between 10 to 259 employees, and enterprises above this threshold. The data are presented in Table 3.

As shown by the above data, 59% of EU businesses used social media in 2021. More than eight out of ten large businesses reported using social media, a share significantly higher than that seen for small businesses (56%). It is clear that 29% of businesses in the EU used only one in four types of social media and a further 29% used two or more types of social media.

Table 3

Share of enterprises using social media, by size class and %, EU, 2021

Cluster	Use any social media	Use only one type of social media	Use two or more social media	Use three or more social media
All enterprises	59	29	29	11
Small enterprises	56	30	26	9
Medium enterprises	70	29	41	17
Large enterprises	83	23	61	35

Almost one-third of small businesses (30%) focused on using one type of social media, compared to more than one quarter (26%) using two or more social media. The share of large enterprises in the EU using more than two social media was almost three times higher than the percentage using only one type (61% and 23%) respectively (Figure 1).

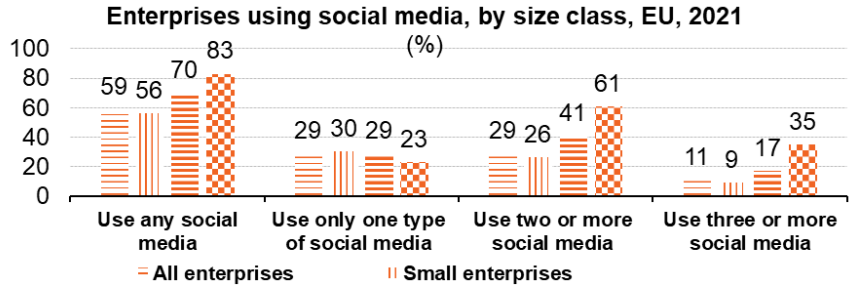

Figure 1

Enterprises using social media, by size class, EU, 2021 (%)

The data suggests that social networks were more popular than other types of social media, allowing clients to engage by creating personal informative profiles, exchanging experiences, expressing opinions, exchanging information, and most importantly, creating communities of people with common interests around business product brands.

The information on the activity of enterprises on the social networking platform by one EU Member State is interesting. Statistics show that the share of enterprises using social networks in 2021 ranged from 84% in Malta to 36% in Romania, Table 4.

According to the above data, the use of blogs or microblogs and content-sharing websites was less popular among EU businesses, reaching 11% and 28% of the total number of sub-bickering entities. Business blogs are labels for applications that are often updated several times a day with posts that may contain images, audio, or even videos. The company can use the blog for internal communication with employees within the company as well as for external communication with

customers, business partners, and other companies or organizations. A microblog is a type of blog that is used to share short digital content that, in addition to text, may also include hyperlinks to other websites.

Table 4
Enterprises using social media, 2021 (%)

Table 4 Enterprises using social media, 2021, %							
	Social networks	Multimedia content-sharing websites	Enterprise blog or microblogs	Wiki-based knowledge-sharing tools	Use only one type of social media	Use two or more types of social media	Use any type of social media
EU	56	28	11	6	29	29	59
Belgium	74	43	15	10	31	45	76
Bulgaria	38	12	4	3	26	13	39
Czechia	49	22	9	6	27	24	51
Denmark	76	33	11	7	41	36	77
Germany	53	29	8	8	27	30	57
Estonia	49	22	7	6	29	22	51
Ireland	63	26	22	2	31	32	64
Greece	55	26	15	6	27	29	56
Spain	60	37	26	5	27	39	67
France	60	23	11	4	35	26	61
Croatia	50	22	6	6	30	24	54
Italy	54	27	7	2	29	27	56
Cyprus	76	36	23	4	35	42	77
Latvia	56	23	11	6	32	26	58
Lithuania	55	21	6	4	36	22	58
Luxembou	67	28	13	11	35	34	68
Hungary	47	12	3	2	35	13	48
Malta	84	39	20	11	42	42	84
Netherlanc	78	45	21	7	31	49	80
Austria	62	36	13	8	27	38	65
Poland	44	17	7	3	28	18	46
Portugal	58	25	8	5	33	26	59
Romania	36	11	6	3	24	12	36
Slovenia	57	29	11	4	29	30	59
Slovakia	42	19	8	4	25	21	45
Finland	76	50	21	6	28	51	79
Sweden	78	44	18	15	32	48	80

The dynamics of change in the construction and applications of social networks at the enterprise level between 2015 and 2021 are reflected in Figure 2.

