

INTERNATIONAL CONFERENCE

**“Business, Governance and Environment:
Sustainable Management and Eco-
Innovation Strategies”**

27-28 November 2019



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About InterRegioNovation

InterRegioNovation is the International Association devoted to the transfer and exchange of knowledge and innovations at all regional levels (country, region, city, community etc.) between knowledge transfer professionals (business, research institutions, policy makers, government agencies, individuals, others) in all countries of the enlarged Europe, CIS countries and from other continents for stimulating and enhancing economic and social growth in the regions.

This is a policy and research association that brings together all knowledge transfer professionals who are interested in delivering efficient, flexible, innovative and cost-effective services across the private and public sectors. We work closely with business, research and educational institutions, government agencies, policy makers, NGOs, media, individuals and other stakeholders to promote the interests of their industries.

Our members understand the changing needs of the transfer and exchange of knowledge and innovations and through continuous professional development, marketing and networking opportunities offered in this association, we keep current with the latest knowledge trends and issues that challenge people in their work and life journey. We also offer expansive opportunities for partner connection through our networks.

Journal "Regional Innovations" is one of the Association's tools for innovators and everybody who is interested in any aspects of innovation development.



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About journal

On behalf of the Editorial Board, it gives us a great pleasure to welcome you to the third issue 2019 of the Regional Innovations Journal. This is a special issue dedicated to the International Conference “**Business, Governance and Environment: Sustainable Management and Eco-Innovation Strategies**” (27-28 November 2019).

The aim of the conference was involving a wide range of experts in discussing important trends and development of business and government strategies towards sustainable environment development nowadays. The international consumer, societal and political pressures have compelled companies and Government agencies to integrate a new dimension into management: sustainability and eco-management. Both multinational companies and small and medium-sized enterprises must be able to integrate sustainable innovative eco-practices into the way they do day-to-day business. Organizations around the world are contemplating alternative approaches to eco-business, considering the National, regional and global implications of this new business tool. The Conference carries forward spreading knowledge and awareness about eco-business and Government strategies in different countries.

This is an independent, peer-reviewed, Internet-based international journal devoted to publishing original research papers of highest quality, sharing ideas and discussing innovation sector within regional dimensions. Normally, four issues are prepared each year. The journal welcomes to submit research papers by exceptional innovators, leading universities, globally recognized business, government agencies, policy makers and political leaders. The Regional Innovations publishes original research papers, policy analyses, review papers and book reviews in order to establish an effective channel of communication between business, research institutions, policy makers, government agencies, and individuals relative to the analysis of various aspects of knowledge and innovations transfer and exchange within regional dimensions.

We intend that our readers will be exposed to the most central and significant issues in innovations development. We wish to publish papers that exemplify the highest standards of clarity, and that promise to have significant impact on existing front-line debates or to lead to new ones. The journal explores key priorities of the knowledge and innovations transfer and exchange in terms of critical aspects of human life (economy, law, science, business, health, education, culture etc.). We therefore welcome submissions not only from established areas of research, but also from new and emerging fields and those which are less well represented in existing publications, e.g. engineering studies, biomedical research etc.

We are delighted with, and immensely grateful to the large numbers of colleagues, both members of the Associations InterRegioNovation and FranceXP (France), representatives from many universities in France, UK, Spain, Ukraine, Latvia, Belarus, Azerbaijan, India, China, Viet Nam, Iran, Nigeria and other institutions, who have supported the editorial process. And we are very proud of the expertise that they collectively bring, which we believe is unsurpassed by any contemporary innovative journal. We are immensely grateful to our colleagues for their support and advice through the process of setting the journal up, and for the confidence they have placed in us in supporting this initiative at a time of economic uncertainty.

In the development of the Regional Innovations to date, we would like to enlist the support of a number of organisations who wish to promote this online journal to their experts. To ensure its sustainability, we would also like to invite other organisations, networks, conferences and meetings to associate themselves with the Regional Innovations. We therefore aim for the Regional Innovations to become the leading online forum to globally disseminate outstanding research papers on innovation sector in regional dimensions. Being an online periodical, the Regional Innovations is also a forum for exchange of imaginative ideas readers wish to share. Contributions of articles on innovations sector and your comments about this issue are very welcome.

We do hope you enjoy and benefit from the Regional Innovations! And many thanks for staying with us in 2019!

Jean-François Devemy
Publishing Director

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SECTION 1:

GLOBAL TRENDS AND PROSPECTS IN SUSTAINABLE MANAGEMENT

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GLOBAL PROSPECTS IN SUSTAINABLE MANAGEMENT

Since the adoption of the Sustainable Development Goals, there have been many positive developments. Countries have started to incorporate the Goals into national plans and strategies, and many have set up coordinating structures for coherent implementation. Of the 110 voluntary national reviews submitted during the 2016, 2017 and 2018 sessions of the high-level political forum, 35 mentioned explicit measures to link the Goals to their national budgets or were considering such action. There have also been initiatives aimed at safeguarding the environment, notably regarding climate change, land use and oceans. And important parts of the private sector have begun to move away from business-as-usual models, for example by adopting and reporting on sustainability standards. Meanwhile, the mobilization of civil society and non-governmental organizations in favour of sustainable development is rising.

However, despite the initial efforts, the world is not on track for achieving most of the 169 targets that comprise the Goals. The limited success in progress towards the Goals raises strong concerns and sounds the alarm for the international community. Much more needs to happen – and quickly – to bring about the transformative changes that are required: impeding policies should urgently be reversed or modified, and recent advances that holistically promote the Goals should be scaled up in an accelerated fashion. Adding to the concern is the fact that recent trends along several dimensions with cross-cutting impacts across the entire 2030 Agenda are not even moving in the right direction. Four in particular fall into that category: rising inequalities, climate change, biodiversity loss and increasing amounts of waste from human activity that are overwhelming capacities to process them. Critically, recent analysis suggests that some

of those negative trends presage a move towards the crossing of negative tipping points, which would lead to dramatic changes in the conditions of the Earth system in ways that are irreversible on time scales meaningful for society.

Recent assessments show that, under current trends, the world's social and natural biophysical systems cannot support the aspirations for universal human well-being embedded in the Sustainable Development Goals. Just over 10 years remain to achieve the 2030 Agenda, but no country is yet convincingly able to meet a set of basic human needs at a globally sustainable level of resource use. All are distant to varying degrees from the overarching target of balancing human well-being with a healthy environment. Each country must respond to its own conditions and priorities, while breaking away from current practices of growing first and cleaning up later. The universal transformation towards sustainable development in the next decade depends on the simultaneous achievement of country-specific innovative pathways.

New scientific and technological research, as well as the adaptation of existing knowledge and technologies to specific local and regional contexts, are needed to further streamline efforts, maximize synergies between the Goals and pre-emptively accommodate emerging challenges beyond the 2030 horizon.

Economic growth has increased national incomes significantly, albeit unevenly, across countries. While that has contributed to advances in human, social and economic well-being, the effects on human societies and the environment are currently unsustainable. Economic activity should be seen not as an end in itself, but rather as a means for sustainably advancing human capabilities.

Innovative governments, a committed private sector and an active – and often, young and well-educated – citizenry can overcome inequalities and create liveable cities in both developing and developed countries.

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NATIONAL INNOVATION SYSTEM IN AZERBAIJAN: RECOMMENDATIONS FOR GREEN ECONOMY

After the country's independence, the hydrocarbon sector saw a new revival, thanks to new exploration leading to the discovery of significant new oil and gas reserves. The resulting upsurge in the sector produced an extraordinary economic boom during the past decade, which has been unmatched in recent history on the global scene.

The massive presence of FDI investors is an asset that has not been fully used so far. These investors are both potential sources of positive local spillovers and technology transfer into the domestic economy and also a prospective channel for further integration into the global economy. Thanks to comprehensive and wide-ranging reforms during 20 years of independence, Azerbaijan boasts a relatively more favorable business environment another CIS countries. The Government pursues an "open door" policy to foreign investors, which is seen as key for the diversification of the economy.

The Azerbaijan Investment Promotion Agency (AzPromo) is tasked with promoting both foreign and domestic investment. One of its priorities is to facilitate business investment in areas that would contribute to economic diversification. It seeks to identify sectoral priorities corresponding to Azerbaijan's competitive advantages. Apart from targeting direct investment in non-oil sectors, it facilitates downstream business cooperation between oil and non-oil sectors.

The body in charge of environmental protection and natural resource management in Azerbaijan is the Ministry of the Environment and Natural Resources (MENR). A number of other public bodies (in particular, the Ministry of Industry and Energy and the Ministry of Economic Development) also have responsibilities for certain aspects of environmental protection. The current structure of the economy (overwhelmingly dominated by the oil and gas sector), the need for economic diversification, coupled with the existing environmental challenges, make a strong case for a major focus on developing the green economy and re-orientation towards green growth on the basis of promoting eco-innovation.

The concept “national innovation system” reflects the notion that the innovation process takes part in a system (the systemic view on innovation) and characterizes the systemic interdependencies that influence the processes of generation and diffusion of innovation in the economy. One of the broad definitions of the national innovation system is: “the network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies”.

Given the numerous systemic and market failures associated with green innovation, we see inherent difficulties in internalizing the eco-related costs and benefits along the process. Without targeted government intervention, the perceived risk of investing in such projects is generally high whereas the demand for green products is low. Therefore, policy intervention in different forms has in general a central role to play in promoting eco-innovation and, in particular, in boosting the demand for green products.

The capacity of the economy to successfully absorb and adopt new technologies depends on the level of human capital, in particular the skills and educational levels of employees. More efforts are needed (as also seen by the low level of R&D spending in the country) to invest in the country’s science base and skills development, as green growth and eco-innovation are especially demanding in this sense. The authorities can build on successful experiences and practices to stimulate the demand for innovation, in particular, eco-innovation in Azerbaijan.

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IN PRAISE OF TECHNOCRACY...?

It was the Moscow Urban Forum of 2011 and one of the speakers, a prominent reformer, was explaining how Moscow's problem was that it lacked a brand. It was an odd statement, as few cities are more recognisable or symbolically laden than Moscow. One of the audience, a former mayor of Milan commented: "*and that...is the difference between a politician and a technocrat*".

Who is a technocrat? There are two basic definitions. The first, more positive, is that a technocrat is '*a member of a skilled, technical elite*' [1]. The second, more negative definition is that a technocrat is a '*politician or senior official who values technical and economic data over human factors*' [2].

This implied mutual opposition of technical and human factors, is supported in the academic literature by Grindle's [3] characterisation of the technocrat as apolitical, influential in policymaking, concerned with rationality and efficiency and underestimating the need to consider questions of human relations and politics. The technocrat is therefore a figure who combines power and neutrality, whose separateness from (and perhaps ignorance of) the local political context may be seen as a strength rather than a weakness. In this respect, the mayor in the example above was correct in drawing a distinction between politicians and technocrats – the latter do not have, or do not need, the skills, cultural empathy or democratic legitimacy of the former.

However, this is not just a case of a gap between theory and practice, as the technocrat is a practitioner and may hold high political office. In this respect the rise of technocracy follows a longstanding trend – identified by Hobbes, according to Habermas [4] - whereby the advance of science and technology breaks down the traditional divide between theory and (political/moral) practice, making politics supposedly obsolete.

According to Putnam's landmark study [5] the technocratic mentality consisted of five components:

Confidence that social problems can be solved by scientific or technological means. Scepticism or hostility toward politicians and political institutions. Little sympathy for the openness and equality of democracy. A preference for pragmatic over ideological or moral assessments of policy alternatives. Strong commitment to technological progress in the form of material productivity, without concern for questions of distributive or social justice.

The third point here, regarding pragmatism, suggests an overlap with a certain kind of politician. Not all politicians are preoccupied in practice with the democratic principles on which their legitimacy ultimately rests, but rather with maintaining a political career, professional politicians who, in Weberian terms live from politics rather than for politics [6].

Similarly, it is important to distinguish technocrats from technicians (those who merely provide analysis or advice but are not involved in decision-making) and from bureaucrats (who administer but do not, as a rule, initiate, policy) – indeed technocrats tend to regard bureaucrats as an obstacle to reform and seek to reduce their power [7].

Drawing on the ideas of Habermas, Centeno observes that “the technocratic model of objective necessity replaces the decisionistic model of politics, which leads to a ‘scientification of politics’ and inevitably produces an authoritarian political framework” [8].

While technocracy may be an easy target for criticism, it may be more symptom than cause. In the same year as the example above, 2011, technocratic rule was expanding in Europe, as apolitical technocrats were appointed as heads of government in Italy and Greece in the wake of the financial crisis of 2008 and its repercussions within the Eurozone. By 2013 a reaction against technocratic government was gathering momentum among commentators in Europe. Some even drew a parallel between what had happened with Russian privatisation in the 1990s (a theoretically correct approach diverted from its stated aims by political realities) and the limitations of technocratic reforms in the Eurozone [9].

The informed challenge to technocracy has typically been based on an assumed opposition between politics and technocracy in which politics is seen as pragmatism, the art of the possible, whereas technocracy might be seen as the science of the impossible, rational but not practical.

However, this does not, of course, exhaust the possibilities of the debate, as the context of political activity has, in the years since 2008, itself undergone a transformation, with the emergence of populism as a counter to traditional party-based politics. As early as 2010, Canadian commentator and politician Chrystia Freeland was arguing that the struggle between technocracy and populism had replaced that of Left and Right [10]. The implication was that struggles between conventional politics and populism within Right of Left are now more important than between Left and Right. This is complicated further.

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CROSS-BORDER ASPECTS IN THE CONTEXT OF EUROPEAN INTEGRATION: THE CASE OF UKRAINE

Since 2014, Ukraine has been rapidly transforming the social, economic and managerial spheres, having entered the most responsible stage of its development. European integration benchmarks are enshrined in the Association Agreement between Ukraine and the EU and certain laws of Ukraine¹.

However, in conditions of military conflict in the southeast (Donbas), depopulation of the regions, growing infrastructural imbalances, an outdated mechanism of interrelations at the state-region level, and the large size of their territories, Ukraine needs an effective regional policy. Such a state policy should take into account the unique political-geographical and transport-geographical position of the country, as well as the cultural and historical specifics of the border regions [1, 5, and 7].

At the turn of the century, the Council of Europe adopted a core document on spatial development - Guiding Principles for Sustainable Development of the European Continent (Strasbourg, September 7-8, 2000). The appearance of these documents was preceded by a long practice of cross-border cooperation on the internal borders of the EU, built on the principles of the European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities (Madrid, May 21, 1980) [1-3]. The main engine of these practices was the German-Dutch initiative EUREGIO, on the basis of which the Association of European Border Regions (AEBR) arose in 1971. Currently, this organization has more than 120 members, including the external zone of the EU. Cross-border integration in Europe is a complex and multifaceted process that has a long contrasting effect on the border regions [8].

¹ On the Strategy of Sustainable Development "Ukraine 2020": Decree of the President of Ukraine dated January 12, 2015 No 5/2015 // Government courier dated January 15, 2015 - No. 6. Про Стратегію сталого розвитку «Україна – 2020»: Указ Президента України від 12.01.2015 № 5/2015 // Урядовий кур'єр від 15.01.2015. – № 6.

European Union finances cross-border cooperation programs for the period 2014-2020 under the European Neighborhood Instrument (ENI). There are currently 12 programs for Eastern Europe. The European Commission has adopted a series of cross-border cooperation programmes totalling €1 billion, supporting social and economic development in the regions on both sides of the EU's external borders (Brussels, 7 January 2016).

The dramatic events in Ukraine caused by the political and military conflict with Russia coincided with the beginning of the European program period 2014-2020. This had a huge impact on the border area as a whole, as a result of which asymmetric segments were formed (in terms of cross-border interactions) in the southeast, north and west of the Ukrainian state. The eastern border has lost its contact functions; all programs of cross-border cooperation with Russia have been suspended in a vast space (11). As a result of this, economic interactions at the interregional level with the Republic of Belarus intensified. At the same time, the contact zone with the countries of the European Union received an additional impetus within the framework of the European Neighborhood Instrument through 4 joint programs (<https://huskroua-cbc.eu/>, <https://www.pbu2020.eu/en>, <http://www.ro-ua.net/en/>, <http://blacksea-cbc.net/>).

Taking into account the decisions of the European Commission on the convergence of the INTERREG programs and the Neighborhood Programs in the new European program period 2021-2027, issues of interaction of its western and eastern regions on a project basis should be included in the regional policy agenda of Ukraine. This will really strengthen the dynamics of social and economic cohesion of individual parts of the country. It will also ensure the complementarity of the European integration processes throughout Ukraine.

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GLOBAL TRENDS IN SUSTAINABLE MANAGEMENT: CRISIS IMPLICATIONS

The global community has made great strides in addressing poverty, but a mere continuation of current development strategies will not suffice to achieve sustainable development. Economic and social progress remains uneven, the global financial crisis has revealed the fragility of progress, and accelerating environmental degradation inflicts increasing costs on societies. There are a number of economic, social, technological, demographic and environmental megatrends underlying these challenges - a deeper globalization, persistent inequalities, demographic diversity and environmental degradation - to which a sustainable development agenda will have to respond.

These trends influence and reinforce each other in myriad ways and pose enormous challenges. Urbanization is proceeding rapidly in developing countries, globalization and financialization are perpetuating inequalities, while exposing countries to greater risks of contagion from crises, and food and nutrition as well as energy security is threatened by competing demands on land and water, as well as environmental degradation. Most important, environmental degradation has reached critical levels. Business as usual is therefore not an option, and sustainable development will require transformative change at the local, national and global levels.

Significant progress has been made in the new millennium in achieving global development goals. Poverty was decreasing in all regions of the world, at least until the onset of the global financial crisis, underpinned by strong economic growth in developing countries and emerging economies. As a result, the first target of the Millennium Development Goals - halving the proportion of people living in extreme poverty globally - has already been met. Improvements in school enrolment rates and health outcomes demonstrate similar progress in the dimension of social development.

These challenges to sustainable development are driven by broad underlying economic, social, technological, demographic and environmental megatrends. Megatrends are

understood in this context as major shifts in economic, social and environmental conditions which change societies and substantially impact people at all levels. Both the progress in development that has been achieved in recent decades and its uneven nature are tied intrinsically to changes in the global economy and globalization.

Many countries have benefited from access to global markets and the spread of knowledge and technology, but others remain marginalized. Tighter trade, investment and financial links have also increased interdependence between countries and led, particularly in combination with financialization, to greater risks of contagion in times of crisis. At the same time, economic growth has been accompanied by rising income inequalities in many countries. With countries at different stages of the demographic transition, further population growth, urbanization and rapid ageing put major stresses on the national infra-structure and health and education systems. If necessary investments are not made, such demographic changes will also heighten the vulnerability of countries and populations to economic, social and environmental crises.

In addition to globalization, inequalities and major demographic changes, there is a fourth megatrend, accelerating environmental degradation, which introduces critical challenges for sustainable development. This megatrend is driven by unsustainable production and consumption patterns, and already impacts development at all levels. In the long run, a continuation of current trends and the breaching of planetary boundaries in particular would undermine all efforts to achieve sustainable development.

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ECO-INNOVATION DEVELOPMENT IN FRANCE

In the 2017 EU Eco-innovation composite index, France ranks 13th, sharing the same score with Ireland (12th), and being behind United Kingdom, Spain and Portugal. Despite favourable legislation supporting eco-innovation and entrepreneurship since 2003, and even more so with the 2015-2020 national strategy for ecological transition to sustainable development that supports knowledge production, research and innovation, France has fallen below the European average.

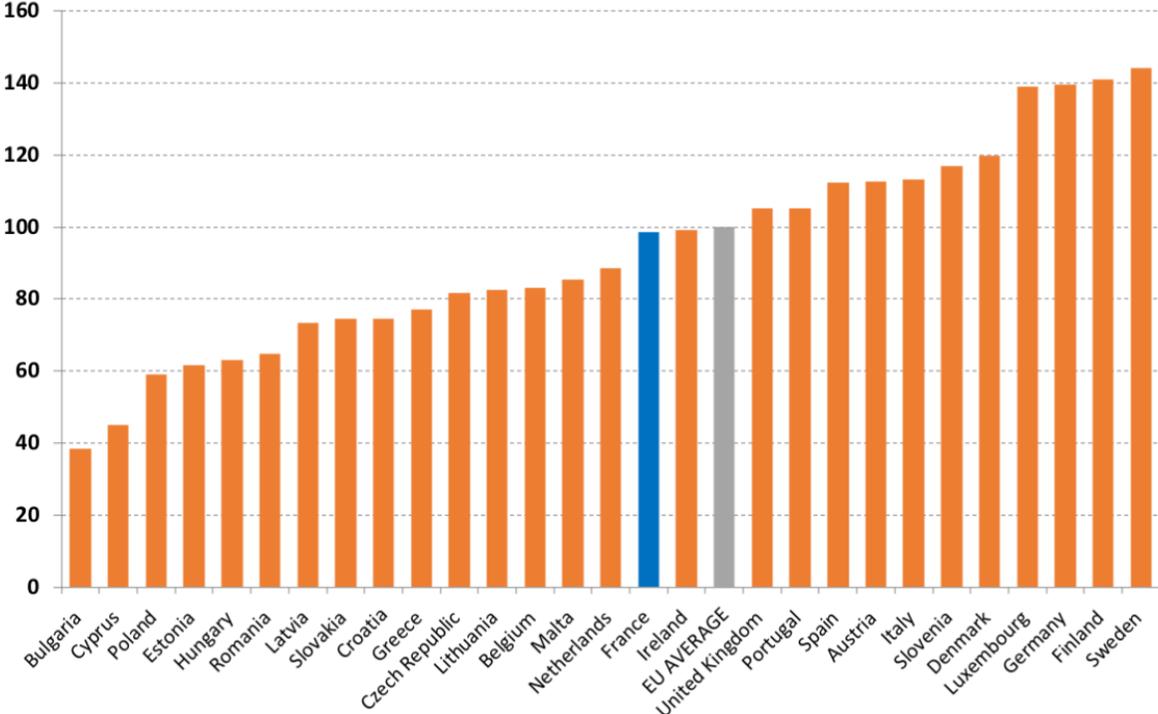
In 2017, France is close to the European average in terms of eco-innovation inputs, eco-innovation outputs, resource efficiency outcomes and socio-economic outcomes. In eco-innovation activities sub-index France ranked lowest in the EU. The circular economy and eco-innovation discourse is diffusing in the economic and policy landscapes. With the rise of the social and solidarity economy in France, there is more focus on environmental issues and circular economy. Industrial and territorial ecology, which generally enables a lesser use of resources, is still very active, despite the recent crisis. Innovation competitions enable to boost eco-innovations and initiatives linked to the circular economy and can represent a tool to guide research.

The public policy and financial support is also substantial, but as the funding decreases, economic actors are facing difficulties to thrive further. Individual consumption does not fully support eco-innovation yet, as circular-economy-friendly behaviour still needs to become a common trend. Numerous laws and initiatives in France, such as the roadmap for circular economy (2018), the Law for the Social and Solidarity Economy (2014) and the Energy Transition for Green Growth Act (2015), have strengthened the organisations involved in the circular economy and the solidarity and social economy. Local governments are also strongly supporting these sectors, as they are an active recruiting ground and a driving force for the local economic development.