In 2021, 59% of businesses in the EU used at least one of the reported types of social media, an increase of 22% compared to 2015. The percentages of enterprises so engaged vary considerably from country to country, ranging from 80% or more in Malta (84%), Sweden (80%) and the Netherlands (80%) to less than 40% in Bulgaria (39%) and Romania (36%). In Slovakia, the share of active enterprises has increased from 34% to 45% since 2015.

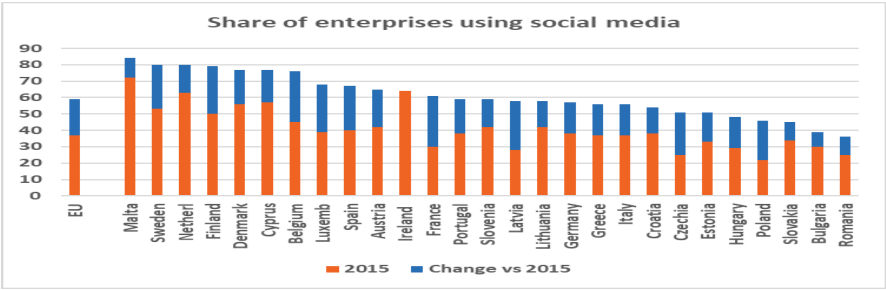

Figure 2

Share of enterprises using social media, 2015 and 2021 (%)

As shown in Fig. 3, between 2015 and 2021 the use of websites to share multimedia content increased by 16 percent (from 12% to 28%) and blogs or microblogs by 2% (from 9% to 11%). The percentage of EU businesses using wiki-based knowledge-sharing tools has slightly increased by 1 percent (it has remained virtually stable since 2015).

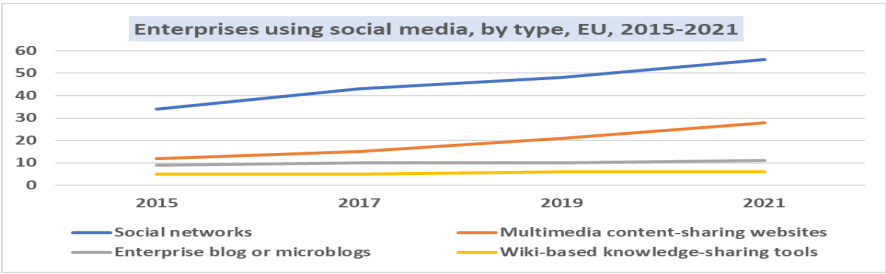

Figure 3

Enterprises using social media, by type (%)

In the EU, the use of social networks increased the most between 2015 and 2021 (by 22%). Among the Member States, the highest increases were recorded in Belgium and France (by 32%), Latvia (by 31%) and Luxembourg (by 30%). The lowest increases were in Bulgaria (by 8%) and Ireland (by 1%).

The different platforms and scenarios according to which social networks are activated intersect, and complement each other technologically and in content, thereby increasing their own efficiency. As a result, it is quite difficult to unambiguously evaluate their application effectiveness. Therefore, to assess the relationship of individual application platforms, it is interesting to analyze their mutual statistical, in that case, correlational, relationships. The results of correlation analysis in the form of the Pearson coefficient correlation are presented in Table 5.

Table 5
Correlation relationships between application platforms

Social network and alternative internet application platforms							
	Social networks	*Multimedia content-sharing websites*	*Enterprise blog or microblogs*	*Wiki-based knowledge-sharing tools*	*Use only one type of social media*	*Use two or more types of social media*	*Use any type of social media*
Social networks	1						
Multimedia content	0,891	1					
Enterprise blog or m	0,755	0,787	1				
Wiki-based knowled	0,619	0,619	0,340	1			
Use only one type o	0,619	0,232	0,175	0,287	1		
Use two or more typ	0,922	0,989	0,835	0,631	0,279	1	
Use any type of soci	0,994	0,919	0,777	0,624	0,578	0,944	1

The derived results indicate high variability in the level of relationships among the various internet platforms. These findings however should be considered and interpreted with caution bearing in mind the lack of their rather fuzzy definitions. Their content may reflect the not-identified overlapping of the initial data.

The above-presented results enable us to answer the first defined research hypotheses. Due to the presented Pearson coefficient, we can refuse the H1 hypothesis, which indicates the adaptation of the hypothesis H2.

Hypothesis H3 due to insufficient reliable data was not evaluated.

Types of social media used by enterprise size class

An interesting view on application frequency on the corporate level offers the following Fig. 4. Its presentation shows the variability of the multimedia application according to the size of corporate units under consideration.

In 2021, 81% of large businesses in the EU that employed 250 or more people used some kind of social network. On the other hand, just over half of small businesses employing between 10 and 49 people (53%) used social networks. More than half of large enterprises (55%) used websites to share multimedia content, compared to one-quarter of EU small businesses (25%). In 2021, the share of large enterprises using enterprise blogs or microblogs (33%) was more than three times higher than the percentage recorded for small businesses (10%). Wiki-based knowledge-sharing tools were the least used social media, regardless of the size of the business (Figure 4).

In terms of economic activities, in 2021 the percentage of EU enterprises using social networks ranged from 86% of enterprises in the accommodation sector and 81% in the information and communication sector to 41% of enterprises in transport and warehousing and construction.

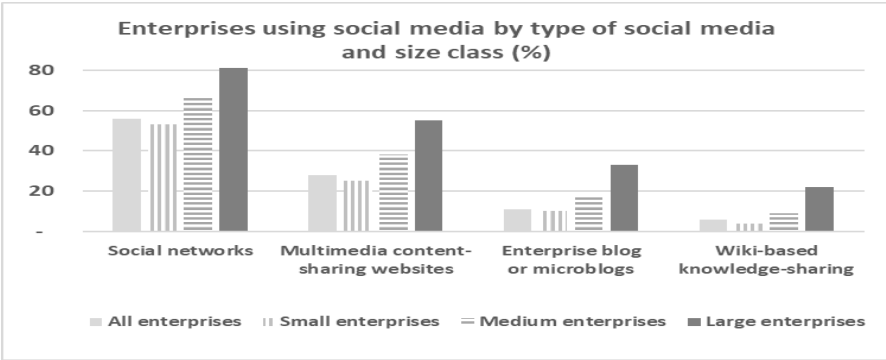

Figure 4

Enterprises using social media, by type and size class (%)

More than 5 out of 10 businesses in the information and communication and accommodation sectors, used websites to share multimedia content, but less than 1 in 5 businesses in the transport and storage, construction, electricity, gas, steam, air conditioning, and water supply sectors.

Corporate blogs or microblogs have been popular types of social media among businesses in the information and communication sector (39% of businesses). By contrast, less than 10% of EU businesses in manufacturing, transport, warehousing, and construction used company blogs or microblogs (Figure 5).

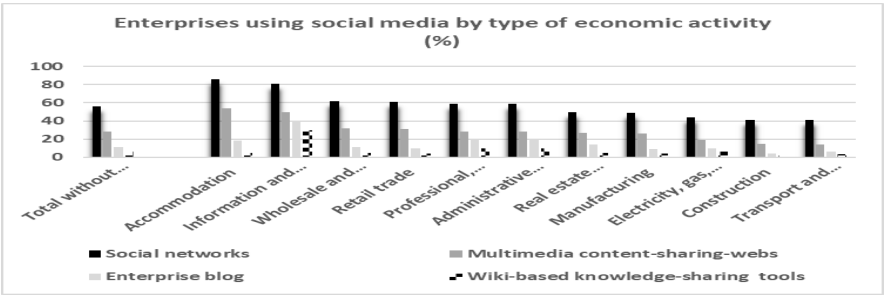

Figure 5

Enterprises using social media, by type and economic activity (%)

The above presented statistical data indicate a wide range of applications of various forms of Internet support at the level of manufacturing enterprises. Given the time-increasing number of these applications, it can be assumed that the effectiveness of internet support for business efficiency is evident.