France is a major European player in the field of eco-innovation, and has a strong track record in environmental regulation and support schemes –targeting both public and private actors (including individuals). Due to the large share of nuclear and hydraulic electricity production, France has one of the lowest per capita CO2emission rates in Europe. However, in spite of shrinking levels of greenhouse gas (GHG) emissions (-15.3% between 1990 and 2016), the total carbon footprint caused by the French population is not declining, mainly because of the reliance on imported goods and energy sources such as oil and gas. Moreover, France failed to meet its targets for GHG emissions in 2017, by emitting 463 tons of CO2 equivalent of GHGs, which is 3.6% more than its goal. A rate of 9-10Mt per year reduction is needed over the 2015-2050 period for the country to reach its intended target of a 75% reduction of its total emissions by 2050.

Figure 1

EU27 Eco-innovation Index 2017, composite index



Source: EIO, 2018.

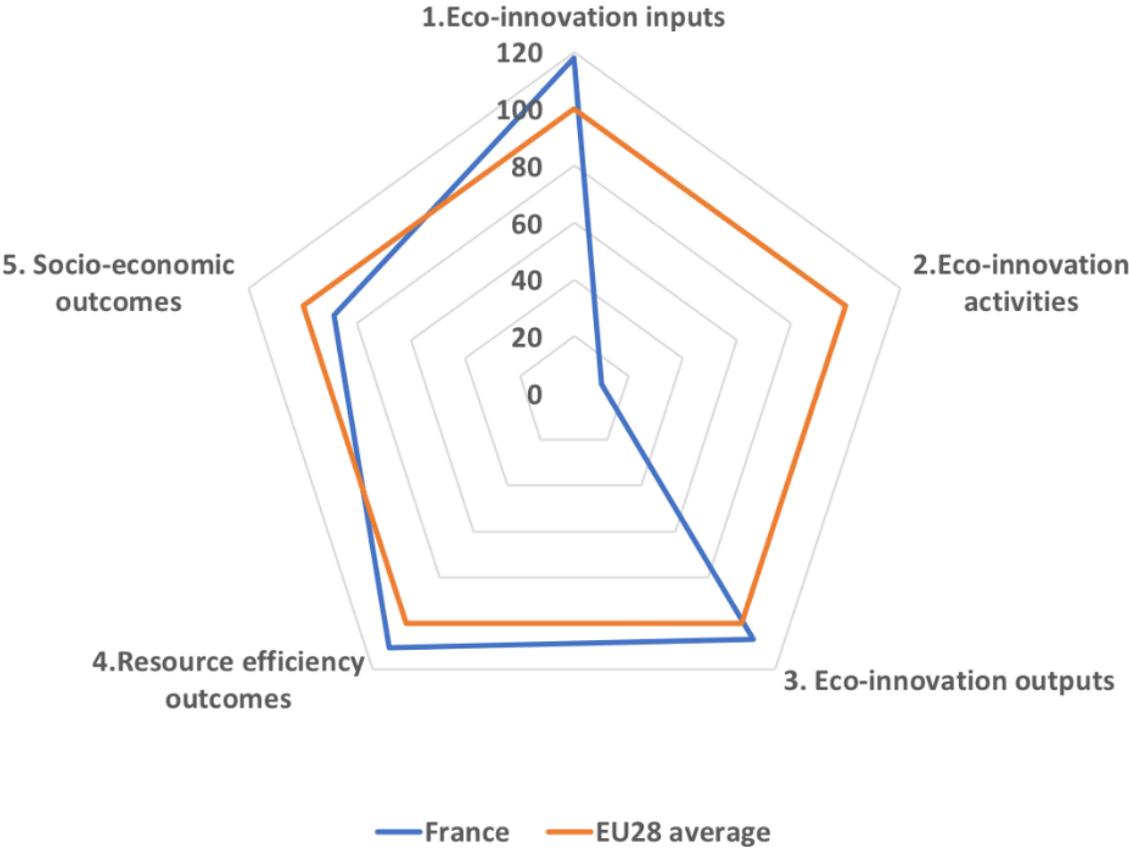
In the 2017 EU Eco-innovation composite index, France ranks 12th or 13th, sharing the same score with Ireland, and being behind United Kingdom, Spain and Portugal. Despite favourable legislation supporting eco-innovation and entrepreneurship since 2003, and even more so with the 2015-2020 national strategy for ecological transition to

sustainable development that supports knowledge production, research and innovation, France has fallen below the European average in 2017.

In 2017, France is close to the European average in terms of eco-innovation inputs, eco-innovation outputs, resource efficiency outcomes and socio-economic outcomes. The lowest score was gained in eco-innovation activities sub-index where France ranked lowest in the EU (see Figure 2).

Figure 2

Components of the Eco-innovation index for France, 2017



Source: EIO, 2018.

The eco-innovation input is higher than the European average in France in 2017. The public investments for environmental and energy research and development dropped slightly in comparison to the previous year, but France still ranks among the top five in the EU in this indicator. As for the private investors, their number and their financial capacity still seem to be insufficient. There is also a good pool of R&D personnel and researchers in France. Yet, the green early stage investments have slowed down: they

should rise again in the near future as the government and the industry's income is growing, as they reaped the rewards of past investments in environmental and energy R&D.

The eco-innovation activities have a very low index as two indicators based on the Community Innovation survey Environmental section (which was skipped by France) are missing: the levels of enterprises that introduced an innovation with environmental benefits obtained within the enterprise, and of enterprises that introduced an innovation with benefits obtained by the end user. The eco-innovation index is solely based on the statistics on companies with ISO 14001 registration which is rather small in France. It has to be noted that the statistics on the Eco-Management and Audit Scheme (EMAS) certification in France is also very modest in comparison other EU countries.

In the eco-innovation output sub-index France has scored 107, being very close to the EU average. The country's green patenting performance is among the best in the EU. But the statistics in scientific publications and media coverage of the eco-innovation and circular economy topics is weaker than in many other Member States. In spite of an increase of eco-innovation related patents and media coverage, the eco-innovation outputs take a toll through some decline of publications and media coverage.

As for the resource efficiency outcomes indicators, the French material productivity was above the European average, being third on the 28 EU Countries in 2014, and fifth in 2015. Indeed, the DMC decreased, while the material productivity increased. The water productivity is below the European average in 2011, despite a slightly higher water productivity, compared to 2010. The average water efficiency reached 80% in 2012. The energy productivity is below the European average in 2014 and 2015, despite a slight increase in energy productivity. The greenhouse gas (GHG) emissions intensity level remained the same between 2015 and 2016, even though the GHG emissions increased in the latest. This can be explained by the fact that the country is implementing the different eco-innovations created the previous years, and is switching to a service economy, which emits less than the primary and the secondary sectors.

Below EU average performance in socio-economic outcomes could be explained by the fact that figures related to employment and turnover in eco-and circular economy related industries are based on the NAICS codes that do not include renewable energy sector, a field where growth is observed across many European countries. France ranks 7th in its eco-industry export performance, as the level of exports of products from the eco-industry has been steadily rising over last four years. If the trend continues, socio-economic outcomes should increase in the following years.

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SUSTAINABLE DEVELOPMENT IN NIGERIA

Besides the 2030 Agenda, African countries have committed to implement the African Union Agenda 2063, which is both a vision and a plan to build a more prosperous Africa in 50 years. The 2030 Agenda for Sustainable Development acknowledges the importance of the AU Agenda 2063 and considers it an integral part of it.

Africa has made significant progress on the Millennium Development Goals, including enrolling more children in primary school, particularly girls, increasing the representation of women in national parliaments, and reducing child and maternal deaths and the proportion of people infected with HIV. Building on this progress, several countries are already taking steps to translate the ambitions articulated in the 2030 Agenda into tangible outcomes for their people; they are beginning with integrating the SDGs into their national visions and plans.

Since the adoption of the Sustainable Development Goals (SDGs), Nigeria has continued to demonstrate its commitment to the SDGs promise through leadership and ownership of the implementation process. At UNDP, we are building on our support through provision of technical support to the Office of the Senior Special Advisor to the President on SDGs (OSSAP) and line ministries in an effort to ensure that planning and budgeting for development activities in the country are done within the framework of the SDGs. Using lessons learnt from the MDGs era, we are working closely with the Government of Nigeria and other partners in ensuring that the SDGs are efficient and effectively implemented and that resources are allocated to sectors of the economy that will yield highest dividend for the poor and vulnerable millions across the country.

Sustainable development requires meeting the pressing needs of all people and extending opportunity to satisfy their aspirations for a better life. It ensures a developed world with secured and healthy environment for all; human beings, animals and plants alike. Development is needed to enhance the quality of the lives of citizens in a country. In view of this, Poverty alleviation, youth empowerment, entrepreneurship development,

self-reliance and effective leadership are perceived as key strategies for actualizing the four key components of sustainable development (environment, economic, social and political) in Nigeria. A critical look at the population explosion in the country vitiates the vision of achieving sustainable development in Nigeria.

Nigeria was prompted to fulfill the mission of the MDGs via the development of National Economic Empowerment and Development Strategy (NEEDS) and National Poverty Eradication Programme (NAPEP). The major goal of these policies was to eradicate poverty and bring about sustainable development. Specifically, NEEDS has the following actionable goal: Wealth creation, Employment generation, Poverty reduction and Value re-orientation. The NEEDS as a national policy was designed in 2004 to uphold some of the goals of the MDGs, especially poverty reduction. In evaluating the performance of MDGs and NEEDS in Nigeria in sync with 'poverty eradication' one can boldly and confidently declare that MDGs have performed below the expectations of Nigerians. These two agencies proved abortive since they couldn't reduce the scourge of poverty among the citizenry of Nigeria.

The issues bordering on sustainable development are unending owing to heart-felt yearnings for ages to acquaint ourselves with the goal of sustainable economy. Sustainable development requires shifts from mundane ways of doing things to a modern ways of executing activities ranging from low to high productivity, the creation and adoption of new strategies, novel skills and knowledge. It requires entrepreneurship education, youth empowerment, effective leadership and self-reliance. These shifts are made possible by government at all levels, individuals, corporate bodies and entrepreneurs who are the architects of "capacity creation" for sustainable development which leads to growth and development that manifest in high productivity and satisfaction of the inhabitants of the nation.

This great vision has been hampered by incessant political unrest, political instability, abject poverty, poor socio-economic development, teeming population of qualified unemployed youths, lack of entrepreneurial skills, bribery and corruption and numerous other challenges besetting the achievement of sustainable development. This implies that Sustainability is a continuous target which demands urgent attention despite the incessant challenges enumerated above from the leaders and the led.

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ESTIMATING CRYPTOCURRENCIES' VOLATILITY BY GARCH SPECIFICATIONS

Introduction. Due to the active globalization, which includes computerization and development of IT technologies, the modern financial systems of the countries show dynamic development. This creates new institutions and industries, in particular, alternatives to common methods of payment - cryptocurrencies. This product contributes to the rapid development of the financial sector and also enables ordinary citizens and investors to raise their capital. Because of its volatility and the significant difference between the lower and upper thresholds in the financial market and stock exchanges, cryptocurrency is one of the most profitable trading tools. That is why the modeling and forecasting of cryptocurrency prices is a very relevant topic today.

The purpose of this research is to evaluate the volatility of 5 digital coins and to identify the models of hetoskedastic processes that best characterize the behavior of the three most powerful cryptocurrencies of today.

Literature overview. Due to the increasing interest in cryptocurrencies and the fact that they are highly volatile, there is a need to quantify their variance. Previous studies that have been carried out with regard to the study of cryptocurrencies' volatility have implemented a variety of GARCH models, such as Linear GARCH, Threshold GARCH, Exponential GARCH and Multiple Threshold-GARCH. Bouoiyour and Selmi (2015) studied the price of Bitcoin, using a sample of daily data from December 2010 until June 2015. Their optimal model was the GARCH and showed that the volatility was significantly reduced, nevertheless this market was not mature, as there was asymmetry. Gronwald (2014) compared the gold and bitcoin market and analyzed bitcoin's prices using GARCH models. His main conclusion was that there were extremely large changes in its price and that the market it was trading on was not mature. In the same vein, Dyhrberg (2016b) using GARCH models examined Bitcoin's potentials as a financial product. The results showed that it had similarities with the gold

and the US dollar. The asymmetric GARCH model provided evidences that this product could be used in portfolio management, as it was ideal for risk-averters investors.

Bouri et al. (2017) used asymmetric GARCH models in order to investigate the correlation between prices and volatility changes in the Bitcoin market around the bearish market in 2013. The results for the whole period did not provided any indication of an asymmetric relationship between yields and volatility in the Bitcoin market. In addition, positive shocks had increased conditional volatility more than negative shocks. Chu et al. (2017) in order to enrich the literature, they investigated which GARCH models are suitably adapted to Bitcoin, Dash, Dogecoin, Litecoin, Maidsafecoin, Monero and Ripple. They demonstrated that the IGARCH and GJRGARCH models provided the optimal solutions for modeling the volatility of the most popular cryptocurrencies on their blooming days. Finally, Beneki et al. (2019) relied on Bitcoin and Ethereum and they examined with BEKK-GARCH model, if there were differences in volatility and hedging abilities. Their results revealed significant swaps in the time-varying correlation, as well as certain diversification skills especially in the early years of their study.

Results. The main problem in analyzing and forecasting financial asset prices is related to risk assessment. Time series of returns and their volatility have a number of specific features, including: no autocorrelation, volatility clustering, leverage effect, etc. In research was used ARCH / GARCH methodology, that describes similar time series behaviors, and their modifications - Nelson's EGARCH, Threshold GARCH, GJR Form of Threshold GARCH, Simple asymmetric GARCH, Power GARCH, Nonlinear GARCH, Asymmetric Power GARCH and Nonlinear GARCH.

For the study were used daily closing prices of 8 cryptocurrencies: BTC, ETH, XRP, LTC, BNB, DOGE, ZEC and NANO. For more accurate and qualitative results, yields were used as variables - logarithmic first-order price differences for cryptocurrencies. For each cryptocurrency descriptive statistics were calculated and analyzed. As a result, almost all cryptocurrencies have negative average reeturns with the lowest in ZEC and highest in BNB. The coin with the least standard deviation, and therefore with the least volatility, is BTC. The most standard deviation, respectively, and the most risky cryptocurrency was Nano. As for the asymmetry coefficient, 2 out of 8 cryptocurrencies have negative asymmetry, which is not positive for investors. The excess rate is quite high for all cryptocurrencies, which indicates the presence of heavy tails.

In order to investigate the volatility and relationship between cryptocurrencies, the time series of cryptocurrencies were checked for ARCH / GARCH effect. For this purpose,

the residuals of each time series obtained from a simple regression model using the ARCH LM test were tested. After that, different models of the ARCH and GARCH family were built for each of the 5 cryptocurrencies. Similar models were constructed, assuming that the residuals have not a normal distribution but a Student distribution, since this distribution has a large courtesy at small degrees of freedom. The most appropriate model for each currency was selected using the AIC and BIC criteria.

So, for LTC, the best model, based on the AIC and BIC information criteria, is the Student's Nonlinear Power GARCH. This means that the relationship between the variables considered is non-linear, which determines the threshold at which LTC yields will respond differently to Bitcoin, Ethereum, and Ripple. All three independent variables are significant at each level of statistical significance and positively related to LTC.

For the BNB, based on the values of both the AIC and BIC information criteria, there is an EGARCH model with Student's distribution. The EGARCH model takes into account the asymmetric impact of news on future volatility, and the simulation concludes that "bad" and "good" news asymmetrically affect on conditional variance. All 3 cryptocurrencies are positively related to BNB, but only BTC and ETH are statistically significant coefficients.

For Doge Coin, the A-GARCH model is the best model for both AIC and BIC. This model allows us to take into account the asymmetric impact of the "bad" and "good" news and provides the so-called "leverage" effect. The asymmetry coefficient in the model is less than zero, which means that there is a "leverage effect". Consequently, positive shocks lead to a smaller increase in Doge Coin volatility compared to negative shocks.

The best model for Zcash modeling is the simple GARCH model with Student's distribution. This means that there is no leverage effect and asymmetric effects. All three cryptocurrencies are positively related to Zcash and are statistically significant at each level of statistical significance.

According to the results of both information criteria, the best model for Nano is the asymmetric EGARCH model with Student's distribution and since the asymmetry coefficient is not 0, there is an asymmetric effect of "good" and "bad" news. All three cryptocurrencies are positively related to Nano, but only BTC and XRP are significant.

Conclusions. This research investigates how some of the highest capitalization cryptocurrencies are related to the three principal ones and the direction and size by which their performance is affected. In order to select the most appropriate model among the many models that were implemented, the Akaike Information and Bayesian

Schwartz criteria were used. In the result of this research, there is no single best model for all cryptocurrencies. For all cryptocurrencies the assumption of classic GARCH model, that residuals follow normal distribution, wasn't confirmed. The best models were obtained using the fact that the residuals follow Student's distribution.

Finally, this study could provide avenues for further research in complementarity or substitutability among cryptocurrencies and how this could impact the risk-return trade-off in digital currency portfolios.

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INTERNATIONAL MARKET AND TRADE OF GREEN VEHICLES

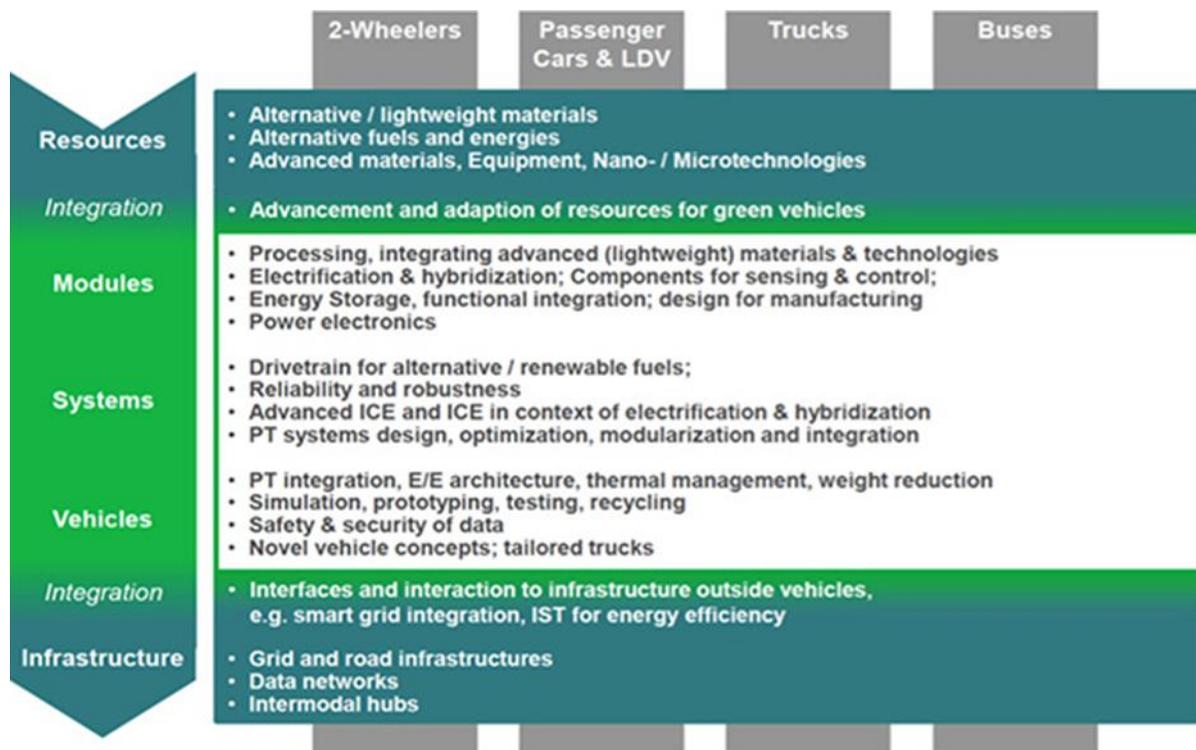
A green vehicle, or clean vehicle, or eco-friendly vehicle or environmentally friendly vehicle is a road motor vehicle that produces less harmful impacts to the environment than comparable conventional internal combustion engine vehicles running on gasoline or diesel, or one that uses certain alternative fuels. Presently, in some countries the term is used for any vehicle complying or surpassing the more stringent European emission standards (such as Euro6), or California's zero-emissions vehicle standards (such as ZEV, ULEV, SULEV, PZEV), or the low-carbon fuel standards enacted in several countries.

Green vehicles can be powered by alternative fuels and advanced vehicle technologies and include hybrid electric vehicles, plug-in hybrid electric vehicles, battery electric vehicles, compressed-air vehicles, hydrogen and fuel-cell vehicles, neat ethanol vehicles, flexible-fuel vehicles, natural gas vehicles, clean diesel vehicles, and some sources also include vehicles using blends of biodiesel and ethanol fuel or gasohol.

According to the Horizon 2020 regulation, the development of 'Smart, Green and Integrated Transport' is a major Societal Challenge for Europe. The EGVI PPP addresses this challenge: it aims at delivering green vehicles and mobility system solutions which contribute to the development of a competitive and sustainable transport system in Europe.

Involving the automotive, smart systems and smart grids industries in a cross-sectoral approach, it should also have a positive impact on the innovative strength and global competitiveness of the European economy.

The scope of the European Green Vehicles Initiative focuses on the energy efficiency of vehicles and alternative powertrains in the road transport sector. It covers several types of road vehicles, from passenger cars, trucks and buses to two-wheelers and new vehicle concepts.



The topics addressed within the EGVI PPP need to respond to this goal of energy efficiency of vehicles and alternative powertrains. They concern all the technologies required at various product layers - from modules to systems and vehicles, as well as the integration of resources and the integration into the infrastructures. The objective of this integrated approach is to cover the entire process chain from resource application to demonstration and creation of services, and to extend research and development to innovation. Produce objective information for policy and decision makers on hybrid and electric vehicle technology, projects, and programmes and their effects on energy efficiency and the environment.

This is accomplished through topic-specific Task groups, which produce general and market studies, assessments, demonstrations, comparative evaluation of various options for applying these technologies, technology evaluations, and more. Disseminate information produced to the International Energy Agency (IEA) community, national governments, industries, and to other interested organizations. Collaborate on pre-competitive research projects and related topics and investigate the need for further research in promising areas. Collaborate with other transportation-related IEA Implementing Agreements and collaborate with specific groups or committees interested

in transportation, vehicles, and fuels. Provide a platform for reliable information on hybrid and electric vehicles.

The government's wants to understand the only way to change to the globally green vehicles. Every country should make sure fellow people's wants to understand about feature how we affect because of global warming. If the people understand before 2050 we can able to change globally green vehicles.