In the next step, we will verify the interrelationships of the identified factors, as well as their relationship to the characteristics that represent the dynamics of economic growth (GDP pc).

The above presented information, as well as some previously presented data on ICT applications, will be further used for cluster analysis of the positions of individual UE countries.

Table 6
The share of ICT and ranking of share in national GDP

The share of ICT and rankig of the share in national GDP							
The share of the ICT sectors in national GDP, %				Ranking of the ICT sectors on GDP			
Country	Total GDP	Manufacturing	Services		Total GDP	Manufacturing	Services
EU27	4,27	1,00	4,05	EU27	14	6	16
Belgium	7,00	0,22	4,05	Belgium	2	20	17
Bulgaria	4,88	0,21	6,79	Bulgaria	8	21	2
Czechia	4,54	0,36	4,52	Czechia	11	16	11
Denmark	4,41	0,16	4,38	Denmark	13	25	13
Germany	6,37	0,38	4,03	Germany	4	14	18
Estonia	4,00	0,73	5,22	Estonia	16	7	6
Ireland	2,75	3,00	3,00	Ireland	24	1	27
Greece	3,28	0,04	2,72	Greece	23	28	28
Spain	4,57	0,08	3,49	Spain	10	27	22
France	4,73	0,46	4,11	France	9	11	14
Croatia	3,35	0,11	4,62	Croatia	22	26	10
Italy	2,00	0,25	3,19	Italy	25	19	25
Cyprus	5,50	2,00	7,51	Cyprus	6	2	1
Latvia	3,65	0,43	5,08	Latvia	21	12	7
Lithuania	2,00	0,19	3,47	Lithuania	25	23	23
Luxembourg	6,07	2,00	6,53	Luxembou	5	2	5
Hungary	8,14	1,62	4,45	Hungary	1	5	12
Malta	2,00	0,70	6,67	Malta	25	8	3
Netherlands	3,65	2,00	4,85	Netherland	20	2	8
Austria	3,70	0,48	3,18	Austria	19	10	26
Poland	4,21	0,31	3,40	Poland	15	17	24
Portugal	3,99	0,19	3,72	Portugal	17	22	19
Romania	3,87	0,29	3,70	Romania	18	18	20
Slovenia	4,48	0,38	3,50	Slovenia	12	14	21
Slovakia	5,35	0,42	4,07	Slovakia	7	13	15
Finland	6,79	0,59	4,76	Finland	3	9	9
Sweden	2,00	0,19	6,60	Sweden	25	23	4

As shown by Table 6 data, there are still several countries not provide the full data on the studied ICT applications. The representative statistical data would be needed for a deeper exact study and comparison of the achieved efficiency of ICT technologies in generating GDP.

In the next analysis, therefore, we will try to interpret by classifying the EU countries into groups, relatively homogenous in terms of scope and forms of Internet applications in the management of economic production enterprises. The results of the cluster analysis are presented in the following Figure 7, for manufacturing industries and Figure 8, for service industries.