Electric vehicles are several times more efficient in converting energy into vehicle movement than conventional gasoline and diesel vehicles. They are much more compatible with renewable energy sources. They can produce no emissions at the vehicle tailpipe and much lower life-cycle "well to wheel" emissions.

Accordingly, businesses, governments, and non-governmental organizations are turning to electric vehicles to dramatically lower oil use, reduce carbon pollution, eliminate local air pollution, and spur economic development. Long-term planning scenarios indicate that the global vehicle fleet will have to be almost entirely made up of electric vehicles, powered mostly by renewable sources, by 2050 if the world is to avoid worst-case global climate-change scenarios.

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TECHNOLOGIES DES REGISTRES DISTRIBUES ET BLOCKCHAINS

Difficile pour le profane de se faire une idée de la nature de ces technologies connues essentiellement au travers du phénomène des «bitcoins», cryptomonnaie accusée de favoriser le développement de circuits monétaires criminels ou frauduleux au détriment des Etats et des partisans de l'ordre établi, tout en menaçant les ressources naturelles de destruction par une incroyable débauche de dépense d'énergie (les transactions en bitcoins consommeraient à elles-seules en une année autant d'électricité que l'Irlande dans son ensemble ou quatre centrales nucléaires).

Au risque de simplifier outrageusement, on dira que ces technologies consistent à répartir et disséminer les risques de distorsion afin de limiter, voire supprimer, les risques de corruption de l'information. Un seul fichier central, fut-il le mieux protégé du monde, ou une seule plate-forme d'échange courent toujours le risque d'être attaqués de l'extérieur ou corrompus de l'intérieur. En répartissant, non l'information elle-même mais l'image de ces informations, et en garantissant l'intégrité de cette image par des circuits multiples interconnectés, on acquiert la certitude que l'information d'origine n'a pas été corrompue.

L'enthousiasme semble de mise pour ces nouvelles technologies comme il l'a été par le passé pour les PPP (public private partnership). Les mêmes qui nous «vendaient» hier les vertus «gagnant-gagnant» du PPP (anglo-saxons, grands groupes privés), même si pour l'instant les «GAFA» ne sont peut-être pas encore tout à fait leaders sur ce nouveau marché (Microsoft était cependant représenté à ce forum), promeuvent aujourd'hui DLT et blockchains.

La mise en place de systèmes décentralisés indépendants peut menacer les monopoles ou les oligopoles, à commencer par ceux des Etats eux-mêmes, et de puissantes plate-formes de services comme Uber pourraient être elles-mêmes mises en concurrence et

finir par être à leur tour «ubérisées». L'absence de responsable identifié en cas d'escroquerie ou de réalisation d'un risque est aussi tout autant une menace qu'un avantage. Les systèmes de DLT mis en place par les Etats présenteraient de meilleures garanties que les systèmes privés.

On notera en tout état de cause que nombre d'intervenants spécialisés s'abstiennent de présenter les DLT/BC comme l'unique solution au développement des transactions électroniques: elles existent aujourd'hui parmi d'autres, leur intérêt est certain mais elles présentent encore des «trous» et des risques et ne sont pas forcément la seule solution incontournable. Les technologies parallèles ou concurrentes n'ont guère été évoquées mais on peut retenir l'existence des «token» (systèmes d'authentification par «jetons» plus fiables que les simples mots de passe et identifiants alphanumériques), les techniques de «hash» (transmission d'une image technique permettant de déceler d'éventuels changements dans les données d'origine) ou le fait que les échanges fondés sur les technologies traditionnelles des cartes de crédit sont incommensurablement plus rapides et moins gourmands en ressources, notamment énergétiques. Différentes technologies peuvent en outre être combinées.

Au fil des échanges, on retiendra surtout que l'association des DLT/BC aux «smart contracts» - contrats intelligents, accords quasi-automatiques accélérant les échanges, par exemple accord automatique de paiement lorsqu'un usager utilise un véhicule en usage partagé – est à la base de nombreux développements potentiels.

Les registres distribués et blockchains peuvent répondre à ce besoin d'identification certifiée tout en permettant à chaque individu de regagner du contrôle sur son identité, sa réputation et les informations attachées à sa personne qu'il souhaite partager ou contrôler en fonction de leur diffusion.

DIGITALIZATION IN INDIAN PUBLIC SECTOR

The Digital Age has only just begun to change how we work and play. The 21st century ushered in a new era of technology that, as the digital transformation redefines business, has been reshaping everyday life, facilitating updated processes, and even giving rise to entirely new business sectors

As digital technologies continue to permeate our daily lives, the challenges and opportunities presented by such technologies are forcing local and national bodies to adapt to this digital transformation trend. Today, locals are not only tasked with doing more with less money, they must also meet increasing digital demands from technology savvy constituents. Indeed, the era of digital transformation offers public sector organizations the unique opportunity to implement new technologies to move services online, which will help to deliver greater operating efficiencies while meeting the demands placed upon them.

However, there are many challenges that public sector organizations face when embarking on digital transformation. These include:

Knowledge Transfer Initiatives (KTIs): A majority of the public-sector enterprises are simply oblivious to the need and advantages of enabling their businesses further by adapting to digitalization. It's all about the transfer of tangible and intellectual property, expertise, learning and skills between academia and the non-academic community. KTIs also need to be well recognized by government and funders, since they provide a significant driving force for enhancing economic growth and societal wellbeing. For academics, KTIs can be a way of gaining new perspectives on possible directions and approaches for research. This two-way exchange element of KTIs is at the heart of successful and sustainable collaboration.

Finance: Finding the necessary funding to start a new project is always a challenge. Currently, public sector organizations face a dilemma: They must do more with less

while trying to meet new customer demands. That said, when budget allocations are invested in new, more efficient digital technologies, long-term costs are reduced for manual processes. While public sector budgets are challenged by numerous complications, the opportunity to innovate is game changing if they can get the funding to work on new digital initiatives.

Time Limits: Public sector budgets are tied with political cycles, which means that new projects must show results quickly for citizens. Gathering political support to invest in digital technologies is a way for public sector organizations to achieve lasting impact.

Technical System Issues: Many public-sector organizations operate a range of outdated systems that need replacement. Digital upgradation should be a priority if a public sector organization is preparing to reinvent their business. Organizations need to take a systematic approach that starts with internal approval and ends with a long-term outlook. This can be done in incremental steps within a larger digital transformation initiative to gain support and buy-in from other stakeholders around the organization. In addition, the support and active involvement of department heads are needed to make the goals of the digital initiative and effectively migrate away from old systems and processes.

Coordination and Cooperation: Digital transformation requires a top-down approach. It starts with the top management and must be embraced by all the internal stakeholders. If public sector organizations can obtain the required internal support, as well as gain the much needed funding and showcase a positive ROI, then they will be able to readily make improvements that will yield short-term operating efficiencies and lay the groundwork for long-term success.

Although there are inherent challenges in digital transformation, public sector organizations can begin to make lasting changes; and this doesn't have to be an extensive approach. This can be done in incremental steps within a larger digital transformation initiative to gain support and buy-in from other stakeholders around the organization.

The Government of India understands that millions of Indians are looking to it to deliver on its promises and meet the expectations for India to take a position as one of the fastest-growing global economies. With the spotlight on India, there is a national sense of urgency for action, and strategic investments in technology will be critical to creating a new path for the future.

The government can truly deliver on the promises of Digital India through the following:

- **Supporting the startup ecosystem:** The startup ecosystem will be a significant growth driver for India. With the government's support, the country is creating an environment conducive to innovation, which will also create jobs. With over 3,100 startups, India is currently the fourth-largest startup community in the world, and these numbers will only increase. By 2020, India will have more than 10,000 startups, which, in turn, will create 250,000 to 300,000 jobs. With continued support and investment, this flourishing ecosystem has the potential to bring about many more opportunities for India to compete on the global stage.
- **Transforming industries:** Companies across every industry and geography are realising the value that comes with going digital, and in India, there is tremendous value that has yet to be unlocked. By using the Internet to connect, businesses can increase efficiency, productivity and quality, in turn boosting GDP growth. Across industries in India's private sector, digitisation has the potential to create \$394.4 billion in value over the next decade. Enabling manufacturers to do business better and faster will drive new opportunities for India and help manufacturers to increase competitiveness and achieve their growth goals.
- **Creating smart cities:** The UN expects India's urban population to grow to 404 million people by 2050 and the government must prepare for this influx. Technology will be essential to providing the urban services that citizens need and improving quality of life, while also creating an environment that is more favourable for business investments. The government in India has announced a budget for the development of 100 smart cities, which, if invested in the right ways, could have a tremendous impact.

MODELING A CRYPTOCURRENCY INVESTMENT PORTFOLIO AND EFFECTS OF ADDING CRYPTOCURRENCIES TO PORTFOLIO

Introduction

Globalization, unrestrained growth of money markets, general computerization and development of IT technologies have led to the emergence in our society of a great number of additional institutions, financial instruments and new forms of human interaction. One of such institutions in the modern world is digital money. This paper deals with the subtypes of digital currencies — the category of "cryptocurrencies". The growing importance of the problems of assessing and analyzing risks in the cryptocurrency markets for direct or portfolio investment necessitates the use of mathematical methods and rigorous theoretical approaches to the problems of risk assessment using modern information technologies to process large volumes of information and timely issue of investment decisions. The distribution of funds between different securities leads to the formation of an investment portfolio. Due to this the investor reaches a certain level of return and risk. This is the main advantage of portfolio investing as opposed to investing in individual securities. The following tasks are set in the work: definition of basic concepts, economic essence of cryptocurrencies, history of origin and ways of interaction with them; research and justification of typical risk measures for assessing the attractiveness of a cryptocurrency asset, their calculation and analysis; analysis of investment portfolio optimization models; construction and research of economic and mathematical models of optimization of the cryptocurrency investment portfolio, while minimizing the risk using G. Markowitz model, Quasi-Sharp model and Huang-Litzenberger approach [1].

The purpose of this work is analysis of existing approaches to evaluate the ratio of return and risk of portfolio investment, comparison of economic and mathematical models to find the optimal portfolio and prove the economic effect of the combination of portfolio investment in traditional assets and cryptocurrencies.

Literature overview

Modern Portfolio Theory (MPT) states how an investor with a high risk aversion value can develop an investment portfolio to maximize return based on existing market risk. Markowitz (Portfolio Selection, 1952) revealed that by establishing Efficient Frontier, can know the level of return from each level of risk. Measurement of selected asset allocation based on sharpe ratio value of each allocation. Sharpe ratio proposed by William Sharpe (1994) which describes the level of return earned from each measure of risk in the investment. The higher the sharpe ratio the better the return, but not necessarily the optimal portfolio diversification. From the various allocations that describe the return and sharpe ratio, then formed Efficient Frontier diagram illustrating the X axis as a risk and Y axis as a return. The point in this hyperbola diagram is then described as the best option for investors to invest according to their own utility level. This method will ultimately minimize the risk of deviation than if only selecting a particular asset. Investors should remain cautious because of the risks that exist in Bitcoin and only allocate small portions into it (Wu and Pandey, 2014).

One of Bitcoin's criteria as a new investment asset is Correlation of returns: Price Independence. In terms of optimal portfolio formation, correlation becomes an important thing. Burniske and White (2016) calculated the correlation between Bitcoin with S & P 500, Gold, US Bonds, US Real Estate, Oil, and Emerging Market Currencies. Bitcoin will grow and become a differentiator among other assets and can potentially transform the financial world. Baur, Hong and Lee (2016) analyzed the return and correlation of Bitcoin compared to 16 other assets including stocks, bonds, energy, currency, and precious metals. The result is that Bitcoin has the highest return and standard deviation compared to other assets of 7.6%. Associated with the correlation, similar to many previous studies, they found no significant correlation between Bitcoin and other assets. Eisl, Gasser and Weinmayer (2015) analyzed the effect of Bitcoin in the portfolio.

Assets used include stocks, fixed income, money market, property, and commodities. From the historical data determined, the highest asset allocation of Bitcoin is 7.69% is in the portfolio where the load of each asset is the same. This portfolio generates a monthly average return of 1.93%. The result concludes that the allocation of Bitcoin in the portfolio brings good influence in the investment portfolio.

Results

The price of the 10 largest cryptocurrencies by the level of capitalization at the beginning of 2019 from the best online source of up-to-date CoinMarketCap [2] information was used for calculations and analysis. Daily statistics were used during the period from October 2017 to December 2018 inclusive. For further calculations, the daily yield of

cryptocurrencies was calculated in this paper, which was calculated on the basis of the USD price using the logarithmic yield formula. At the beginning of 2019, the 10 largest cryptocurrencies by market capitalization were selected, namely: Bitcoin (BTC), Ripple (XRP), Ethereum (ETH), EOS (EOS), Bitcoin Cash (BCH), Tether (USDT), Stellar (XLM), Litecoin (LTC), TRON (TRX), Cardano (ADA). The task of building effective portfolios is set as follows: from the selected set of cryptocurrencies, it is necessary to form optimal investment portfolios with appropriate values of return and risk, provided that risk is minimized at a given level of profitability [5].

Assume that the daily return on the portfolio is 0.10% (this rate of return will be applied to all models for a fair and clear comparison). We optimize the portfolio diversification task for cryptocurrencies under consideration. The risk of an optimal investment portfolio formed by the Markowitz model is 1.28%. Only 4 of them (Tether (USDT) 78%, Stellar (XLM) 13%, TRON (TRX) 6%, EOS (EOS) 3%) are in the portfolio of 10 different cryptocurrencies and Tether (USDT) holds the largest share as a cryptocurrency with minimal initial risk. This is logical because risk minimization is the basis.

After the implementation of the Huang-Litzenberger approach, we can see that portfolios have scales with negative values, because the conditions of this method declare the absence of restrictions on positions in the portfolio and permission to open both long (buy) and short (sell) positions in cryptocurrencies [4]. These are the main differences between this method and the classic Markowitz model. The risk of the optimal investment portfolio formed is 0.71%, which is significantly less than the result of the Markowitz model with the same level of return.

By implementing the Quasi-Sharp model, we get the risk of an optimal portfolio formed at 0.49% and a greater variety of cryptocurrencies in the portfolio.

To plot the efficient frontier, a number of iterations were made to obtain a plurality of risk-return ratios. The graph of efficient frontier for built portfolios using models is shown in Fig. 1.

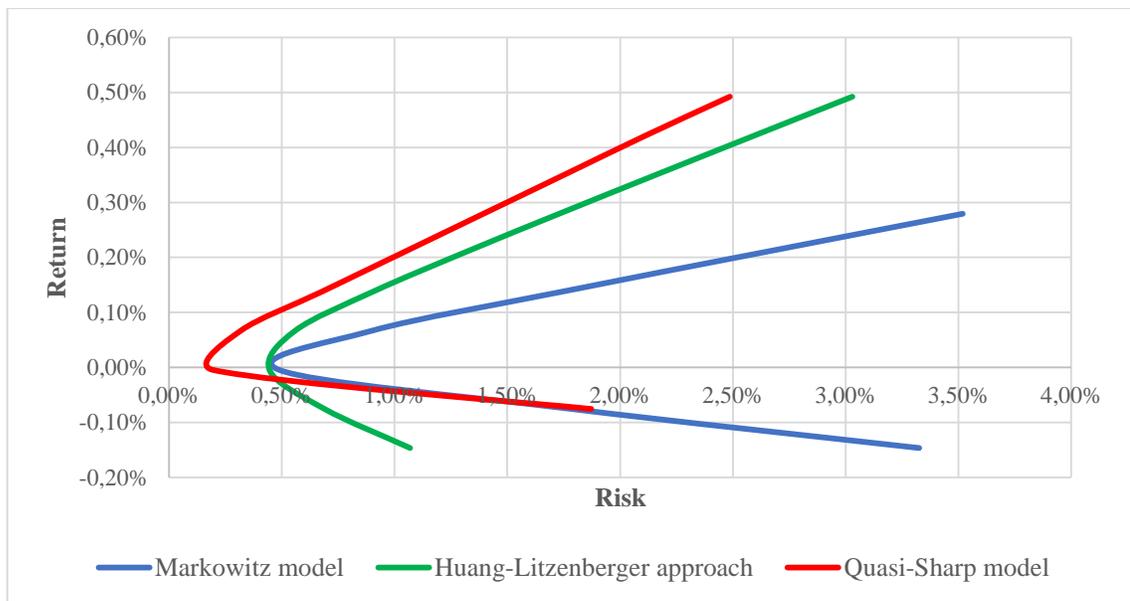


Figure 1. Efficient frontiers on cryptocurrency portfolios obtained in various ways
 Source: compiled by the author based on his own calculations

In Fig. 2 shows a graph of the efficient frontiers of two cryptocurrency portfolios and two mixed portfolios (formed by the addition of traditional assets — ETFs (SPY, MDY, IJR, IEF, LQD, SPX)).

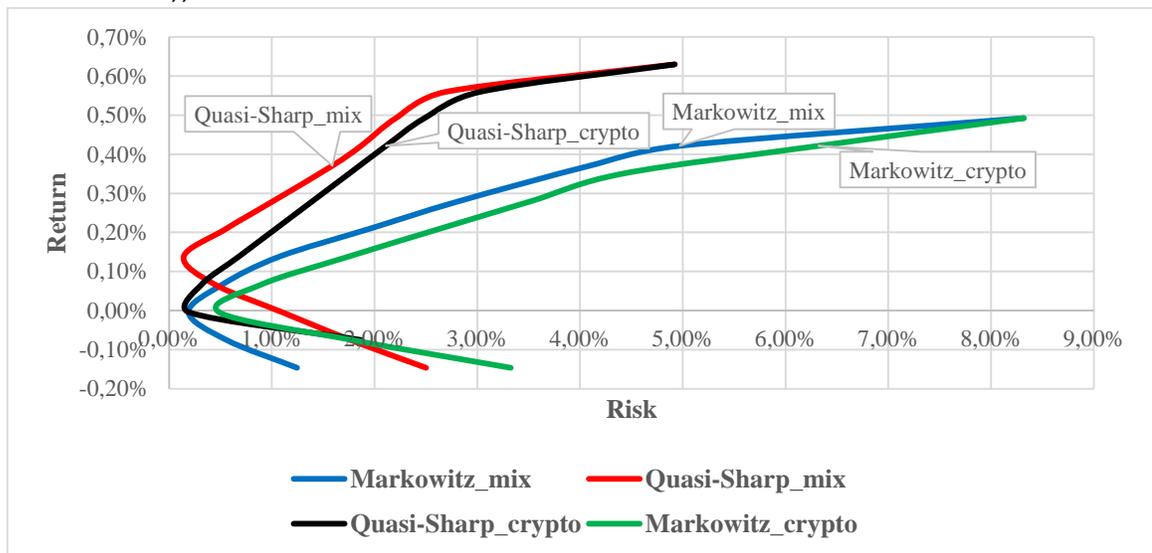


Figure 2. Efficient frontiers on cryptocurrency and mix portfolios obtained in various ways
 Source: compiled by the author based on his own calculations

Conclusions

From Fig. 2 it can be concluded that, overall, the lines of efficient mixed portfolio frontiers are higher than the same cryptocurrency-based models. This traces the economic effect of adding traditional assets to cryptocurrency portfolios, where an investor may receive greater returns per unit of risk. This is especially evident in the graph on very low yield and risk areas near the beginning of the coordinate axis, where mixed portfolios are higher than cryptocurrency, and in high risk areas where there is a significant difference in portfolio returns. It is still more advantageous for an investor to choose a mixed portfolio because environmental factors do not so clearly affect traditional types of assets and are more stable than cryptocurrency behaviors, making this type of investment the most optimal and diversified [3].

Portfolio investment involves regular evaluation and effective management of portfolios. Nowadays portfolio investment is developing dynamically, constantly improving both theoretical provisions and practical methods and approaches.

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GLOBAL APPROACHES AND MODELS OF HIGHER EDUCATION FINANCING

Higher education is very important for the country's economy because it enhances the level of its development and human capital. In developed countries receiving higher education guarantees higher wages for employment so the people strive more frequently to get education to improve their material wealth and social standing. The increase of the number of those aspiring to get education caused that most governments are not able to or do not consider it wise to fully finance education system so additional financing sources became essential.

There are several main models of higher education financing and management used by leading developed countries. In most cases those models include a combination of public and private financing with the HEIs possessing varying degrees of autonomy while managing available resources. For faster and more effective development, the higher education institutions aspire to attract more private financing, at the same time it is an indicator of their success meaning that more prestigious and higher ranking HEIs have additional opportunities to receive more financing. In some instances, there are private HEIs that operate funded with private resources. The education at those HEIs is financed by the students or interested organizations.

According to the recent studies, there are three basic models of higher education financing including bureaucratic, collegial and market model. Until recently, in the OECD countries the public funding of the higher education prevailed but most of the HEIs used

collegial or market model. As a result of the crisis, most of the states decrease their financing, the HEIs tend to adopt the market model to diversify the sources of the funds and to gain financial autonomy.

Following that line of reasoning, there are three general models of higher education financing.

1. Bureaucratic financing model allows for financing higher education institutions solely using public funds. Under such model, the government is capable of controlling the HEI's activities completely through legal regulations, and using financial levers, meaning the government determines the organizational structure of higher education institutions, number of departments, staff, admission size. More than that, the government is able to stipulate priority fields of study and research. It means that the control over long-term material assets remains in the hands of the authorities.

The main advantage of such a model is the fact that the government is able to regulate the number of specialists of necessary fields on the market, which will avoid distortions in the labor market. Also, the government can directly control the quality of education received. On the other hand, this model has a number of drawbacks. First of all, under such framework, HEIs do not have institutional autonomy and academic freedom, that is, the system of higher education depends entirely on political decisions. Secondly, the amount of funding is determined based on historical data, that is, the possible changes in the situation within the HEI are not taken into account. Thirdly, the adoption of financial decisions involves a complex bureaucratic procedure, which makes it impossible to respond promptly to issues that arise in the day-to-day operation of the organization.

2. The collegial model assumes that the HEIs are funded primarily by the government, but have the right to attract funding from private sources in various forms (tuition fees, grants through projects, research work on request of private investors, etc.). Also, under such a model, the HEI has a relative autonomy in determining the directions for using these funds. The advantage of such a model lies in the fact that the management of the HEI independently establishes the priority directions of the development of the institution and has financial autonomy from the authorities. The disadvantage of this model is that an institution needs a group of highly skilled management personnel to successfully and efficiently operate it. Another disadvantage is that the transparency of the mechanism for distributing funds within the HEI is lost, that is, there may be cases where priorities are determined based on their own interests, and not on market needs.

3. The market model of financing involves close cooperation among all participants of the higher education system, as well as the obligatory attraction of alternative sources of financing. This means that all decisions on the financing of the HEI, its strategic development, the proposed training programs should be made in close cooperation between the providers of academic services, the users of such services, the authorities representing the public interests, and the bodies governing the higher education institutions. Under such a model, the role of the government is limited to the establishment of common priorities and requirements for the quality of education, and the main impact on the functioning of the HEI will be made by the society and the business environment for which, in fact, these institutions train those specialists. Higher education institutions are forced to look for alternative sources of funding; instead, they must provide full information on the further use of attracted funds, offer high-quality services that satisfy donors, and ensure the most efficient use of the resources received. The main disadvantage of this model is its focus on current efficiency, that is, some of the strategically important fields of training can be left out of focus because they are not financially effective.

In recent years, the number of universities has increased in the countries of the world, which has improved the availability of higher education for all social groups of the population. Since the early 1990s, there has been a change in the overall concept of the economic policy of the states, which has led to increased participation of the private sector in the higher education financing. Moreover, there has been a significant increase in the number of private HEIs in almost all countries of the world. As a result, most countries in the world have switched to a collegial model of higher education funding, which involves four main groups: (1) governments and taxpayers, (2) parents saving or borrowing funds for tuition fees, (3) students who save or borrow money to finance their education, (4) charitable organizations that provide funds to parents, students or HEIs.

Recently, there were numerous education reforms around the world. Due to the increasing demand of higher education, the states had to adapt their higher education systems to the new realities. As a rule, there are three basic models of higher education financing meaning bureaucratic, collegial and market models. A comparative analysis of the benefits and drawbacks of said models demonstrated that the most efficient and flexible is the market model as it allows the HEI to diversify its sources of funds, attract additional resources using financial markets and invite donors by guaranteeing continued control over their donations.

As a result, there have been drastic changes in the financing structure of higher education, in favor of attracting private funding through financial instruments, donations

and households. This was due to financial crises, which resulted in a reduction in public funding, an increase in university expenditures, the inability to quickly change approved budget estimates for state funding and a more efficient spending of private capitals in comparison with public funds. To diversify the sources of the funds, higher education institutions in the countries with the developed higher education system use endowment funds to receive additional funding for the development of the institution.

By means of attracting private funds, they can be divided into two large groups: (1) funds attracted at the initiative of private donors; (2) funds attracted at the initiative of the higher education institution itself. As a consequence, the management of these groups of funds will vary significantly. With regard to the first group, when using these funds, the financial autonomy of the HEI is very relative. As a rule, private funds of the second group come from financial markets or capital markets, and the HEI can either directly raise funds in capital markets or carry on additional business activities that generate profits, which can be further used for the development of HEI.

There are several forms of additional financing and its management but the main methods are as follows – financing R&D inside the HEIs, financing tuition fees by grants, scholarships and student loans, as well creation of endowment funds based at the education institution funded by donations from organizations and individuals. Profits received from endowment funds become the principal source of the educational institution development.

Conclusions

The most successful HEIs of the world have the best practices for attracting and managing additional funds to finance the educational and research activities of the HEIs. Using comparative and system analysis methods, we looked at the most common models of funding for higher education and the mechanisms for attracting additional funds. It was discovered that most countries use three main models of financing higher education – bureaucratic, collegial and market models. Based on the experience of the OECD countries we determined that at the moment the share of private funds varies but tends to increase. The most successful HEIs use the market model to manage their finances and use additional sources of funds to supplement government support. The most wide-spread instruments of attraction additional funding are issuance of bonds, private equity and donations. The most effective ways to manage additional financing are asset management, securitization and endowment funds. Based on the best practices of the HEIs we proposed a general model of managing the endowment funds that uses such principles and provisions that can be applied in the activities of the HEIs.

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THE IMPACT OF E-COMMERCE ON FOREIGN DIRECT INVESTMENTS

Abstract

Foreign Direct Investment (FDI) has been one of the topical issues in international economics, especially, from the past decade. Empirical research on relation between E-commerce and economic factors, such as FDI, has been relatively scarce even though there has been a lot of work on the trends in FDI and E-commerce. This study attempts to examine the trend of Foreign Direct Investment (FDI) and its relationship with some selected economic indicators such as exchange rate, inflation, interest rates, Gross Domestic Product (GDP) and E-commerce market size. Yearly data on FDI in USA was used for the study spanning from 2000 to 2018. Results from the study indicated that FDI inflows into the country had experienced an increasing trend and E-commerce and interest rate played a significant role in attracting FDI into the country.

Key words: e-commerce, FDI, Multiple Regression, liberalization.

Introduction

According to eMarket [1], the global e-commerce market will reach \$ 5 trillion in 2021. Today, it is an integral part of the economy of any country, whether developed or developing. In scientific works e-commerce is generally regarded as the result of globalization processes and the emphasis is placed on exploring its impact primarily on traditional trade and on the economic development of countries and regions in general. Despite the fact that e-commerce has many economic implications, there is clearly a lack of research on this.

Foreign direct investment (FDI) is an important resource of capital and competence for developing countries. The high level of development of e-commerce can be one of the indicators of a healthy state of the economy of the country and can promote the inflow of FDI to the country.

The subject of this study was the liberalization of the investment climate, and in particular e-commerce in the United States as factors influencing FDI.

The purpose of this paper is to test the relationship between e-commerce and FDI, to determine its nature and saturation, and to build a model that could predict the impact of e-commerce on FDI. For this purpose, a number of tasks were defined: form a database that would include all the factors that could determine the size of FDI, check the relationship between these factors, and build a model for testing the hypotheses of adequacy and representativeness.

The scientific novelty of this work is a comprehensive quantitative analysis of the impact of e-commerce on foreign direct investment.

Literature overview

E-commerce researches mostly focus on the factors that affect e-commerce volumes and distribution and on the important role it plays in economic globalization. When domestic scientists study e-commerce in international commerce, they are mainly focused on how small and medium-sized enterprises use e-commerce to support international trade. Overall, these studies focus on the shortcomings in the application of e-commerce in international trade. Studies tend to focus on the description of phenomena rather than on the necessary empirical analysis.

The Lei Yao and Zheng-yao Yan (2019) [2] study examines the impact of China's e-commerce and foreign direct investment (FDI) on traditional import and export trade, and discusses measures to be taken to promote the coordinated development of cross-border e-commerce. and traditional import-export trading in a world where cross-border e-commerce is booming. The article provides a regression empirical analysis of data collected from 2008 to 2018. The results show that the development of traditional imports and exports is affected by both cross-border e-commerce and foreign direct investment. However, the link is of a different nature: if foreign direct investment contributes to the growth of traditional trade, then e-commerce, by contrast, will reduce exports and imports by replacing part of it.

Mabintu Mansaray and Hanjia Bin (2016) [3] investigate the impact of e-commerce on the level of trade openness in Africa using country-level panel data from 1990 to 2013. Several additional variables were included in the model to control for bias in adequacy estimates. Estimation using uniform weights for both the ordinary least squares (OLS) method and the generalized moment method (GMM) estimates indicates a significant positive relationship between e-commerce and trade openness in Africa. In addition, the study also gives an idea that FDI may or may not affect trade openness, depending on which industries use FDI. FDI correlates with an increase in exports in the short term, but not in the long run.

In their study, Jingting Fan, Lixin Tang, Weiming Zhu, and Ben Zou (2018) [4] show how e-commerce can increase internal trade and reduce inequality in spatial consumption because it (1) eliminates fixed entry costs and (2) reduces the impact of distance on trading costs. Using unique data from China's leading e-commerce platform, researchers provide data that meets these two functions: online shopping is less complicated than offline shopping, and residents of smaller and more remote cities spend most of their income online. The paper builds a multi-regional model of general equilibrium to quantify the impact of e-commerce on domestic trade and well-being. It has been identified that, although e-commerce partially displaces long-distance trade, the emergence of e-commerce increases aggregate domestic trade. E-commerce welfare growth is an average of 1.6% and about 30% more for cities with the smallest population.

Results

In this study, statistical tools such as trend models and regression were used for the analysis. The object was the US economy as an example of a developed economy with a lot of data. The first part of the section looks at the trends in foreign direct investment in the United States over the past 19 years (Fig. 1).

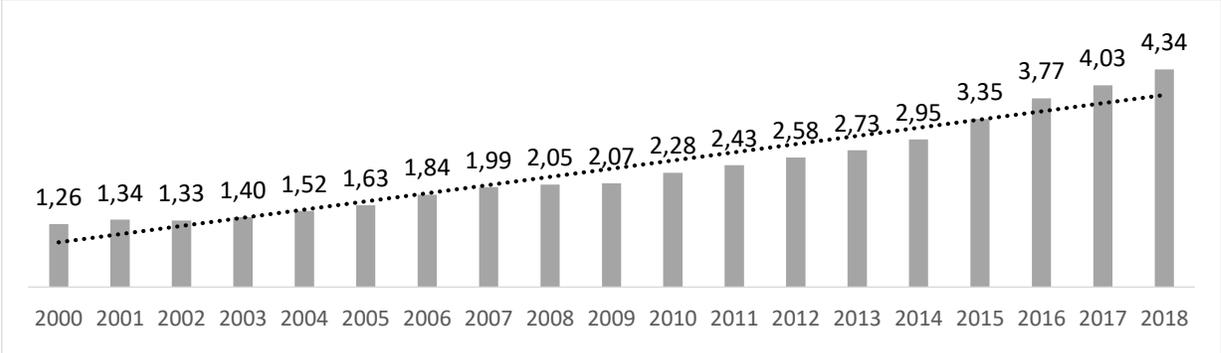


Fig. 1. USA FDI dynamics

Source: [4]

As we can see, there is a trend of gradual growth at a high rate (\$163B of additional investment every year during the study period) and a marked acceleration in the last 5 years. Even during the Great Recession (2007-2008), there was a slight increase. The presence of an upward pronounced linear trend is explained primarily by the investment attractiveness of the United States because of developed stock market, private enterprise and advanced infrastructure.

The purpose of this study is to investigate the relation between foreign direct investment and e-commerce in the country. However, it is clear that investment is determined by the whole system of economic factors. Therefore, a number of economic determinants were selected to further investigate their impact on foreign direct investment in the United States. The choice of variables was primarily based on general economic considerations and statistical measures. In addition to the volume of the e-commerce market, the USD / EUR exchange rate was chosen, which characterizes the advantage of trading with the main trading partner of the USA - the European Union; inflation and interest rate, as a characteristic of the current state of the economy and monetary policy of the state; and GDP, as the most integral indicator of economic performance. On the basis of the collected data, a multiple regression was constructed, which took the following form:

$$\ln(FDI) = 14.13 + 0.09Ecommerce - 0.01Inflation$$

Table 1

Regression model characteristics

<i>Measure</i>	<i>Coefficients</i>	<i>Standard error</i>	<i>t-statistics</i>	<i>p-value</i>	<i>Adjusted R Squared</i>	<i>Significance F</i>
Intercept	14,13	0,06	221,46	2,51E-29		
E-commerce	0,000010	0,00	17,20	9,68E-12	0,95	1,37E-11
Inflation	-0,013678	0,02	-0,69	5,01E-01		

Source: author calculations based on [4]

The model shows that e-commerce market size and inflation rate on 96% determine the level of foreign direct investment in the country. Both factors are significant at the 99% reliability level. Based on the model, e-commerce has a positive impact on foreign direct investment: by increasing the e-commerce market by \$ 1 million. FDI increases by 0.09%. The model itself is also adequate, based on significance of Fisher's statistics.

Conclusions

The main scientific value of this work is the quantitative analysis of the impact of e-commerce on foreign direct investment. Based on a built-in regression model, we can conclude that there is a significant relationship between e-commerce and direct investment. This link can be explained both by the direct improvement of infrastructure and business in the country and indirectly as an indicator of economic growth and improvement of the investment climate. The results of this study may be useful in terms of building long-term strategies for developing countries and regions, taking into account the direction and strength of the relationships being explored.

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E-STRATEGIES: THE NEW WAYS OF BUSINESS TRANSFORMATION IN FRANCE

France's international digital strategy, presented by the Minister for Europe and Foreign Affairs on 15 December 2017, serves both as a framework and roadmap for the coming years. It is centred around three key focuses: governance, the economy and security.

Digital technology is now a key issue for France's foreign policy and public action as a whole, be it for the success of France's economy in the global competitive sphere or for conditions of stability, security and power on a global scale.

These changes carry with them the risk of a deregulated, dangerous and closed digital sphere and as such it is time for France to define the principles for digital technology that it wishes to see succeed around the world. To achieve this, France must promote a model which is faithful to its values.

This model opposes the trends of compartmentalization, control of networks and destabilization which we are currently witnessing. Furthermore, this model does not resemble the model supported by large American and Chinese tech firms, it aims to provide greater protection by ensuring fundamental rights are respected, by supporting the principle of loyalty and by defending fair competition and taxation.

It is with this context in mind that the Ministry for Europe and Foreign Affairs has drawn up France's International Digital Strategy. It has done so in consultation with all administrations concerned and by opening up its text to public consultation. The Strategy is focused on three key pillars: governance, the economy and security. It represents a reference framework and diplomatic roadmap for the years ahead. This document enables France to promote a world which associates freedom and respect for standards. This world is situated in a European context as only the European Union has the ability to incarnate and convey this vision on the world's stage.

MODELING OF THE IMPACT OF E-COMMERCE ON R&D

Introduction

The global e-commerce market is one of the largest dynamic and growing markets. It is expected to reach 16.1% of the global Internet retail network; E-commerce developed rates outpaced overall product development rates. The e-commerce market of Ukraine is, perhaps, the most diverse market in Ukraine at all. This is the only industry whose growth has been the highest in Europe in the last 2 years, generating very optimistic forecasts and attracting more participants. Therefore, the question arises of research and assessment of the parameters of development of this sector at the present stage.

As a consequence, both the estimates of Ukraine's e-commerce situation and its forecastings present many contradictions. In addition, despite the large number of publications, there is no work on analyzing the success of individual e-market players, but of business models and strategies for e-commerce development, which complicates the choice of appropriate tools.

Also, the problem of development and management of Internet commerce in modern conditions in Ukraine has fundamental importance due to the intensification of the processes of concentration of trade objects; development and emergence of new technologies, models of Internet usage in activity of trading enterprises; market dynamics in its various segments; increased competition from foreign entities; modification of forms and types of competition, including intensification of online marketing activities of trading enterprises.

Literature review

Anvari, R. and Norouzi, D. [1], investigated the impact of the e-commerce and R&D, health expenditure and government size on the GDP per capita in twenty one selected countries, namely, Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, and United Kingdom. The

panel model with GLS method was used to investigate the period of 2005-2013. The results showed that the explanatory variables in the selected countries played a significant role in the per capita income. In other words, it was revealed that e-commerce and R&D expenditure with GDP per capita had a long run impact based on the cointegration test results; also, both e-commerce and R&D expenditure were found to have a positive impact on GDP per capita, but e-commerce had a stronger development enhancing effect. In addition, other variables such as government size and health expenditure also had a positive influence on GDP per capita. According to these findings, the level of government activity has led to a growing interest in the positive analysis of the size of government.

Liu et al. [2] investigated the impact of e-commerce and R&D on productivity, using a unique panel dataset obtained from Taiwanese manufacturing firms for the period of 1999 to 2002. They found that both e-commerce and R&D capital had a positive influence on productivity, while R&D exhibited a larger productivity-enhancing effect. Over the past four decades, the role of R&D in productivity growth has been well recognized as a large number of economic research centers have been developed, showing the importance of public investment in the public politics.

Based on the study of modelling in three countries conducted by Zatonatska, T., Rozhko, O. and Tkachenko, N. [3] it has been determined that the value of e-commerce and R&D expenditures is more significant for GDP per capita growth in Ukraine and Poland, due to the higher level of ICT development in Austria and its approximation to the saturation point relative to the growth rates of innovation industries. Also, expenditures on R&D and e-commerce has a significant impact on the country's economic development and contributes to increasing the volume of the gross domestic product and productivity of manufacture, which will further enhance the research in this direction.

Terzia N. [4] investigated the impact of e-commerce on international trade and employment and showed that Internet will promote international trade much as lifting other trade barriers would. Thus, the volume of international trade will increase via e-commerce. The countries open to imports from high-income economies will benefit from knowledge spillovers. E-commerce can also have a significant impact on trade in services.

The results of the development of Internet commerce in Ukraine are published in the works of Glinenko, L. and Daynovsky, Y. [5], Marusey, T. [6], Kozlov V. and Tomashevskaya, T. [7] and other Ukrainian scientists. The state of online retail was

determined with the widest variety of employees - widespread turnover, the penetration of online commerce, share of online shoppers among other internet users, the average people on people, the commodity structure of purchases and a number of people. At the same time, they used the reports of domestic and foreign researchers who conducted independent studies of electronic markets.

Objective

Conducting a scientific-statistical analysis of the impact of e-commerce on research and development (R&D) and constructing a mathematical model with additional factors to describe the impact.

Results

Data were used from various statistical resources during the period from 2009 to 2018. All calculations were made in the RStudio software environment.

Table 1

Basic data

<i>Year</i>	<i>GDP per Capita, \$</i>	<i>R&D, \$mln</i>	<i>Internet Penetration, %</i>	<i>E-sales, \$mln</i>
2009	2546	1041	0.27	139
2010	2974.4	1133	0.29	266
2011	3570.8	1203	0.4	347
2012	3856.8	1320	0.43	477
2013	4030.3	1367	0.49	731
2014	3014.6	860	0.54	877
2015	2115.4	559	0.57	999
2016	2185.9	451	0.62	1298
2017	2640.3	503	0.65	1717
2018	3104	523	0.68	1852

Source: [8-11]

The unit root test is tested to examine whether the variables contain a panel unit root. If the variables contain a unit root, the cointegration test is used to examine whether the long run relationships present between the variables. If the long run relationship is present, the OLS method is tested to find out the relationship between the variables.

The Dickey–Fuller test tests the null hypothesis that a unit root is present in an autoregressive model. The alternative hypothesis in our case is presence of stationarity.

Table 2**Dick-Fuller test**

Variable	Level		First difference	
	ADF	P-value	ADF	P-value
GDPP	0.0212	0.641	-0.3564	0.533
RD	-0.958	0.327	-1.039	0.299
IP	3.628	0.990	1.723	0.976
ES	4.47	0.990	1.38	0.953

Source: compiled by the author based on test results

As we can see from the table above time series are not stationary, because p-value of each variable is greater than 0.1, so we accept the null hypothesis that unit root is present.

The Engle-Granger test can check for multiple linear combinations of time series for forming stationary portfolios. The null hypothesis means that there is no cointegration at all. Alternative hypothesis means that there is a cointegrating relationship between two or possibly more time series.

Table 3**Engle-Granger test (linear trend)**

Variables	Lag	EG statistics	P-value
RD~GDPP	2.00	-1.84	0.1
RD~IP	2.00	0.0633	0.1
RD~ES	2.00	-0.806	0.1

Source: compiled by the author based on test results

So, cointegration relationship between variables is present whereas p-values equal to 0.1, so it's a critical value to reject the null hypotheses.

Since it is necessary to determine the influence of several factors on a dependent variable, the model equation takes the following form:

$$RD_t = \beta_0 + \beta_1 GDPP_t + \beta_2 IP_t + \beta_3 ES_t + \varepsilon_t \quad (1.1)$$

where β_0 - constant; $\beta_1, \beta_2, \beta_3$ - model parameters; t - time period; $GDPP$ - GDP per capita, in millions dollars; IP - share of the population that using Internet, % from the country population; ES - e-commerce market volume, in millions dollars; ε_t - stochastic fluctuations.

Results of the conducted modelling the following:

Table 4

Regression results

Coefficients	Estimate	Std. Error	t-value	Pr(> t)
Intercept	2.901e+08	1.430e+08	2.028	0.0889
GDPP	3.365e+05	2.853e+04	11.795	2.24e-05 ***
IP	-2.684e+08	4.059e+08	-0.661	0.5330
ES	-3.124e-01	9.962e-02	-3.135	0.0202 *
<i>Multiple R-squared</i>	0.9857			
<i>Adjusted R-squared</i>	0.9786			
<i>F-statistic</i>	138.2 on 3 and 6 DF			
<i>P-value</i>	6.315e-06			

Source: compiled by the author based on modelling results

The final equation is:

$$RD_t = 2.901 \cdot 10^8 + 3.365 \cdot 10^5 GDPP_t - 2.684 \cdot 10^8 IP_t - 0.312 ES_t \quad (1.2)$$

As we can see in Figure 1, the model is adequate, since the p-value is less than 0.01, it can be argued that it describes the available data qualitatively. The R-squared rate is quite high and indicates a high relationship between the variables. E-commerce market volume has a negative impact on research and development, with a \$1 increasing of the first variable in the causing the decreasing of the second one by of \$ 0.312. While the overall welfare of the population, expressed as a GDP per capita, it has a slightly larger impact and its increasing by \$1 raises R&D expenditures by \$33,650. It should be noted that Ukraine has a tendency of reducing the R&D expenditures and for the last 10 years it have decreased almost twice. At the same time, the e-commerce market, on the contrary, has grown very rapidly and increased more than 10 times, accompanying the growth of internet users. That is why the model describes this inverse relationship by the negative coefficients next to the corresponding variables.

Separately was calculated indicator VIF (variance inflation factor) that is a measure of multicollinearity, which allows to estimate the increase in variance due to the linear dependence of the i-th variable from others.

Table 5**VIF indicator for the first model**

	VIF
GDDP	1.134238
IP	10.995043
ES	11.408976

Source: compiled by the author based on modelling results

Since VIF exceeds 10 for two variables, indicating that there are multicollinearity, it will be advisable to remove one and construct another model. The equation for the second model is:

$$RD_t = 2.221 \cdot 10^8 + 3.335 \cdot 10^5 GDP_t - 0.375 ES_t \quad (1.3)$$

As we can see, the obtained result is slightly different from the initial results, but in general the results of the model remained the same. Multicollinearity indicators for the selected variables do not exceed 1.2 which indicates its absence.

Conclusion

This study investigated the impact of the e-commerce, GDP per capita, Internet penetration on R&D expenditures in Ukraine. The regression model with was used to investigate the period of 2009-2018. Since, autocorrelation was detected in the first model, it was eliminated in the next one, though, results remain the same. The results showed that the several variables played a significant role in R&D expenditures. It was revealed that GDP per capita had a positive impact based on the model coefficient; also, e-commerce volume had a negative impact on R&D, because of decreasing tendency of the last one.

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E-BUSINESS IN VIET NAM: BENEFITS AND RISKS

Vietnam is a land of opportunity for foreign E-commerce companies because of its young population, high Internet penetration rate (ranked 17th in the world) and climbing smartphone penetration rates. Internet services made their first appearance in Vietnam in 1997. Three years later, however, the Internet usage rate was still insignificant with a 0.2% local penetration. However, the situation changed drastically over the years. In 2017, approximately 50 million Vietnamese, or half of the population, were connected to the Internet. Despite its late start, Vietnam's penetration rate (54%) in 2017 was higher than the world average (46.5%).

Following its accession to the WTO in 2007, Vietnam has allowed foreign investors to establish 100% foreign-owned companies. This has attracted many foreign investors, including E-commerce retailers. As E-commerce is expected to soon become an important part of Vietnam's trade sector, currently, big names such as Lazada, Shopee (Sea Limited) and more recently, Amazon, market have seized the opportunity and entered Vietnam. In 2018, the Southeast Asian E-commerce market was growing at 35% per year, 2.5 times faster than in Japan. Vietnam ranks 4th for online shopping in the Asia Pacific region and is expected to continue booming in the coming years, with sales estimated to reach EUR8.1 billion in 2020.