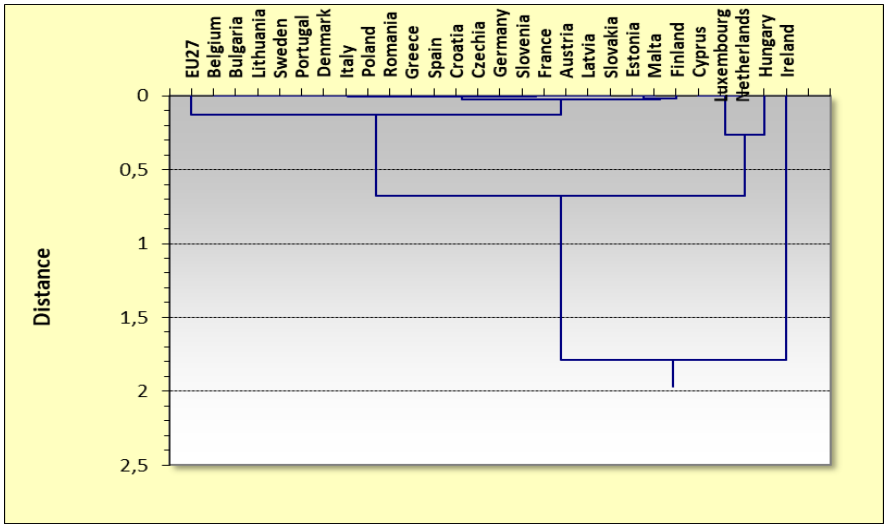

Figure 7

Cluster analysis of the EU countries according to the level of ICT in manufacturing

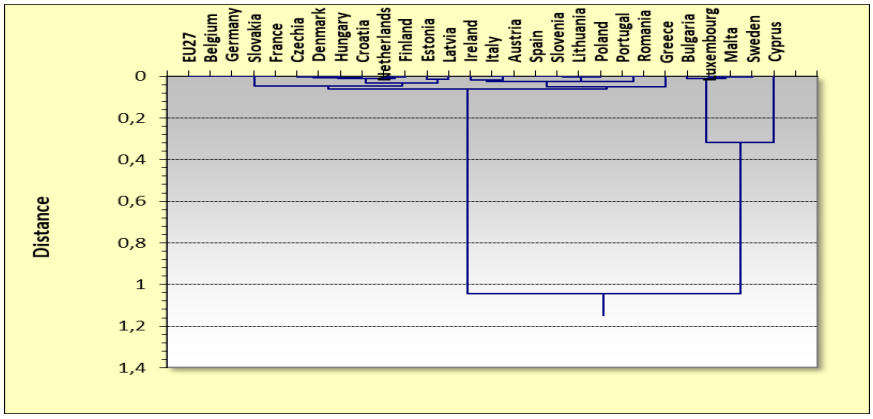

Figure 8

Cluster analysis of the EU countries according to the level of ICT applications in services industries

The data in Table 6, as well as, Figures 7 and 8 confirm high differences in levels of the ICT applications. Some highly developed industrial countries show relatively low levels of ICT applications and vice versa. The limited reliable data however do not offer deeper causal interpretation.

Conclusions

Based on the analysis of the use of online support platforms at the business level, the following conclusions can be drawn:

- According to the available statistics for the countries of the European Union, significant progress can be noted in expanding and intensifying the presence of business entities in the form of social media.
- The findings point to the importance of individual IT technologies for business performance and finally also the economic performance of individual EU countries.
- Available statistical data show and support the hypothesis of a correlative impact of ESM applications on the economic performance of individual EU countries measured by GDP per capita.

The authors believe that the findings justify the call for more attention to be paid to strengthening the policy of building ESM platforms at all levels of national policies.

The digital age in which the EU finds itself requires the formulation of a new paradigm of working with information technology and the internet environment. That is why the Union's development strategy is based on the idea that digital technologies and solutions should:

1. Open up new opportunities for businesses
2. Support the development of trustworthy technologies
3. Promote an open and democratic society
4. Enable a dynamic and sustainable economy
5. To help fight climate change

To achieve this, the following digital targets will need to be met by 2030, based on 4 key points: skills, the digital transformation of businesses, safe and sustainable digital infrastructures and the digitalization of public services.

The authors do not claim to scientifically exhaust the mentioned issue. A limitation of the research is the lack of more detailed data on ESM applications at the level of business entities. The need for a more accurate classification of ESM applications should also be considered when collecting Eurostat data.

The authors future plan is to continue researching social media applications at the business level.

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