Vietnam's economy involves a number of different benefits and risks that international investors should carefully consider. While the country's rapid growth rates may attract investors, they should carefully consider the higher risk profile, government controls, and reliance on key industries to support that growth over the long-term. These factors may make the country too risky for some portfolios.

Benefits of investing in Vietnam:

- **Rapidly Growing Economy.** Vietnam's economy has been growing at between 4% and 8% since its recovery from the Asian Financial Crisis of 1997.

- **Self-Powered Economy.** Vietnam relies on the petroleum industry for its domestic energy consumption and for export; crude oil product is expected to gradually decline.

Risks of investing in Vietnam:

- **Socialist-orientated Economy.** Vietnam may have transitioned from a centrally planned economy, but the government still controls many key industries.
- **Early Stage Market Economy.** Vietnam remains at an early and vulnerable stage of its economic development and is therefore more risky than developed markets.

With its 96 million residents and an increasing number of Internet and smartphone users, Vietnam is attractive for many online retail businesses.

The Vietnam E-Commerce and Information Technology Agency has predicted that e-commerce in Vietnam will exceed a turnover of US\$ 10 billion by 2020. The agency also forecasts that by 2020, 30% of the population will shop online, resulting in almost 30 million online shoppers and a growing e-commerce trend in Vietnam.

According to a Global Digital Report released by “We Are Social and Hootsuite” in January 2018, 47% of the Vietnamese had purchased something online during the month preceding the survey. This means 8% growth compared to the previous year.

Types of e-commerce

Online marketplace

An online marketplace, as the name already suggests, is a website where different merchants gather to sell their goods. Marketplaces offer a lot of variety and attract more potential customers with different purchase desires. The most well-known online marketplace giants are Amazon and eBay.

Online classifieds

The main idea of a classified is the same as of an online marketplace. However, payments for the products do not go through the site but go directly to the seller, you only mediate advertisements. One of the most famous classified advertisement web pages is Craigslist.

Online retailer

In contrast to marketplaces and classifieds, online retailers both sell and storage their own products. A very large number of online retailers are regular retailers who also sell

their products online. For example, Walmart is an online retailer who operates with retail stores as well.

Under Vietnamese regulations, e-commerce is the act of creating and/or managing a website or an online instrument (i.e smartphone apps) and levying a fee upon a business or an individual that uses it as their trading platform. This means that all businesses that operate a platform where customers can buy goods, either physical products or intellectual property, would fall under the e-commerce business line.

Despite that the Department of Planning and Investment has started to grant investment licenses and business registration certificates for foreign investors who want to engage in e-commerce business in Vietnam, there are still no clear regulations regarding this business line.

MODELING THE IMPACT OF E-COMMERCE ON R&D INVESTMENT IN THREE COUNTRIES (UKRAINE, POLAND, AUSTRIA)

Abstract

This paper investigated the impact of e-commerce and two other variables on R&D investment in three selected countries. Economic-mathematical models of the influence of e-commerce parameters on R&D investment in the Austria, Poland, and Ukraine are constructed on the basis of the production function. The production function of Koba-Douglas was used in the study of the relationship between the parameters characterizing e-commerce and R&D investment.

Key words: e-commerce, production function, R&D, math modelling.

Introduction

The rapid development of technology, the proliferation of the Internet and the emergence of the digital economy have all become characteristic of the twenty-first century. Under the influence of these technologies, changes have taken place in almost all spheres of human life and have markedly affected the development of the entire global economy. The emergence of an industry such as e-commerce has opened up completely new opportunities that have not been available so far. The e-commerce market is developing very fast. The average growth rate in the world is about 18-20% a year, which is about 10-12% of all retail sales. In turn, e-commerce is one of the most successful industries in Ukraine.

The subject of the research is e-commerce. The subject of this study is the study of the impact of e-commerce on investment in R&D in Ukraine, Poland and Austria.

The purpose of this paper is to build a mathematical model of the impact of e-commerce on investment in R&D in three countries.

The tasks of the work are as follows:

- Study of scientific literature and online resources for analysis;
- Modeling the impact of e-commerce on R&D investment;
- Analysis of the simulation.

Literature overview

During the study of Tetiana Zatonatska (2018) [1], the main world trends in e-commerce development were considered; it gave the possibility to prove the rapid growth of this sector of the economy and its impact on the indicators of the economic development of the countries in the world. Based on the comparison of key indicators of the e-commerce sector in Ukraine, Poland, and Austria, it has been determined that the Austrian e-commerce market is the leader at this stage. However, the pace of e-commerce development in Ukraine and Poland exceeds this indicator in Austria, as e-commerce markets in Ukraine and Poland are at the stage of formation and active growth.

In the study it was found that the simulation of the behavior of certain indicators shows the existing differences: for example, the growth of Internet sales per capita contributes to reducing of the unemployment rate in Ukraine and Poland, but in Austria, on the contrary, this phenomenon will cause an increase of this indicator. Perhaps this situation is due to the fact that Austria, in comparison with Ukraine and Poland, has a higher level of informatization in the branches of the economy. Therefore, the development of e-commerce in Ukraine and Poland will help to create new jobs and increase employment, while in Austria, the rapid growth of Internet transactions and automation of their processing will lead to a decreasing in it.

In the simulation of the dependence between e-commerce indicators such as the volume of the Internet-trade, Internet penetration, and the country's GDP growth rate we found that the degree of influence of e-commerce indicators on economic growth is the weakest in Austria. At the same time, the Ukrainian model shows the high sensitivity of the country's gross domestic product to the penetration rate of the Internet, while Poland's GDP is sensitive to the volume of trade through the Internet.

The results of the simulation indicate that e-commerce has an impact on the country's development and contributes to an increase in the gross domestic product in all three countries.

The study of Anvari D. and Norouzi D. investigated the impact of the e-commerce and R&D, health expenditure and government size on the GDP per capita in twenty one selected countries, namely, Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands,

Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, and United Kingdom. The panel model with GLS method was used to investigate the period of 2005-2013. The results showed that the explanatory variables in the selected countries played a significant role in the per capita income. In other words, it was revealed that e-commerce and R&D expenditure with GDP per capita had a long run impact based on the cointegration test results; also, both e-commerce and R&D expenditure were found to have a positive impact on GDP per capita, but e-commerce had a stronger development- enhancing effect. In addition, other variables such as government size and health expenditure also had a positive influence on GDP per capita. According to these findings, the level of government activity has led to a growing interest in the positive analysis of the size of government (Borcherding, 1977; Brunner, 1978; Frey, 1982; Meltzer & Richard, 1978, 1981; Peltzman, 1980; Fratianni & Spinelli, 1982), such that the present paper could be regarded as a contribution to that analysis.

Therefore, the policy this study recommends is that because of the importance of e-commerce in economic development and social welfare, governments should adopt appropriate policies and provide the necessary conditions for the development and promotion of ICT. For this purpose, according to the findings of empirical research, it is recommended that the government pay further attention to economic planning in order to improve e-commerce indicators, so that the total government measurements could eventually lead to economic development in the country. Our empirical results provided a good reference for other developing countries. In the future, we hope to further discuss the decomposition of e-commerce transactions into sales and procurement (e-sales or e-procurement), along with the relationship between knowledge variables, when more detailed data would become available. It would also be interesting to distinguish between different channels (reduction of the transaction cost between buyers and sellers or strong efficiency improvement in the production and supply of chain processes) through which e-commerce can raise GDP and employment.

Results

In this study, based on the production function of Cobb-Douglas, a model of the impact of e-commerce on R&D investment in three countries - Ukraine, Poland and Austria - was constructed. The period from 2008 to 2018 is analyzed. Based on the models built, it has been found that the most significant impact on R&D investment in all three countries is GDP per capita. While the volume of the e-commerce market has a positive impact on R&D only in Austria, in Ukraine and Poland it results in a slight decrease in R&D investment. These results are justified by the fact that over the past 10 years, e-commerce market volumes have been growing at a very high rate, and investment in R&D has been steady and in Ukraine tends to decline.

One of the results are shown in table 1.

Table 1

Results of construction of the first model (Ukraine)

Coefficients	Estimate	Std. Error	t-value	Pr(> t)
Intercept	2.861e+08	1.340e+08	2.008	0.0879
GDPP	3.398e+05	2.518e+04	11.721	2.19e-05
IP	-2.404e+08	3.991e+08	-0.561	0.5330
EC	-3.187e-01	8.901e-02	-3.125	0.0212
<i>R-squared</i>	<i>0.9201</i>			

The general model can be interpreted as:

$$RD_t = 2.861 \cdot 10^8 + 3.398 \cdot 10^5 GDPP_t - 2.404 \cdot 10^8 IP_t - 0.319 EC_t$$

The R-squared rate is quite high, indicating a strong correlation between the variables. It can be concluded that the volume of e-commerce market has a negative impact on investment in R&D in Ukraine, while the overall welfare of the population, expressed as a GDP per capita, has a much larger impact and its growth by \$ 1 US raises R&D costs by \$ 33,980 USA.

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E-COMMERCE DEVELOPMENT IN INDIA

The Government of India has taken significant initiatives to strengthen the economic credentials of the country and make it one of the strongest economies in the world. India is fast becoming home to start-ups focused on high growth areas such as mobility, e-commerce and other vertical specific solutions - creating new markets and driving innovation.

Owing to higher infrastructure spending, increased fiscal devolution to states, and continued reforms in fiscal and monetary policy, the Indian economic outlook has strengthened. The Government of India is striving to move steadily to minimise structural and political bottlenecks, attract higher investment and improve economic performance.

E-Commerce is a term for any type of business, or commercial transaction, that involves the transfer of information across the Internet. E-Commerce allows consumers to electronically exchange goods and services with no barriers of time or distance. The sharing of business information, maintaining business relationships, and the conducting business transactions by means of telecommunications networks. A business online does not have to make a site for every language. With the right marketing, every customer around the globe can find the business site, products, and information without leaving home.

The e-commerce has transformed the way business is done in India. The Indian e-commerce market is expected to grow to US\$ 200 billion by 2026 from US\$ 38.5 billion as of 2017. Much growth of the industry has been triggered by increasing internet and smartphone penetration. The ongoing digital transformation in the country is expected to increase India's total internet user base to 829 million by 2021 from 560.01 million as of September 2018. India's internet economy is expected to double from US\$125 billion as of April 2017 to US\$ 250 billion by 2020, majorly backed by ecommerce. India's E-commerce revenue is expected to jump from US\$ 39 billion in 2017 to US\$ 120 billion in 2020, growing at an annual rate of 51 per cent, the highest in the world.

During 2018, electronics were the biggest contributor to online retail sales in India with a share of 48 per cent, followed closely by apparel at 29 per cent.

Some of the major developments in the Indian e-commerce sector are as follows:

- Flipkart, after getting acquired by Walmart for US\$ 16 billion, is expected to launch more offline retail stores in India to promote private labels in segments such as fashion and electronics. In September 2018, Flipkart acquired Israel based analytics start-up Upstream Commerce that will help the firm to price and position its products in an efficient way.
- Paytm has launched its bank - Paytm Payment Bank. Paytm bank is India's first bank with zero charges on online transactions, no minimum balance requirement and free virtual debit card
- As of June 2018, Google is also planning to enter into the E-commerce space by November 2018. India is expected to be its first market.
- E-commerce industry in India witnessed 21 private equity and venture capital deals worth US\$ 2.1 billion in 2017 and 40 deals worth US\$ 1,129 million in the first half of 2018.
- Google and Tata Trust have collaborated for the project 'Internet Saathi' to improve internet penetration among rural women in India

Since 2014, the Government of India has announced various initiatives namely, Digital India, Make in India, Start-up India, Skill India and Innovation Fund. The timely and effective implementation of such programs will likely support the e-commerce growth in the country. Some of the major initiatives taken by the government to promote the e-commerce sector in India are as follows:

- In order to increase the participation of foreign players in the e-commerce field, the Indian Government hiked the limit of foreign direct investment (FDI) in the E-commerce marketplace model for up to 100 per cent (in B2B models).
- In the Union Budget of 2018-19, government has allocated Rs 8,000 crore (US\$ 1.24 billion) to BharatNet Project, to provide broadband services to 150,000 gram panchayats
- As of August 2018, the government is working on the second draft of e-commerce policy, incorporating inputs from various industry stakeholders.

Following are the achievements of the government in the past four years:

- Under the Digital India movement, government launched various initiatives like Udaan, Umang, Start-up India Portal etc.

- Under the project 'Internet Saathi', the government has influenced over 16 million women in India and reached 166,000 villages
- Udaan, a B2B online trade platform that connect small and medium size manufacturers and wholesalers with online retailers and also provide them logistics, payments and technology support, has sellers in over 80 cities of India and delivers to over 500 cities.
- According to the UN's eGovernance index, India has jumped 11 positions to 107 in 2016 from 2018 in 2014.
- The government introduced Bharat Interface for Money (BHIM), a simple mobile based platform for digital payments.

The e-commerce industry been directly impacting the micro, small & medium enterprises (MSME) in India by providing means of financing, technology and training and has a favourable cascading effect on other industries as well. The Indian e-commerce industry has been on an upward growth trajectory and is expected to surpass the US to become the second largest e-commerce market in the world by 2034. Technology enabled innovations like digital payments, hyper-local logistics, analytics driven customer engagement and digital advertisements will likely support the growth in the sector. The growth in e-commerce sector will also boost employment, increase revenues from export, increase tax collection by ex-chequers, and provide better products and services to customers in the long-term.

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THE IMPACT OF E-COMMERCE ON EMPLOYMENT IN THE EU

Abstract

The main purpose of this study is to present a new e-commerce trends and their impact on international labor market. The fact is that nowadays a high speed of digitalization process caused significant changes in job preferences and employment. Electronic commerce effected labor demand by creating new jobs and destroying unnecessary ones. In this study the changes in labor market via e-commerce tendencies were described qualitatively and quantitatively.

Key words: e-commerce, labor demand, ICT, employment.

Introduction

The revolution in ICT over the last decade shown that technological advances and usage of e-commerce opportunities will grow rapidly. The development of e-commerce caused dramatic changes in society and economy. The growth of e-commerce has both a direct and indirect impact on the labor markets and especially on employment. As nowadays e-commerce creates more business opportunities, widespread changes in the labor market and in the skills needed for employees are inevitable. Labor markets need more skilled and adaptable to modern technology workers.

Today the impact of e-commerce on population employment is an under-researched topic in practical analysis. The use of fundamental results of quantitative studies of the impact of ICTs on employment in EU countries will increase the employment rate of highly qualified staff.

The subject of this study is the volume of electronic sales and purchases by EU companies, the use of the Internet to fulfill work goals by employees, and the employment rate in EU.

The purpose of the scientific work is to define the impact of e-commerce and ICTs parameters on employment growth in the European Union.

To achieve this goal, a number of tasks were performed:

- analysis of the results of existing research related to the impact of ICT and e-commerce on the labor market,
- an analysis of employment rate in EU countries and e-commerce trends in European businesses,
- econometric modeling related to the impact of e-commerce and ICTs parameters on employment rate in the EU.

The scientific novelty is a comprehensive analysis of the impact of e-commerce on employment growth using econometric modeling.

Literature overview

In a study written by Benjamin Balsmeir and Martin Woerter (2019) [1] about the impact of e-commerce on job creation and the elimination of low-tech jobs, the authors note the particularly positive effects of the introduction of new technologies into the daily workflow. The research is practical and involves the construction of an econometric model of the impact of investment in the implementation of e-commerce systems and the digitization of work processes on the employment of workers with different levels of education. Researchers have statistically confirmed that investing in e-commerce is positively related to the employment of highly skilled workers and negatively related to the employment of low skilled workers. Thus, e-commerce in general has a net positive impact on employment. Also, based on the simulation, the scientists gave theoretical advice to companies on hiring workers. The paper emphasizes that the features of machine technology can be seen as powerful tools that allow workers to improve their productivity if they are skilled enough to use them to their full potential.

Contrary to a previous study, researchers Federico Biagi and Martin Falk (2017) [2], who considered the impact of ICTs and e-commerce on employment in Europe, deny the fact that the introduction of high-tech information and communication systems in enterprises is destroying jobs. The results of the study indicate that the tools that support information and communication systems are sufficiently neutral in terms of employment. However, the implementation of ERP systems is generally positively related to employment. The result obtained by scientists during the study is innovative, as ERP systems are often associated with job losses due to additional changes in organizational structures. For the high-quality use of high-tech solutions at the enterprises of the countries, it is necessary to ensure proper innovative information and communication systems and facilitate their use in all sectors of the economy.

The Martin Falk and Eva Hagsten (2015) [3] study also draws on Micro Moments Database data and explains e-commerce trends and their impact on productivity growth in European countries. Overall labor productivity in the fourteen European countries studied increased by 17%. The positive and significant correlation between changes in labor productivity and changes in the proportion of enterprises using e-commerce systems indicates that higher productivity gains are observed in industries that are increasing the share of online businesses. Researchers found that increasing the proportion of e-commerce businesses by 1% will increase productivity by 0.35-0.40%. One of the major drawbacks of this analysis is that only the impact of e-sales, not e-procurement, can be explored, since procurement can also have a significant impact on labor productivity.

Results

In this study, a regression model is used to analyze the impact of e-commerce on the employment of the EU Member States. The dependent variable is employment, and wages, cost of capital, and e-commerce options (number of employees using the Internet, number of employees using a computer, using the Internet to gather information, using the Internet to provide information, e-purchases, e-commerce) are independent variables. Thus, we will get four different models that will determine the impact of each parameter of e-commerce and information and communication technologies on employment in the European Union.

One of the results are shown in table 1. According to the results all coefficients are significant except for the price of highly skilled labor, which has a coefficient of significance of 0.23. These results are evidence that the use of e-commerce in businesses has a positive impact. Also, wages and the cost of capital have a negative impact on employment. These results are in full agreement with those of previous scientific studies.

Table 1

Impact of the use of electronic sales of goods and services by businesses on the employment of the EU population

<i>Variable</i>	<i>Coef</i>	<i>St.Error</i>	<i>t-statistics</i>	<i>Probability</i>
Constant	1,678	0,084	20,012	0,11
ln(Wage)	-0,029	0,004	-7,222	0,03
ln(Cost of labor)	-0,010	0,002	-4,032	0,23
ln(e-selling)	0,013	0,001	9,739	0,09
F-statistics	8,883			0,01
Hausman test	13,710			0,01

The results of this model can be interpreted as follows: a wage increase of 1% would reduce employment by 0.029%, and a decrease in the cost of capital by 1% would reduce employment by 0.01%. From the table. 1 also shows that the coefficient along with e-sales is positive, indicating that businesses that use the Internet for e-commerce are more busy. Thus, businesses in countries that have a system of selling goods and services over the Internet can increase employment by 0.013% with every 1% increase in online sales. The general model can be interpreted as:

$$\ln(\text{Employment}_{it}) = 1,678 - 0,029 \cdot \ln(\text{Wage}_{it}) - \\ -0,01 \cdot \ln(\text{Cost of labor}_{it}) + 0,013 \cdot \ln(\text{eselling}_{it}) + e_{it}$$

Based on the simulation, which confirmed the established assumptions about the effect of e-commerce parameters on the employment of the population in EU countries. Thus, it was determined that with the increase of electronic sales of enterprises of EU countries by 1% employment of the population will increase by 0.013%. The e-procurement parameter showed a greater correlation, with employment increasing by 0.265% at a 1% increase. Regarding the use of the Internet by employees for work tasks, the increase of this parameter by 1% causes the employment growth of the population by 0.042%. The theoretical assumptions regarding the negative impact of average wage germination and the price of highly qualified staff on the employment of EU citizens were also confirmed.

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PUBLIC PRIVATE PARTNERSHIP: CHALLENGES FOR BUSINESS

Public-private partnerships (PPPs) between a government agency and private-sector company can be used to finance, build and operate projects, such as public transportation networks, parks and convention centers. Financing a project through a public-private partnership can allow a project to be completed sooner or make it a possibility in the first place.

Public-private partnerships have contract periods of 25 to 30 years or longer. Financing comes partly from the private sector but requires payments from the public sector and/or users over the project's lifetime. The private partner participates in designing, completing, implementing and funding the project, while the public partner focuses on defining and monitoring compliance with the objectives. Risks are distributed between the public and private partners according to the ability of each to assess, control and cope with them.

Although public works and services may be paid for through a fee from the public authority's revenue budget, such as with hospital projects, concessions may involve the right to direct users' payments, as with toll highways. In cases such as shadow tolls for highways, payments are based on actual usage of the service. In cases involving wastewater treatment, payment is made with fees collected from users.

Private-sector technology and innovation help provide better public services through improved operational efficiency. The public sector provides incentives for the private sector to deliver projects on time and within budget. In addition, creating economic diversification makes the country more competitive in facilitating its infrastructure base and boosting associated construction, equipment, support services and other businesses. Physical infrastructure such as roads or railways involve construction risks. If the product is not delivered on time, exceeds cost estimates or has technical defects, the private partner typically bears the burden.

The private partner faces availability risk if it cannot provide the service promised. For example, the company may not meet safety or other relevant quality standards when running a prison, hospital or school.

Demand risk occurs when there are fewer users than expected for the service or infrastructure, such as toll roads, bridges or tunnels. If the public partner agreed to pay a minimum fee no matter the demand, that partner bears the risk.

Due to limited funding and increasing constraints, many government agencies are looking into different models of public-private partnership as a means of maintaining updated infrastructures without having to make large investments. These type of projects can be very useful, but their costs must be closely controlled to make them cost-effective solutions.

PPPs are considered by many to be the future of infrastructure projects because they offer solutions to problems of financing, job completion, and investing in large projects without sacrificing government finances. There are many different types of public-private partnerships to fit various construction, operation, ownership, and revenue-generating scenarios.

Governments and businesses enter public-private partnerships (PPPs) to achieve better outcomes, but successful partnerships are not easily accomplished. Because businesses' expectations about PPP outcomes affect how and whether they participate as partners, managing PPPs effectively requires knowing not just what governments lose or gain, but also the value businesses receive. This article demonstrates how structural, collaborative, and participant factors associated with both public and private partners affect business value in PPPs. Based on a mixed-methods approach, this study tests four hypotheses on how PPPs influence value creation for businesses. The findings show that PPP experience, trust, and size have significant effects on business value. However, they only increase certain types of value, depending on the presence and performance of other factors. Moreover, the results show that businesses gain more intangible values, such as network development and knowledge, than revenue.

CRISIS MANAGEMENT IN E-BUSINESS

The purpose of risk management is to ensure that your investment losses never exceed acceptable boundaries by following disciplined practices including position sizing, diversification, valuation, loss prevention, due diligence, and exit strategies.

The reason risk management is essential - not optional - is because the amount you lose during the tough times determines how much you must make during the good times to meet your financial goals. You must preserve your capital during difficult periods so that your offensive investment strategy has a larger base of capital to grow from when profitable times return.

E-business is an electronic form of business conducted over the Internet. This business model has increased in popularity as technology has advanced with smaller and better forms of computer equipment. Many businesses started today conduct operations solely via the Internet, and may never open a traditional brick and mortar storefront. Although e-businesses may be easy to start and require little upfront cash, they are still subject to the normal risks of any businesses.

Systematic Risk

Systematic risk is the risk a company faces from the entire market or market segment in which it operates. A classic example of systematic risk in the e-business market is the dotcom crash of 2000 and 2001. Several e-businesses started and went public, then were purchased by other e-businesses. Most of the e-businesses had little cash flow and were unable to make profits; these companies valued growth over financial stability, creating an unsustainable economic bubble that burst, destroying many dotcom companies. While this type of systematic risk may not occur again, most market segments may tend to operate in business cycles, growing, reaching a plateau and contracting. Owners and entrepreneurs of e-businesses must be able to assess their market segment and plan for each stage in the business cycle.

Security Risk

E-businesses face many different types of risks related to the security of their business information and customer information. Computer viruses and hackers are constantly trying to tap into online companies and steal customer identities and financial information. These security risks force e-businesses to use software and encryption codes that limit an outsider's ability to hack into their secure systems. Online security risks can also lead to legal issues for e-businesses, as they are obligated to protect consumer information by federal and state law. Breaches in an e-business' system will also increase the company's insurance risk, as insurers require higher premiums for companies with legal issues, if they decide to take on the e-business as a client.

Business Risk

Business risk relates to the risk companies face from conducting business operations every day. These risks include inventory, labor, overhead or supply-chain problems. Because most e-businesses do not have large physical locations or warehouses, they must rely on a supply chain for getting goods to consumers. Anytime a business must rely on individuals or other businesses to help distribute goods, risk may increase. Business risk also occurs if the e-business is unable to purchase inventory and move it through the supply chain quickly and efficiently.

E-Commerce Emergency Plan aims:

- To protect staff members
- To protect consultants
- To protect the archives and records of E-Commerce data of consumers
- To ensure business continuity
- To communicate emergency needs and strategies to relevant partners inside and outside the division

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MODELING THE IMPACT OF E-COMMERCE ON ECONOMIC DEVELOPMENT INDICATORS

Introduction

A rapid development of Internet technologies influences greatly all areas of economic activity today. Electronic commerce also known as e-commerce is the conduct of business on the internet and other computer networks, not only does it involve buying and selling of products but also customer servicing and collaboration with business partners. In recent years, e-business has developed rapidly and the e-purchasing is becoming more popular over the world. Electronic commerce (e-commerce) is a general concept covering any form of business transaction or information exchange executed using information and communication technologies. E-commerce may take place between firms (B2B), between firms and their customers (B2C), or between firms and the government (B2G) [1].

E-commerce has been recognized as an important contributor in the economy of many countries. In the emerging global economy, e-business has increasingly become a very important and a necessary component of business strategy and a strong catalyst for economic development. Over the last two years the researches of e-commerce became very important due to the adoption of the legislative regulation of this type of business activity. Each year many international analytic companies investigate a global e-commerce market and present their annual reports.

Presentation of basic material of research

According to E-commerce Foundation, 2520 million people worldwide use Internet. It accounts for 45 % of the Earth's population over the age of 15.1436 millions of them perform purchases in online stores. The global e-commerce market estimated at \$22.1 trillion. China is responsible for the largest share of this market, being followed by the United States and Japan. The USA was on the first place in terms of the total commodity turnover provided by e-commerce (Table 1). China, however, is the closest rival with the total number of online customers surpassing the USA by almost 2.5 times.

Table 1

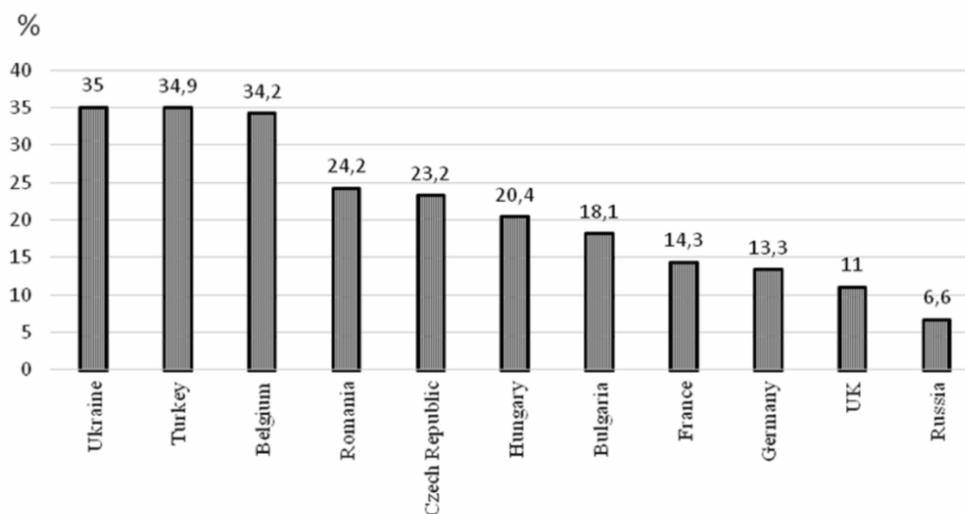
Commodity turnover provided by e-commerce in 2016, according to the countries with the largest number of buyers

Country	Buyers (million)	Annual spend by buyer (\$)	Annual B2C Sales (\$ billion)	Annual B2B Sales (\$ billion)	Annual total sales (\$ billion)
China	413	1508	623	2078	2701
USA	166	3072	511	6072	6583
Japan	57	1994	114	2380	2494
Germany	41	120	2	966	968
UK	38	4539	174	709	883
Brazil	33	376	12	112	124
Russia	30	756	23	700	723

When it comes to Ukraine, statistics data claim that 21.9 million people (58 %) in 2016 were Internet users, of which 3.7 million (10 %) were buyers in online stores. In 2016, sales of goods and services through online stores amounted to UAH 1429 million. The GDP of Ukraine amounted to UAH 2 383 182 million in 2016 and the share of e-commerce in it was only 0.06 % [2]. Despite the fact that many Ukrainians are already very confident users of the Internet as well as experienced online stores buyers, the domestic e-commerce market is only at its early growth stage. This fact is confirmed by a rapid growth of electronic sales volumes (35 % per year) (table 2), that is typical for the initial stages of the industry's life cycle.

Table 2

Importance of E-Commerce in the Development of Economy and Business



E-commerce is actively growing for about 20 years in Ukraine. Despite this, the Law of Ukraine “On e-commerce”, a legislative document that regulates the activity of e-commerce companies, was issued only in 2015. The document designates e-commerce as relationships that are aimed at making profit and take place remotely involving the use of information and telecommunication systems. These relations have all general characteristics of a commercial activity but there is, however, one substantial difference, namely, the agreements are concluded remotely by means of Internet. Similarly, if such relationships are carried out by means of other types of information and telecommunication relations, they will also have the signs of e-commerce.

B2C segment is represented by such well-known online stores as Rozetka, Modnakasta and LeBoutique. Financial results of these companies are not in a public access but the statistics on the attendance of their websites is available. Let's review it in more detail.

The main e-commerce player in the B2C sector is Rozetka online store visited by 23.600,000 people per month. According to the statistics of 2017, almost 40% of all domestic Internet users are the visitors, and therefore, the potential buyers of this platform. About 75 % of users make purchases by means of their smartphones in 2017. A large segment of the e-commerce market is also occupied by services provided via Internet. These include legal services, accounting services, tax consultancy services as well as various information services in all areas of human activity. Providing such services via Internet allows reduce the unemployment level as well as increase the clients base of a particular enterprise. However, much attention should be paid to the legal regulation of e-commerce business in service providing area. If any organization, company or business owner has its own website where the services are simply listed, it's just a source of information and such activity has nothing to do with the Internet commerce. A main feature of e-commerce is the signing of the offer in a variety of ways, which may include filling in the order form, adding goods to the basket, filling in a feedback form in which the initiative to buy a product or service is indicated. If the website doesn't provide the abovementioned opportunities, it is merely one of the means of traditional business advertising.

As a whole, the Ukrainian economy is based on small and medium business which fact is confirmed by the GDP indicators. In 2016, statistics data showed that small enterprises generated 20% of GDP while medium ones accounted for about 43 %.

As a rule, the large enterprises in Ukraine occupy monopolistic or oligopolistic positions in their industries, thus preventing small businesses from entering their markets. At the same time, e-commerce creates new opportunities for the development of small and

medium-sized businesses because of its vast geographical coverage that is literally unlimited. In addition, it's financially affordable for any small business or entrepreneur to reach leading positions selling products via Internet. That's why e-commerce creates equal opportunities for all market players enabling the products of a better quality to win the competitive struggle and enjoy more demand at a more affordable price.

E-commerce for business is another additional marketing instrument that, if properly applied, may become the main one. The number of purchases through online stores is constantly growing in Ukraine. Leading positions are occupied by the stores selling household appliances and clothing. The distinguishing feature of market leaders is that they work via Internet only. Such pattern of activity provides them with a number of benefits.

The main benefit of e-commerce is its comfort for the customer: first, online shops serve their customers 24 h/7 days a week creating a steady inflow of clients that cannot be achieved in terms of traditional trading.

Second, the business doesn't bear a burden of serving staff costs.

Third, the absence of a physical shop reduces the maintenance costs. It's enough to store goods in the warehouse.

Fourth, online advertising is more affordable than traditional advertising options. Additionally, the providers of effective e-commerce advertising usually have a direct access to the customers who are really interested in their products. This is achieved using the search engines that collect data about the interests and preferences of consumers and offer relevant products.

Conclusion

The study enables us to conclude that e-commerce has occupied an important place in the economies of the developed countries long ago, providing them with significant competitive advantages as well as new growth opportunities. It's hard to overestimate the value of e-commerce for leading global businesses. E-commerce has a tremendous potential that changes the traditional principles of doing business and is able to create a solid foundation for the competitiveness of both the national economy and the individual company.

Though demonstrating a high growth pace, e-commerce technologies in Ukraine are now on the beginning of the difficult way of development. The leading world experience

should be studied thoroughly and then implemented considering domestic economic reality. E-commerce allows small businesses to have their place on the market along with the big companies. The main advantage of e-commerce is that it can significantly reduce the enterprise's costs and offer an attractive price for goods and services. In addition, unlimited geographic coverage makes it possible to increase the volume of sales expanding on the global marketplace. The development of entrepreneurship in Ukraine owes itself much to the growth of e-commerce, since the produced goods and services can reach not only the domestic but the world market as well. Modern delivery systems allow operate in the global market effectively, which first of all contributes to the improvement of positive reputation of Ukrainian producers and promotes the development of the country's economy.

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E-STRATEGIES FOR NIGERIAN SME: THE WAYS TO IMPROVE

Every country has its own business environment, just as every organization has its own set culture and business surroundings. While undertaking a business locally or abroad, the managers or CEOs of the organizations have to account for and consider all the external and internal as well as macro and microeconomic factors, which are likely to contribute to the success or failure of the business.

Nigeria is one of the most culturally rich yet traditional nations of the world. It is both male-centric country and class conscious, with men making most of the important household decisions and respect given to those with titles and degrees. A country's business environment is crucial for innovation and entrepreneurial development. It determines whether there are strong incentives for individuals to identify market opportunities and create wealth, jobs, and economic growth. An enabling environment that makes it easy for individuals to start up businesses, run them, sell them, and fold them if they are not successful, is one that fosters national economic growth. There are numerous indices that can benchmark Nigeria's standing in this area.

E-business is gaining more attention today more than ever before. It has remarkable impact on a wide number of industries and businesses with its amazing abilities to offer goods and services so conveniently. Electronic business is here with us and of course, most of us are already connected to its driver – the internet. In the past, businesses were linked to their local areas and to the people who could physically get to them. These days, the story has changed; businesses are operating beyond the reach of their local areas; the physical presence of those involved is no longer a barrier. For the fact that consumers expect better service delivery from businesses, this put businesses on their toes looking out for ways of filling consumer needs. The new economy demands that business must develop or reassess strategies if they are to operate successfully and serve customers satisfactorily. Hence, business needs continuous improvement and transformation. To be precise, business success in today's changing world calls for improvement in the way business is run.

The advent of internet and its technology has provided great opportunity for the improvement in the way business is run today. As a vast network of people and information, the internet is an enabler for e-business; it allows firms to showcase and sell their products and services. E-business describes the information systems and applications that support and drive business most often using the internet and its technology. The rationale for this is to present goods and services in ways that would be expedient for consumers to access them and to increase bottom line result for firms.

When new goods and services or technology are introduced into the market, consumers make decisions whether to accept it or not. A force drives the acceptance or rejection. This force propel consumers to make purchase decision which translates in their behavior to achieve satisfaction of certain needs. Electronic business is one of the emerging business models which businesses adopt to have global customer reach. It facilitates business transaction with minimal delay and greater comfort. Electronic business has not only come to stay but it is increasingly gaining prominence and also competing with the traditional business model.

E-business has come a long way to the society and the manner with which people embrace this innovation has varied. It is obvious that e-business facilitates quick and easy purchase and sale of products or services. In Nigeria for instance, students apply for admissions into tertiary institutions and other examinations online, check results online without crowding the offices of examining bodies. Many job applications and tests are done online these days. Fund transfer, air ticketing, payment of utility bills, online shopping and payment for goods and services and so forth, are done using electronic platform at one's convenience thus, reducing stress, time and cost.

The costs of doing business in Nigeria are high. An adverse business environment can add substantial production costs to firms and stifle innovation and entrepreneurship. Electricity, finance, and transport are perceived as the major constraints to doing business in Nigeria, according to a World Bank Group Enterprise Survey that asked Nigerian managers to name the major constraints to doing business.

Nigeria, having a diversified social structure and complex business environment, also poses many merits and demerits for companies, both of which affecting the country locally and globally. The country has opportunities to form good bilateral relations by increasing its export base, diversifying its economy by going global, exchanging goods and services, and even laborers. The concept of outsourcing can be a very valuable opportunity for the country like Nigeria, where there is a large labor base and good, hardworking people. By going global, small companies in the country can avail and

enjoy the opportunities of cross-border trade and appreciated foreign exchange, as well as ultimately, attain more profits. Similarly, they can expand their activities, diversify their operations, and bring in new ideas from abroad to improve their local productivity methods and procedures. This would also provide further growth opportunities and space for acquiring modern skills for coping up with the tough competition effectively. In this way, the competitiveness and productivity will boost with the passage of time while making the Nigerian companies more innovative, resilient, and profitable.

The Nigerian business environment is very threatening for itself. There is an increasing rate of crimes, frauds, and scams in the country. It has been years since the stories of water shortages have prevailed in the country and still, weak and dysfunctional resources continue to dominate. Then, there was even a time when, due to deregulation and corruption, fuel scarcity occurred in Nigeria. Thus, these crimes, frauds, illegal acts, violence, and corruption all lead to the falling reputation of the organization and losses in business. These factors hamper the productivity and become an obstacle in the way of enhancing business competitiveness. Another threat for the Nigerian companies operating locally is the foreign companies which are ruling the local markets and making the competition tougher for the Nigerian small industries.

The Nigerian companies do not have much capital to invest, are short of material resources, and have low standards of products and services. They are not equipped with advanced machinery, newer and innovative production methods, as well as educated and skilled labor. Thus, most of them almost fail when going on international platforms. The Nigerian companies do not have access to extensive allocation of financial resources on research and development programs. Thus, they will have to incur large production costs and costs of doing business if they want to go global.

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E-BUSINESS CLIMATE IN INDIA

During the last decade, major developing countries including India have begun to integrate much more with the global economy. India's economy and e-business climate have faced significant global and domestic headwinds in the last few quarters.

Over the last two decades, rising internet and mobile phone penetration have changed the way of communication and do business and at present, e-commerce heavily leaning on the internet and mobile phone revolution which have fundamentally altered the way businesses reach their customers and e-commerce has taken the world of retail by storm and captivated the imagination of an entire generation of entrepreneurs with e-commerce ventures with various business and commercial models.

The explosive growth in the last few years has already catapulted the biggest firms out of the billion-dollar territory in general and in particular, the e-commerce in India has witnessed a significant growth. The Government of India has taken significant initiatives to strengthen the economic credentials of the country and make it one of the strongest economies in the world. India is fast becoming home to start-ups focused on high growth areas such as mobility, e-commerce and other vertical specific solutions - creating new markets and driving innovation.

One measure of the attractiveness of a business environment is to look at the extent to which foreign businesses choose to locate there. With additional fixed costs associated with operating abroad and with a multitude of potential locations to choose among, entrepreneurs should be responsive to the relative incentives offered by different locations. Factors that will be important are many of the same ones that are associated with higher growth, such as stable macro economic conditions, openness to trade (particularly imported inputs) and a good rule of law. Local market size and labor costs are additional important determinants. On these last two dimensions, India is well positioned. It has one of the largest domestic markets in the world and it has a large labor force available at relatively low cost. It also has well educated workers, particularly

in areas of engineering and science. If these were the only determinants, India should be very successful at attracting investment.

According to The World Bank, the Indian economy will likely grow at 7 % in 2017-18 and further accelerate to 7.6 % in 2018-19 and 7.8 % in 2019-20. This is on account of India's attempt to implement reforms to unlock the country's investment potential to improve the business environment, liberalised FDI policies, quick solution to the corporate disputes, simplified tax structure, and a boost in both public and private expenditure.

Further, according to Indian Market Research Bureau the e-commerce sales are projected to reach around INR 220,330 crore by December 2017. Thus, it may be inferred that the India's digital commerce industry is growing at a swift pace year by year.

The Central Electricity Authority (CEA) expects investment in India's power transmission sector to reach Rs 2.6 trillion (US\$ 39.95 billion) during the 13th plan (2017-22). Early-stage start-ups in India are expected to raise US\$ 800 million in 2017, due to greater focus on profitability and sustainable growth, as per a report by InnoVen Capital.

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E-COMMERCE STRATEGIES: CHALLENGES AND PERSPECTIVES

Electronic commerce (e-commerce) is considered as a way of business to buy and sell products and/or services globally through the internet. The rapid growth of Information Technology (IT) day by day is one of the major aspects that e-commerce or online business nowadays is also known as the demanding business practice all over the world. Technically, e-commerce is a platform to improve the performance of any organization by using the computer networks. It is not only purchasing products online, but also take cares of interactions of any company with their stakeholders. Therefore, e-commerce helps to enhance communications and transactions with the stakeholders of a company where stakeholders represents the people who are really connected to the organization such as; employees, suppliers, managers, financial institutions, etc.

Essentially, e-commerce is creating a region in the era of this cutting edge technology by designing and developing user friendly e-commerce site to attain its targeted audience(s) with a common interest and awareness. A company should define their market place where they can go through online business platform with specialized offerings, no matter whether it is a product or a service. The e-commerce is enabling modest companies to achieve plenty of patrons speedily. There are many online e-commerce websites we can find on the internet nowadays such as; Amazon, eBay, Alibaba, Aliexpress, and many more. For instance, Amazon always influences its customers to share their opinions about the products they bought which somehow encourage millions of new clients to visit Amazon. The e-commerce organization must always provide an attractive browsing experience across online platforms.

However e-commerce businesses are growing rapidly, it also has many challenges or difficulties that should be conquered before starting this business and some of the challenges are described below.

- **Poor concept**

The lack of proper education or poor concept of online marketing would be a measure issue for those who wants to start a new e-commerce business.

- **Trust**

One of the major important roles is trust which we can also say like a bridge between sellers and buyers for any successful e-commerce transactions. Trust can be considered as a fundamental challenge in e-commerce environment. Despite traditional commerce, trust is a concrete pillar in e-commerce as people cannot instantly verify the products they want to buy or already bought unless it is delivered.

- **Confidentiality**

User's data and information such as personal information, payment details must be kept confidential and encrypted as well.

- **Return/ Refund**

If the customer is dissatisfied or the purchased product was damaged during delivery, return or refund might suffer the business from a heavy loss of shipment and reputation. Some e-commerce products offer free delivery service and this might go into the loss for the company while logistics and shipping charges always been frightening.

Conclusions

The company who wants to run an e-commerce business must always be aware of the thing that e-commerce is not only just a website rather it is a distinctive business that also follows the business models. E-commerce is a platform where we exchange information and transactions such as; data, video, web pages, media, text, etc. from business-to-business, business-to-consumer, consumer-to-consumer, and business-to-government.

E-COMMERCE DEVELOPMENT

Introduction

Electronic Commerce (E-commerce) is the buying and selling of goods and services or transmuting of funds and data, over an electronic network, primarily the internet. It is the trading or facilitation of trading in products or services using computer networks. These business transactions occur either business-to-business, business-to-consumer, consumer-to-consumer or consumer to business. E-commerce Development is simply the development of commercial transactions conducted electronically on the internet. Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction's life cycle although it may also use other technologies such as e-mail. Typical e-commerce transactions include the purchase of online books (such as Amazon) and music purchases (music download in the form of digital distribution such as iTunes Store), and to a less extent, customized/personalized online liquor store inventory services. There are three areas of e-commerce: online retailing, electric markets, and online auctions. E-commerce is supported by electronic business.

Pros and Cons of E-commerce

Among the top advantages for starting an e-commerce for starting an e-commerce business are eliminating geographical limitations, gaining new customers with search engine visibility, lower costs for maintenance and rent with higher capacity for goods and deliveries. It's no wonder that switching your business to an ecommerce model would come with a huge amount of advantages. The core disadvantage of starting an e-commerce business include losing the personal touch of physical retailers, delaying goods or services and limiting availability of merchandise as some goods cannot be sold online.

E-commerce Development in France

E-commerce in France was worth € 81.7 billion in 2017 growing by 14% last year. And is expected to rise higher in the coming year. With more people in France interested in Digitalization, the French ecommerce turnover is forecasted to be worth 93 billion euros at the end of this year 2018. Creating more employment opportunities, It will be affecting the economy at large impacting on productivity and inflation in a country. It's a good aspect for a country with a national debt of almost 3 trillion dollars. Hence, if e-commerce continues to grow rapidly, it could lead to an increase in productivity growth and downward inflationary pressures that persist for several years.

Current State and Trends in E-commerce Development

E-commerce has reshaped the modern marketplace in recent years and massive development has taken place. According to a study published by e-Marketer in 2016, the ecommerce sector will experience double-digit growth until 2020, when sales are expected to exceed \$4 trillion. One of the genuine differentiators in e-commerce sectors is that of faster shipping times and delivery logistics. Amazon is a great example of e-commerce delivery. Given the appetite for machine learning, technologies in the Silicon Valley and beyond, it's inevitable that the ecommerce sector will continue to be disrupted by greater integration of artificial intelligence and machine learning technology in 2018. Augmented Reality inches closer to the Mainstream than ever. Many leading retailers have been refining their AR offerings for some time, and the results have been striking. This year already has AR taking a giant stride towards true mainstream adoption with ecommerce business leading the way. Plus there is also an explosive growth in Mobile Checkout and the continued rise of internet-connected devices. With so much focus shifting from desktop to mobile, ecommerce shopping will be further transformed this year by storefront apps. There is certainly to be more entries of more storefront apps.

Globalization and Future

E-commerce is growing but only represents 11.9% of retail sales which went up from 3.5% a decade ago. The trend seems to be depicting Multichannel Ecommerce to be enabling anywhere buying. The market provides the statement "If you're looking to survive and thrive in the future of e-commerce, you'll need to build your store on infrastructure that can manage and maintain multi-channel retailing with minimal manual input from you. "So, Automation seems to be a new emerging future of e-commerce. It is already accessible reality and entrepreneurs are loving it. Eg: Tools used in e-commerce

automation at Shopify plus: Shopify flow, Launchepad and Shopify Scripts. Marketing is becoming more Granular so, Micromoments are the new battleground for Optimization. Cellphones are taking over desktops with more sales happening via phones in different cases. Similarly, Social media is playing a role in helping e-commerce and social selling. Eg: Instagram has over a billion users. Selling on Instagram has proved fruitful for ORO LA. Since launching Shopping on Instagram, ORO LA has seen a 29.3% lift in month-over-month revenue. while the International E-commerce remains largely untapped. According to Mckinsey, 1.4 billion people will join the global middle class by 2020 and 85% will be in Asia Pacific Region. CPG and retailers who enter this space will have a competitive advantage in meeting market demand. The William Wrigley Jr. Company, a popular chewing gum producer, for instance has already achieved 40% market share in China. In fact, e-commerce as a whole has likewise shifted away from the West.

Conclusion

For over the history of mankind, we have never developed our technology, science and civilization like up to this point now. We have never have this opportunity that we have now. The development and growth in the digital world has made thing simpler than ever. Producers and Consumers have access to more buying and selling opportunities than ever. The devices which we have now gives us immediate access to more retailers than we can count. And the development of e-commerce has been beneficial in a lot of terms whether it's for the individual, company, people or a nation.

ECO-INNOVATIONS: EUROPEAN EXPERIENCE

Eco-innovation is any innovation resulting in significant progress towards the goal of sustainable development, by reducing the impacts of our production modes on the environment, enhancing nature's resilience to environmental pressures, or achieving a more efficient and responsible use of natural resources.

By supporting new processes, technologies and services that make business greener, eco-innovation helps Europe optimise its growth potential while addressing our common challenges such as climate change, resource scarcity and dwindling biodiversity.

Eco-innovation is also an opportunity for businesses. Eco-innovation leads to reduced costs, helps capture new growth opportunities and strengthens the company image in front of its customers. This is why the EU needs to accelerate the transformation of good ideas into business and industrial development by removing economic and regulatory barriers and promoting investments, demand and awareness.

Eco-innovation refers to all forms of innovation – technological and non-technological – that create business opportunities and benefit the environment by preventing or reducing their impact, or by optimising the use of resources. Eco-innovation is closely linked to the way we use our natural resources, to how we produce and consume and also to the concepts of eco-efficiency and eco-industries. It encourages a shift among manufacturing firms from “end-of-pipe” solutions to “closed-loop” approaches that minimise material and energy flows by changing products and production methods – bringing a competitive advantage across many businesses and sectors.

The European Commission adopted in 2010 the Europe 2020 strategy for a smart, sustainable and inclusive growth. This switch to sustainable growth will be triggered by greater innovation and by managing our resources more efficiently. Seven flagship initiatives will help deliver the objectives of the strategy, including the Resource-Efficient Europe and the Innovation Union flagship initiatives. The Resource-Efficient Europe initiative recognises the role that eco-innovation can play and details the support

foreseen under numerous EU policy instruments. The associated Roadmap towards a Resource-Efficient Europe outlines how we can achieve a resource-efficient growth and suggests tools and indicators to help guide action in Europe and internationally. The Innovation Union sets out a bold, integrated and strategic approach, exploiting and leveraging our strengths in new and productive ways. The initiative called for the adoption of an 'Eco-innovation Action Plan' focusing on the specific bottlenecks, challenges and opportunities for achieving environmental objectives through innovation.

Environmental challenges and resource constraints have led to a growing demand for environmental technologies and facilitated the emergence of eco-industries. Europe is in a strong position to lead the way in using the power of innovation to meet today's challenges. This is also a great opportunity to step up its investment in this fast-growing sector.

MODELING THE IMPACT OF E-COMMERCE ON GLOBAL GDP

Introduction

E-commerce is a field of digital economy that encompasses all the financial and commercial transactions conducted through computer networks and the business processes involved in conducting these transactions.

Changes in information and communication technologies in business go through the whole economy and ultimately have a major impact on macroeconomic performance. E-business is changing the macroeconomics in several useful ways. Some benefits are static due to more efficient use of available resources. For example, increasing productivity increases the country's GDP. In addition, e-business creates deflationary pressure by reducing search and transaction costs. Other achievements are dynamic, changing the path of national development. Reducing the costs of knowledge transfer and utilization is crucial to long-term economic growth. In general, e-business benefits the economy in many ways.

Another global trend is the increase in cross-border trade. When looking at e-commerce statistics, 38% of consumers prefer cross-border purchases and this number is steadily increasing. At the state level, much attention is now being paid to this issue. Programs have been developed to support the export potential of small and medium-sized businesses. For small businesses, e-commerce can give impetus for entry and consolidation in the external market. Customs and export duties have already been resolved in the European Union, providing new opportunities for the development of e-commerce in these countries. The development of e-commerce contributes to the growth of non-commodity exports and can become one of the drivers of the resurgence of retail trade, increasing competitiveness, and ultimately the development of the economy.

E-business exacerbates some of the problems of macroeconomic policy and generates new ones. For example, e-commerce smoothly crosses state borders, leading to a loss

of tax revenue. Therefore, e-business has potentially serious implications for fiscal policy and public finance, and policymakers continue to look for e-business taxation methods. Addressing these challenges as we develop them requires a deepening of our understanding of the theoretical and empirical effects that e-business has on the overall economy.

This research work concentrated on verifying the impact of e-commerce development on GDP. In particular, from a macro-level regression analysis, determine whether e-commerce stimulates the continued growth of the national economy. The study is to examine the relationship between the percentage of people using mobile internet, the percentage of internet users, the percentage of users making online purchases, the frequency with which people use the internet during the day, and GDP in selected countries.

Literature overview

In his article "The Impact of E-Commerce and R&D on Economic Development in Some Individual Countries", R.D. Anvaria explores the impact of e-commerce, R&D, health care expenditures and government size on GDP per capita in twenty-one selected countries. For the study, the author uses panel data and regression methods of the generalized smallest area. The study was conducted on data from 2005 to 2013. The author notes that information and communication technologies influence the economic behavior of consumers through the demand side utility function and also influence producers' attitude to supply. The relationship between information and communication technologies and economic growth and supply-side efficiency in the economy is determined by a number of complementary factors, including organizational and managerial experience, organizational and legislative components, and communication structure. As a result, value added to output at the enterprise, sector and country levels will be increased, and this will eventually lead to economic growth [1].

In his article "The Study of Dynamic Effect Relationships between the E-Commerce, the Logistics and Economic Growth Based on the VAR Model", J. Huirong explores the relationship between dynamic effects between e-commerce, logistics development and economic growth [5]. Based on the vector autoregression (VAR) model, based on annual China data from 2000 to 2012, using the Granger test and dispersion decomposition, the author finds that in the long run, the development of e-commerce is the cause of Chinese logistics and China's GDP growth, while economic growth GDP is not the cause of e-commerce and logistics [2].

The research by K. Dumicic, I. Palic, "Internet Purchases in European Union Countries: Multiple Linear Regression Approach" examines the impact of economic and information and communication development on the increase in online shopping by individuals for EU member states. This article fills a gap in the existing literature by examining the impact of individual computer skills, individual Internet skills, fixed broadband penetration, and individuals using the Internet to search for information about goods and services. The impact of GDP per capita on internet purchases was also examined. The linear regression model shows that the development of information and communication technologies is crucial for explaining online purchases to individuals, confirming the research hypothesis [3].

Results

This study assessed the impact of e-commerce on GDP in EU countries using multiple linear regression models. The models were used to study the period from 2005 to 2018. The results showed that explanatory variables in selected countries played a significant role in GDP. In other words, e-commerce, the number of internet users, the frequency of internet usage, and the number of users of online shopping services have been found to have a long-term impact on GDP in these countries. Online shopping has also been found to have the strongest effect, as they have a direct impact on the development of e-commerce. In addition, other variables, such as the percentage of people using the mobile Internet, the percentage of internet users, the frequency with which people use the internet during the day, also had a positive impact on GDP in the respective countries. The research shows that the development of e-commerce has an impact on economic growth.

The calculated model of multiple linear regression confirmed the hypothesis of the study that shopping online in the EU countries is most influenced by computer skills. The number of users influences all aspects of e-commerce development. Therefore, an increase in e-commerce turnover will be driven by an increase in the number of users, attracting e-commerce to the younger generation, who are more boldly using electronic devices and more willing to use the services of various online stores, as well as by the growth of mobile commerce. Increasing the share of mobile commerce is one of the main trends in the development of e-commerce. All over the world, mobile devices account for a growing proportion of internet traffic. At the same time, the frequency of using smartphones and tablets for ordering goods and services on the Internet is constantly increasing.

Conclusions

Thus, the impact of the Internet economy on society and economic development is quite large, and it is expected that it will grow at a significant pace. However, the analysis and evaluation of this effect is quite complex, since it requires both the inclusion of measurable factors and the study of indirect factors that are not easily measurable and require the development of a methodology for their evaluation.

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SECTION 3:

BUSINESS AND GOVERNMENT COOPERATION FOR SUSTAINABLE ENVIRONMENT AND HUMAN CAPITAL DEVELOPMENT

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BUSINESS, GOVERNMENT AND INVESTMENTS

Government policies and investments are a pervasive, important, and often positive influence on the business environment and economic development of any industrialized nation. The following are among the many government policies and actions affecting the business environment:

- The structure of taxes
- The design and implementation of workplace and environmental regulations
- The amount and nature of government support for generic technology development, research, and programs too large for single firms or with payoffs too far in the future or too uncertain to attract private capital
- The amount and nature of government investments in physical infrastructure and human capital
- The legal environment of operating a business encompassing, among other issues, the protection of intellectual property rights and the handling of liability claims

Through these and other roles, government plays an important, varied, often obvious but sometimes subtle part in determining the time horizons of corporate investment decisions. The impact of government policies and actions on business investment in technology and operating practices is the subject of a vast and continually growing body of scholarly literature and policy studies.

Therefore, recognizing the diversity, complexity, and importance of these issues, and aware of the limitations of time and expertise, the author has chosen to focus on two types of government influence on corporate investment horizons, neither of which is widely understood. First is the role of government in providing a stable environment for investment, including the role the government plays in the creation of markets. Second is the role of government in investing in complementary public assets—national, regional, or local public assets, which work in tandem with private investment to allow and drive economic growth.

Among the government policies and actions that are the most consistently damaging to long time horizons are those which create disincentives for long-term planning and investment. Late or uncertain promulgation of environmental and workplace standards often unnecessarily diverts company investment capital from longer-term technology development.

Among the ways in which governments promote long-term investment is the role they play in the creation of markets or marketplaces. First, the government's considerable buying power has created predictable markets for "public" goods, some of which have become private goods. Commercial passenger and freight aircraft, created in part by government investments in, and demand for, defense aircraft, are a classic example. Additionally, markets for private-sector weather prediction and monitoring, environmental monitoring and waste disposal, public health systems, or large-scale satellite, computer, or networking systems are based on, or were supported by, markets created by government purchases, often in combination with government R&D.

Second, the use of regulation to create or stabilize markets is an important public role in encouraging long-term investment. Government regulation plays an important role in creating safe and reliable financial and air transport markets, albeit the definition of safety in the two markets is quite different. Government's ability to create a monopoly (often regulated and designed to be temporary) during certain stages of an industry's development is another tool to promote long-term investment.

Third, the government plays a crucial role in the creation of stable markets through its role in setting formal or de facto standards. As new markets and technologies emerge and develop, standards are often unclear or in constant flux. At some point - when necessary standards and potential technologies become clear - government helps establish formal standards, or participates in setting de facto standards, by becoming a buyer and thereby promoting long-term investments in the developing industry. Such

interventions must be carefully timed to avoid freezing the system too soon or too late, but they can be enormous successes.

In summary, the government-created regulatory and legal environment has a substantial impact on time horizons of companies, but the impact is complex and multidimensional; some regulations and legal procedures can lengthen corporate time horizons, while other regulations, or legal constraints that introduce substantial unpredictability, can shorten time horizons. The importance of government policies with regard to the regulation and creation of markets needs to be acknowledged, and expertise in the use of such policies to support long-term investment should be cultivated.

The government should make sufficient investments in its own expertise and in evaluation and improvement of systems to reduce significantly the time spent in carrying out such fundamental governmental responsibilities as environmental approval of new facilities, obtaining licenses on government controlled or regulated technologies, obtaining patent approvals. The intent of such investments would be to encourage efficiency and timeliness in the prosecution of government regulatory and legal processes.

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LOCAL GOVERNMENT AND SELF-GOVERNMENT SYSTEM IN THE REPUBLIC OF BELARUS: PROBLEMS AND PROSPECTS FOR IMPROVEMENT

The Belarusian system of local self-governance has many specific features in comparison with the systems existing in other countries. It is represented by several institutions: local councils and territorial public self-government. And the main thing is the state model of local self-government, it is inseparable from the system of local governance as the state power at the local level [1; 2].

Such a state approach to building a system of local government has played and in some cases continues to play a significant and effective role in the management of socio-economic and social development of the country.

In Belarus, one of the few countries of the former Soviet Union, social stability is maintained in the society, since the government guarantees social security regardless of the place of residence of the citizen. In the conditions of preservation of the state property, changes in the economy, modernization of branches of the economy on a new technological basis, administrative methods of regional development management are considered as more acceptable.

Belarus is at the stage of transition to market economy, state property is persisted in the country, and in this situation the key task of the local authorities is to create institutional conditions for business development and support small and medium enterprises. This role is played by local authorities as local policy agents.

The components of this success are: implementation of administrative resources, personal responsibility of the head, strict control over the activities of government

agencies, including the population. At the same time, the weakness and shortcomings of the existing system of local government have recently become more and more evident.

First of all, it should be noted that the country's executive authorities, or the presidential vertical, have a stronger influence on the development of the regions. Representative bodies in the form of *House of Representatives* are not organizationally separated from the executive bodies, their task is to control and coordinate the actions of the state authorities at the local level, based on regional interests.

In the conditions of centralism, the mechanism of self-development of local communities suffers, taking into account the great diversity of cities, villages and countryside, it is impossible to take into account all the local specifics from the center, to identify the reserves of growth. Lack of consideration of local specifics reduces the efficiency of public funds transferred to the regions "from above".

The system of local governance and self-governance in the country is three-tiered (region, district, and village council levels). Functions are almost completely duplicated, only the lower (primary) level has a more limited scope of authority. Relations between the levels are based on the principle of subordination. This leads to the parallelism in the work of local authorities, the workload of employees in the preparation of various references and reports "upwards", reduces the flexibility of the system.

The same principle of subordination applies to different actors located in the regions. The formation of the private sector and the strengthening of civil society institutions have led to the fact that entire sectors have begun to fall out of the field of local government administration and management.

With regard to relations with the local community and citizens, the country is constantly working with citizens' appeals in the aspect of solving the problem of de-bureaucratization of local government bodies. In order to establish feedback on the following issues: the population - local authorities have introduced a book of complaints and suggestions, hot and direct telephone lines have been organized on a systematic basis, heads of public administration bodies and specialists carry out personal receptions of citizens, and additional guarantees for consideration of citizens' appeals have been established. Administrative procedures are carried out by citizens through the "single window" system.

However, these are all so-called "passive forms" of citizens' participation in resolving issues of local importance, mainly related to information. As for active forms of

cooperation with the local community, despite the fact that the Constitution provides for forms of direct democracy, however, due to legal difficulties they are practically not implemented in the country [3].

Centralism is also characteristic of the financial and budgetary system in the country. The level of tax autonomy of local governments is insignificant - the volume of local taxes and fees, as well as additional revenues as a result of the implementation of the rights to increase the rates of real estate tax and land tax by local governments is not more than 6 percent of local budget resources.

Thus, it is impossible to speak about the compliance of financial support and the scope of authorities of local government bodies. A significant part of local budgets is of a subsidized nature. Such a vertical imbalance between the volume of own revenues and the volume of expenditure obligations is eliminated by the system of deductions from regulatory revenues from the republic budget.

There is also a so-called horizontal imbalance, i.e. inequality of fiscal capacity per capita at the level of different districts, which is equalized by means of inter-budgetary transfers. However, in the absence of a clear scheme for calculating the size of such transfers to administrative-territorial units, equal access to the budget resources of regions is not guaranteed.

In all the above mentioned problematic areas of local government in the country today there are trends of its improvement, the growth of new relations, a new type of interaction, the state, the population, economic and other entities located in the territory. A number of initiatives aimed at improving the local government system have emerged in the course of the implementation of international projects, including those with financial support from the European Union.

Decentralization has been developed in the form of local community initiatives. In the country, the process of involvement of the population in the economic life of the regions, participation in the real solution of local community affairs through participation in project activities and the promotion of local initiatives within the framework of international technical assistance has been actively developed. As it is known, the initiative of the local community, citizens of cities and regions is one of the prerequisites for strengthening the institution of local self-government [4].

Further improvement of the system of local governance and self-governance in Belarus is proposed in the following areas.

1. Reform of local government and self-governance bodies is a comprehensive reform, it should be implemented simultaneously with changes in the administrative-territorial division, reforming regional financial and budgetary relations.
2. In Belarus, taking into account traditions, mentality, peculiarities of the existing period of transformation of the economic system, it is necessary to preserve the state power at the local level. Perhaps, it will be a modified version of the presidential vertical of power.
3. It is necessary to develop a full-fledged institution of local self-governance, which exercises power under its own responsibility, has its own terms of reference and appropriate financial resources. It is expedient to carry out it at the grass-roots territorial level. However, the existing level of village councils is small. Therefore, it is necessary to improve ATD (administration territorial division).
4. It is necessary to change the content of management functions, moving away from administrative methods to indirect and economic management tools, especially taking into account the development of market relations. Here, digital technologies should be the driver of fundamental changes, the use of which will reduce the state apparatus, ensure transparency of the management process, and facilitate contacts between the authorities and the population.
5. It is necessary to actively form various communication institutions between different players involved in the regional process, to introduce contractual partnerships, to gradually promote the fact that the relationship of social contract between different social and economic groups, the dialogue between the authorities, business, and the local community would ensure social stability and harmony in society, which is a true democracy.
6. Education, increasing professionalism of managerial personnel, changes in mentality, overcoming the psychology of dependency among citizens, new forms of work with the local community should be the important directions.

These approaches are consistent with the basic principles of the European Charter of Local Self-Government and take into account the Belarusian specifics. It will take a long period of time, especially taking into account that Belarus is a young independent state, where reforms are implemented gradually, in an evolutionary way.

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INTERNATIONAL NEW VENTURES/ BORN GLOBAL: RISK MANAGEMENT ASSOCIATED WITH EARLY INTERNATIONALIZATION

Risk and early internationalization is described as being influenced by many different factors, any of which can impact the outcome of the internationalization. Therefore the following question is asked: How do International New Ventures and Born Global manage risks associated with early internationalization?

Scholars have used theories throughout the literature to find an explanation for how managers and CEO's perceive risk and manage risky situations, however, during internationalization there are several other factors to be aware of, for instance, environmental and economic factors, which may lead to risky behaviour by the management, or the firm may face unknown risks caused by environmental conditions, which again could change the outcome of the internationalization. The studies have all investigated different research objectives and by posing differing research questions they have ultimately come to either different or similar conclusions.

The authors in the international new venture literature focus on the different types of challenges these young firms may be facing, however an important aspect, and the focus of this paper, is the risk involved in internationalization. Risk implies a probability of a negative effect; there are two aspects of risk, the uncertainty surrounding a given event, or the adverseness of the effect. Risk is therefore characterized by its likelihood and impact. In layman's terms, this can simply be called the odds, we may know the main parameters and we may be able to calculate the odds, but likelihood and impact may not be quantifiable, which is inherent to the concept of risk. We do not know, what we do not know, and as such, only in the most predictable cases can a likelihood and effect be quantified. Low predictability often occurs when there is little historical data available.

Risk is best understood in a context; it is not enough to talk about an uncertainty and the odds of these happening. Some companies ease their market entry by forming a strategic partnership, and thus manage it by sharing some the risk, with the goal of gaining a competitive advantage in the new market. However, having a partner may carry its own risk, and may also leave the company open to an unintentional knowledge/capability transfer. Finding a partner is one way for an INV/BG to reduce its financial risk and increase the advantage of a market entry.

We therefore know that INV's/BG's can avoid or mitigate certain risk events, but we do not know how the decision is made, or what actions are taken in regards to specific risk. Simply stating that using network connections can mitigate risk is not enough, the probability of impact and the type of loss should also be considered, and how this knowledge has led the firm has come to the decision, that the best outcome for the firm is achieved through a partner has to be investigated too.

It is also relevant to consider performance in small businesses, which can be measured in many different ways, and to some it's complex definition, full of many dimensions, while others find it very simple. Prior studies have regarded small firm's performance from three perspectives: economic, sustainable and personal. Most researchers focus on the financial growth of a firm and this study will use previous studies as it main data information, which means it is only logical that financial performance is the most valid to consider.

A few economic performance key points from the owner/manager's perspective are:

1. *Focus on shareholders and debt holders' interests, emphasis on past events*
2. *Financial returns*
3. *Financial variables or indicators*
4. *Profit maximization, pursuit of growth*
5. *Firm's growth and liquidity, satisfaction of customers, quality of products and services offered*

One or more of these key points should be present when regarding economic performance, and while the reviewed articles will focus on risk and risk assessment, performance should also be kept in mind, and reducing risk exposure should inherently increase performance.

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USE OF SMART CONTRACTS IN INTERNATIONAL TRADE

Introduction

Blockchain is expected to revolutionize various areas of life, including international trade. An extremely interesting feature of blockchain technology is smart contracts. A smart contract is a computer protocol intended to digitally facilitate, verify, or enforce the negotiation or performance of a contract. Smart contracts allow the performance of credible transactions without third parties, which can be used in international trade from trade finance to customs procedures and intellectual property. The potential of smart contracts to increase the efficiency of trading processes is of interest to businesses and governments. The paper examines the importance of blockchain and smart contracts for cross-border trade operations and the impact on various stages of international commodity trade - from trade finance to customs procedures, certification and transportation, and logistics.

Literature overview

Through a comparative study of existing smart contracts and their platforms, Tianyu Feng, Xiao Yu, Yueting Chai and Yi Liu (2019) summarized the shortcomings of smart contracts and the prospects for its further development and research directions. The document summarizes the shortcomings of traditional contracts and existing smart contracts and proposes to address them. The paper presents a model of a smart contract for computer performance, with an improved structure according to the nature and needs of smart contracts. For ease of computer performance, the authors have proposed a method of decomposing smart contracts.

In a theoretical study by Kardonov A. (2018), devoted to the areas of smart contracts and risks when working with them, the author provides a classic example of the use of smart contracts - customer protection service on Aliexpress. Among the risks explored by the author in the development of smart contracts, the compromise of services that bind the real world to the digital (such as light sensors), the loss of access is associated with the loss of private key, the imperfection of legislation.

In a theoretical study of the legal side of smart contracts, Mark Giancaspro (2017) expresses concern that smart contracts will have significant difficulties in adapting to the existing legal framework governing contracts between jurisdictions. The author addresses potential legal and practical suitability issues arising from the use of reasonable contracts within both civil and general jurisdictions.

A study by Niels Hackius, Moritz Petersen (2017) on the analysis of the current state of Blockchain in logistics and SCM (Supply Chain Management) presented four examples of possible applications of Blockchain in logistics and SCM, which are studied in theory and practice. The authors presented the results of a survey conducted in the Logistics and SCM sector and examined participants' views on the use and benefits of Blockchain. The results show that Blockchain is expected to have a significant impact on the logistics industry and should be considered as a way to improve the industry.

In the context of logistics, improving port logistics by using blockchain technology to develop smart ports is relevant. V.V. Shcherbina (2019), exploring the problems and tasks of the development of port logistics in Ukraine, notes that blockchain technology is a promising direction for the development of port complexes to improve the efficiency of current supply processes. The author describes the process of shipping containers using smart contracts, the Internet of Things and blockchain technology, which enables automation of logistics processes for cargo delivery. The development of digital logistics contributes to the emergence of smart ports and smart regions, which eliminates the need for paper documents.

In the work on the perspective of transaction value using distributed ledger technology in supply chains, Dominik Roeck, Henrik Sternberg, and Erik Hofmann (2019) found six effects of distributed ledger technology that reduce costs or avoid costs in supply chain operations. Also, the authors note that the use of smart contracts reduces the dependence of the supply chain on third parties.

Results

International trade agreements involve many entities and paper documents. There are four main categories of international trading operations: commercial transactions, transport operations, trade financing and official controls. These operations are accompanied by the relevant documents: offer, purchase order, invoice, insurance documents, promissory notes, sanitary and phytosanitary certificates, certificates of conformity, etc. Not only does this increase administrative costs, but also errors, losses and fraud occur. Considerable work can be observed to digitize cross-border trading

operations, including research into how smart contracts can be used to reduce export-related documents.

Many financial institutions are working to simplify financial transactions. A series of digital smart contracts allows them to execute an agreement automatically. For example, Bank of America, HSBC, and the Singapore Development Authority (IDA) have created a blockchain application to improve the credit process.

An increasing number of trading operations are occurring on an open account basis in which goods are shipped and delivered before payment is due. Open account trading is the riskiest for exporters. Risk reduction is possible with smart contracts. For this purpose, a platform was created on the basis of the blockchain We.trade, numbering fourteen banks (data for October 2019). The platform registers merchants through banks, after which importers and exporters can record their transactions on the platform by agreeing to the terms of the contract. A reasonable contract provides for a guarantee of payment and automatic settlement when the agreed terms between the parties are fulfilled. We.trade is just one of many projects working in different parts of the world, including a joint IBM project with the Indian company Mahindra and Chinese Sichuan Hejia, the ChainedFinance project, the Marco Polo platform.

The use of smart contracts for trade is of interest to public authorities. In March 2017, Hong Kong's Monetary Policy Authority introduced a blockchain financing platform, with Singapore authorities working with IBM Center for Blockchain. A joint project to develop a global communications trading network, cross-border blockchain infrastructure to digitize trade between Hong Kong and Singapore has also been announced.

The use of smart contracts can increase the efficiency of customs clearance processes and reduce the need for manual verification. In particular, it will allow: submit requests for preliminary decisions, facilitate processing before the arrival of goods and speed up the process of delivery of goods, optimize risk assessment, improve the accuracy of trade and statistics.

But there is not enough technology. Legal frameworks will need to be developed to explain, for example, the legal status of electronic documents. Smart contracts are only used to automate processes and guarantee payment when terms are agreed. They only cover the operational elements of an offline contract. Also to the need for a legal framework, globally harmonized standards are needed for the widespread use of technology.

Political support is needed to facilitate trade integration and create a legal framework that facilitates paperless trade. However, the success of smart contracts will ultimately depend on whether companies see the value in this decision. This will depend on how much the benefits of technology outweigh the costs of adapting current systems. Outside of legal issues, this is possible if the various aspects of an international trade operation, including customs procedures and logistics, are digitized. Stakeholders of using smart contracts in international trade are banks, customs, logistics, governments, and regulators.

Conclusions

The goals of using smart contracts are to fulfill the terms of the contract, minimize errors and intermediaries, reduce costs. Using smart contracts makes it paperless, streamlines business operations, transportation operations, trade finance, and official controls.

Technology is of interest to financial, transportation, insurance companies, government agencies, infrastructure entities, which is accompanied by the development of projects using smart contracts. However, the widespread use of technology requires the creation of a legal framework, globally harmonized standards that ensure interoperability. Smart contracts can make international trade smarter, but it requires reasonable standardization, possible with the collaboration of companies, software developers, governments and intergovernmental organizations.

The success of smart contracts depends on political decisions and, most importantly, on whether companies see the value in this decision.

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THE LACK OF HUMAN INTELLIGENCE AND THE MISUNDERSTANDING OF MODERN MEDICINE: IDEAS OF TRADITIONAL CHINESE MEDICINE

With the continuous improvement of modern medical technology, the means become more and more complex, but many traditional diseases have not been cured. Because in addition to micro factors such as cells and molecules, human diseases are also affected by macro systems such as nature and society. Chinese traditional medicine regards human as the synthesis of nature, biology, society and spiritual system. It treats disease and health problems from the harmonious relationship between human and nature, society and itself, which is simple and effective.

To establish a harmonious relationship with oneself, we need to form a reasonable living habit. For example, in eating habits, traditional Chinese medicine advocates eating to keep seven points full, and hunger therapy is often used in treatment. Modern research shows that human genes contain hunger factors, which can stimulate human life instinct. The state of fullness and over nutrition of modern people will cause the body to make wrong reactions, such as: endocrine disorders, hyperlipidemia, diabetes and other symptoms.

The doctor-patient relationship of traditional Chinese medicine plays an active role in the treatment of diseases. In the process of diagnosis, TCM will listen to the patient's narration, understand the medical history and introduce the treatment methods to the patients. The effective communication between doctors and patients improves patients' mood, and some patients have improved in the diagnosis process. As TCM has a comprehensive understanding of the patient, it will prescribe precise prescriptions for the patient. However, modern medicine relies too much on instruments and man-machine conversation replaces doctor-patient communication, which is a deficiency in humanistic care and psychological comfort.

Human health is inseparable from social culture. Chinese medicine has great vitality because its health care awareness is integrated into the whole traditional culture and

reflected in social behavior. Such as: tea culture, tea has health care function, is the Chinese people's daily drink. Traditional Chinese medicine believes that Enron's mentality is the best medicine, and it is the characteristics of Chinese traditional culture to pay attention to the spirit of peace and introversion.

Human health is closely related to the social environment. According to traditional Chinese medicine, an excellent king has the same wisdom and responsibility as an excellent doctor: they are all for solving people's sufferings. It takes a wise doctor to treat individual diseases, and a wise king to treat diseases of the whole society. At present, in the face of thousands of smokers, alcoholics, drug users and AIDS patients, doctors alone can not solve the problem of human diseases.

For economic purposes, human beings are still producing harmful food, using unhealthy methods to treat diseases, and engaging in medical research against social ethics. In some countries, medical treatment and drug production have become lucrative industries. Every year, thousands of people lose their health and lives due to wars, environmental pollution and various industrial accidents. Without eliminating the social causes of diseases, medicine can not completely cure human diseases.

How to treat human diseases is not only a scientific problem, but also a problem of wisdom. It is also a philosophical problem of how human beings view themselves. Western medicine relies on high technology, while traditional Chinese medicine relies on wisdom. Traditional Chinese medicine discusses disease and health in natural system and interpersonal relationship, and believes that disease is not only a biological phenomenon, but also a social and spiritual phenomenon. In the early stage of the disease, TCM intervenes in time to prevent the disease from developing to the extent that surgery is needed. It provides a valuable solution for human medicine.

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USER EXPERIENCE DESIGN METHODS AND EMPATHY IN INFORMATION TECHNOLOGIES

The Research proposal is about how design playing a most dominant part in Information technology industry and difference between the growth of companies with no User experience and with UX. Here the candidate's main focus about how user experience help any product or company to change its value in the digital market and listing out the main UX methods to enhance any product quality and make client friendly. The second part of research is about "EMPATHY" in information technologies (web or product design). Empathy plays a major role in user experience designing as it considers what clients wants and how they want any product to function.

The clients wants any product to function well when company handed over to them but what happens is the product has some problem or the users unable to understand how to use it, then the user experience comes to work by knowing what the client wants and makes the product simple by removing all complications from the product and making it user friendly. The user experience designer uses certain methods and tasks to obtain user empathy which indeed helps to make product more usable.

The main points to discuss in research are the following: user interviews, ethnography, user surveys, contextual inquiry, card sorting, user statistics.

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INVESTMENTS IN KNOWLEDGE AND INNOVATIONS IN E-BUSINESS IN NIGERIA

Nigeria has a bold vision of becoming one of the top 20 economies in the world by 2020, as outlined in its “Nigeria Vision 2020” strategy. Although currently eighth in the world in terms of population, the country ranks 41st in terms of GDP and 161st in terms of GDP per capita. Despite being one of the poorest countries in the world, Nigeria is a powerhouse on the African continent by virtue of its size. Its vast oil wealth also promises much in the way of potential finance for development.

Knowledge has always been central to development. Traditionally, cultures that knew more than others were better able to adapt to their environments, survive, and thrive. Knowledge is becoming truly global, accessible, and democratic. The impacts of this paradigm shift are all around us. The challenges faced by the Nigerian education system are great, but so too are the potential and the scope for meaningful government participation as an architect, provider, and partner, rather than just as a regulator.

To improve access, quality, and funding of education, Nigeria must harness the contribution of the private sector. Government can play a catalytic role in the process of building strong public-private partnerships that could provide funds and know-how to improve curricula and realign research priorities. A stronger and continual exchange among schools, universities, research institutions, government agencies, and private firms can help cater to the needs of industries and produce more employable graduates, thus reducing the serious problem of unemployment among Nigerian youth.

The first step toward adopting an innovation culture is to adopt existing technologies and adapt them to the local situation. As demand exceeds the supply of skilled human resources, and labor rates in Asian economies edge upward, Nigeria has the potential to absorb existing technologies and production systems, especially in the services industries. Nigeria’s production systems are far from efficient and there are great potential gains to be achieved simply by moving toward more modern and efficient

production techniques, especially in the service sector. In practice, many of these improvements will come through increased FDI in nontraditional sectors, especially ICT, tourism, and financial services.

Nigeria's innovation system is not as well-developed as those of other African comparator countries. The country needs to strengthen the collaboration between its universities and the private sector. Higher education institutions have few formal linkages to industry, and as a result tend to continue teaching outdated materials and producing graduates who are ill-equipped for the working environment.

This is an opportune time for Nigeria to begin its transition toward a knowledge economy. Dialogue and partnerships should be used to encourage the development of research communities in order to build the national innovation system. This will help Nigeria attract more FDI and research and development resources to establish national centers of excellence.

Nigeria boasts the largest population in Africa – set to increase from 180 million today to 440 million by 2050, with gross domestic product expected to grow between 4.5 and 9 percent each year in between. With 38 percent of Nigerians now connected to the internet – a figure that's on the rise fueled by a growing middle class – our e-commerce industry clearly has potential.

But reaping these online rewards isn't straightforward. To encourage Nigerians to make more online transactions the e-commerce industry must find innovative solutions to the table stakes of online sales, such as fast and easy payments and refunds, and trouble-free deliveries and returns. Perhaps it's the passion and commitment involved in bringing Nigeria's strong trading culture online that makes our country an attractive proposition for investors.

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HUMAN ASPECT AND INDIVIDUAL INFLUENCE IN BUYING DECISIONS

It is difficult to change from decentralized to centralized level mainly at human level. Generally speaking there is low communication and integration between different buyers from different sites of a group which affects centralized purchasing.

“Nearly 80 percent of the senior executives surveyed in a 2005 study said that effective coordination across product, functional, and geographic lines was crucial for growth. Yet only 25 percent of the respondents described their organizations as “effective” at sharing knowledge across boundaries”.

http://www.mckinseyquarterly.com/Mapping_the_value_of_employee_collaboration_1827#foot3#foot3

In centralized purchasing, buyers from different sites, branches and divisions have less power to take decisions. They have to provide all information at group level and then wait for the final decision. It can demotivate them and lead them not to be interested in sharing information with their colleagues from branches and at group.

There is not only motivation but individuals demographic and psychological traits also affect the group buying decisions.

Group purchasing decisions are taken by centers composed of different individuals from different functional areas within an organization such as: purchasing, marketing, finance, engineers and other stake holders. So, we cannot miss this thought of an individual’s influence over group center buying decisions.

These individuals influence sometimes make it difficult for companies to make final decision in a central meeting to choose between centralized or decentralized purchasing even though they know the benefits of it.

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E-BUSINESS AND SOCIAL CAPITAL

Social capital is an economic idea that refers to the connections between individuals and entities that can be economically valuable. Social networks that include people who trust and assist each other can be a powerful asset. These relationships between individuals and companies can lead to a state in which each thinks of the other when something needs to be done.

Along with economic capital, social capital is a valuable mechanism in economic growth. As technological advancements continue to make the world smaller and the global population more interconnected, companies rely on social capital more than ever to drive business. While in decades past, companies could rely on persuasive marketing to get customers in the door, in the 21st century, those customers are plugging into social networks and relying on their peers to direct them to a provider when a business need arises.

E-business runs better when people within a company have close ties and trust one another. But the relationships that make organizations work effectively are under assault for several reasons. Building such "social capital" is difficult in volatile times. Disruptive technologies spawn new markets daily, and organizations respond with constantly changing structures. The problem is worsened by the virtuality of many of today's workplaces, with employees working off-site or on their own. What's more, few managers know how to invest in such social capital. The authors describe how managers can help their organizations thrive by making effective investments in social capital. For instance, e-business companies that value social capital demonstrate a commitment to retention as a way of limiting workplace volatility.

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KNOWLEDGE TRANSMISSION, ADAPTATION AND INNOVATIONAL PROCESSES: INTRODUCTION OF E-LEARNING

The constant skepticism emanating from the profound longevity with respect to the World Economic crisis has demonstrated the diminishing governmental allocations that are characterized to be attributed to the Education Sector of their Economies; and as a result, weakened the aspiration of Scholars, Researches, either in their pursuit for the traditional educational systems or their attunement to the new models available and provided by intuitive thinkers drawn from Anglo-Saxon Universities of higher learning environment that propose what has been characterized as “E-Learning Synergy”. It is interesting to acknowledge the meaning of knowledge in it’s formational origin that comprises of “Know” and “Ledge”; and in Greek,.. as examples, that an inherent, inexpressible, accumulation of thoughts that are found in an individual, who through several years of research and the sharing of what seemed to be inherent, into potentially viable receptors or scholars that are ready to receive such inherent thoughts and to impacting and re-energizing that that they initially have obtained in their scholarly years at Colleges or other environments where standardized information-sharing systems are adopted within the reach of potentially viable scholars of a mean time.

The E-Learning energizing approach, though it has been Contrary to the existing old form of globalization where non-Compromising innovative Methods were thus said to be applied by trading Polities/entities, whose goals and objectives are quite far from the apparent Knowledge of the recipient trader-Nation; in spite of the *dissonances* as to the exact age of such trading Nations; the Later (E-Learning energizing approach) has tended to shorten the Knowledge transmission; and as it were, that the said becomes and will still be “a global Intellectual Property” for the enhancement of Future prospective development efforts for Mankind in general.

The pre-eminence of skepticisms thus faced by National Polities in their distinct Economic environments has caused very many contemporary Scholars & Researchers to pre-emptively raise some pertinent questions as to how “Knowledge transmission per se could prominently single out itself as the only tooting-tendency Factor that Trading & Competing Nations have to keep in mind in their diverse and Complex diplomatic proceeds of the 21st Century, will certainly be analyzed in detail under the following sections of this brief & short article, and notably

- (i) Globalization: the reinforcing Vector of Knowledge transmission,
- (ii) Knowledge Adaptation: the art of innovativeness inherent in Man in a given Society or Environment
- (iii) The apparent Prospective Knowledge & Perspective for both Endogenous & Exogenous growth.

Globalized Educational affinities are seen not only as a new wave of enhancing formal classroom attitudes, but also, has effected character building at the time and space chosen by the recipient scholars, that are geographically located in their distinct Nations. The structures and amenities at the disposal of Universities and institutions of higher learning in the world at large, in spite of its costs, are changing the scope of learning through the re-invigoration of knowledge transfer or transmission. However, potential scholars around the world, through their inherent and distinct perceptions, have come to realize that in spite of today’s globalization where National economies are bound to compete and to survive in this uncertain world Economic Environment, they are assuming and forging new notions as to how knowledge that is transmitted could indeed boost their aspirations for professional development for an endogenous National development. The globalization of Education has thus set the Pace for Knowledge transmission *in vitro* where scholars around the World appreciate all that touches New Knowledge and the specifics that it tends to grant, in terms of innovation equation and its aftermath, is but the Notion that is to be developed.

CONCEPTUAL APPROACHES TO THE PERSONNEL SECURITY MANAGEMENT UNDER THE NEW ECONOMY

The new economy has experienced dynamic development globally, it is known to create new opportunities for development and horizons of promising prospects, but also to facilitate a new scale of existing threats and fundamentally new risks of multi-vector hazards. The development of high technologies and information systems, the turbulent trajectories of a changing market economy, and the deployment of a behavioral economy create the preconditions for numerous threats to the successful activity of enterprises. "New economy" is a somewhat isolated component of the economy, elements of which in all their diversity and their integrity are characterized by a high propensity for variability, renewal, polarity, transformation into their new versions, intensive inclusion of components that begin to meet the criteria of new economy, that no longer meet these criteria.

The lack of comprehensive scientific approaches to the quantitative features of the level of personnel security, the importance of diagnostics of the personnel situation by sources of potential risks and threats during the formation of a new economy is an evidence of the need to monitor personnel security. Indicators of the state of personnel safety according to the blocks "perfection of the organizational and legal environment", "degree of satisfaction with work", "psychological stability of employees", "technical level of communication" with appropriate indicators of diagnostics will allow to carry out a comprehensive study of risks and threats to the personnel security by the different sources of its origin.

The author shares the view of those scientists who consider the personnel security of the enterprise as a subsystem of its economic security, the functioning of which serves the purposes of counteracting threats to the internal and external environment, aimed at achieving a dynamic equilibrium and interpreted from the point of view of the process of preventing negative effects of the economic risks threats to staff, their intellectual potential and social and labor relations in general. According to the author, the

personnel safety of the enterprise is a multidimensional process of personnel management at all its stages (search, selection, assessment of competence and identification of psycho-emotional qualities, motivation and formation of loyalty to the enterprise, etc.), which allows timely forecasting and identification of possible risks and threats by the staff, to ensure the economic security of the enterprise by creating a clear monitoring system for personnel processes and situations, which will allow to counter threats to the internal and external environment.

Modern activities of enterprises in Ukraine indicate that ensuring economic security at domestic enterprises is gradually turning from a purely theoretical to a practical problem. Now owners and management of domestic enterprises are no longer discussing the feasibility of ensuring economic security, but how to ensure it - without large-scale structural adjustments that can significantly affect the activity of the enterprise, and significant investments that domestic enterprises simply do not have.

The study found that the definition of "personnel security" in today's scientific environment is interpreted mainly in terms of staffing in the context of risks and threats that cause damage to the enterprise. The author's vision of the theoretical construction of the concept of "personnel security of the enterprise" is based on its complement as an economic security subsystem, aimed at achieving dynamic equilibrium and counteracting threats to the internal and external environment, preventing risks and threats related to staff, its intellectual potential and social potential - labor relations in general. According to the author's concept the personnel security of the enterprise is a multidimensional process of effective personnel management at the stages of formation, use and development of human resource.

It is determined that the monitoring of personnel security should be carried out on the basis of several groups of indicators. Indicators of the state of personnel safety according to the blocks "perfection of the organizational and legal environment", "degree of satisfaction with work", "psychological stability of employees", "technical level of communication" with appropriate indicators of diagnostics will allow to carry out a comprehensive study of risks and threats to security from different sources.

It is proved that the use of modern approaches and models of diagnostics of risks of personnel threat on the basis of behavior analysis, which is caused by psychological characteristics of the person and his place and perception in society, allows to identify employees who potentially present a threat to the personnel security of the enterprise. This can prevent losses caused by a breach of economic security due to leakage of

confidential information and adjust employee behavior before the negative factor becomes critical.

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Requirements for papers

- Papers are accepted in English and French. Good English and French spelling and punctuation are preferred. Papers should be written in a third person, impersonal style and any use of 'I/we' should be avoided.
- Papers should not normally exceed 10,000 words. All papers are refereed by acknowledged experts in the subject.
- Abstracts of approximately 300 words are required for all papers (abstract in English and French is required for articles written in French).
- Paper should include no more than 7 keywords.
- Papers should be compiled in the following order: title page; abstract; keywords; main text; acknowledgments; appendixes; references.
- The introduction should clearly define the nature of the problem being considered. The new contribution the paper makes should be identified and situated in relation to the relevant scientific literature and, wherever possible, the practical relevance of its results should be indicated. The "Regional Innovations" journal will publish papers that evaluate important topics relevant to new areas of emerging research and policy.
- All the authors of a paper should include their full names, affiliations, postal addresses, telephone numbers and email addresses on the cover page of the article. One author should be identified as the corresponding author.
- For all papers non-discriminatory language is mandatory.
- Tables should be prepared on separate sheets; they should not be embedded within the text. Each table should have an appropriate caption.
- All photographs, maps, charts and diagrams should be referred to as "Figures", and should be numbered consecutively in the order in which they are referred to in the text. They should be prepared on separate sheets.
- Endnotes should be marked clearly in the text at a point of punctuation, and listed consecutively at the end of the paper. They should not be listed at the bottom of each relevant page.
- The full references should be listed at the end of the paper. They must include the names and initials of all the authors, the year of publication in parentheses, the full title of the paper (or book), the full name of the journal, the volume number and pages and, for books, the publisher's name and city of publication. The references in the text should be done in square brackets (for example, [2; 4; 15]).

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