

THE MULTIDISCIPLINARY JOURNAL OF SCIENCE AND TECHNOLOGY

VOLUME-5, ISSUE-2

COMPARATIVE ANALYSIS OF THE NUMBER OF INITIAL PROCEDURES FOR BUSINESS REGISTRATION AS A CONDITION FOR ITS DEVELOPMENT IN THE MODERN DIGITAL ECONOMY FROM THE PERSPECTIVE OF THE ARAB WORLD, EURO AREA, EAST ASIA & PACIFIC AND NORTH AMERICA COUNTRIES

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ABSTRACT

Information is increasingly gaining key positions in the modern world. Information permeates all relationships between any business entities. Without proper information and data, sustainable functioning and development of individual economic agents is impossible. Therefore, modern economic development is based on the use of various methods of the digital economy. The efficiency of using such methods, as well as the ease of doing business, its availability is reflected in the number of initial registration procedures for opening a business. In general, such a number of initial procedures also determine the amount of time to open a business, which is a fundamental factor in the conditions of the modern digital economy. Based on this, the work considers comparative aspects of the availability of opening a business from the point of view of different economic and mental regions. The basis of the comparison is the number of permitting procedures and the time to open them, taking into account the gender factor of the business manager. The results of the work are presented in the form of various graphs and diagrams, which allows you to understand the course of the study, assess its reliability.

Keywords: Business, Registration, Digital Economy, Comparative Analysis, Initial Procedures, Gender Factor.

Introduction

Modern economic development of both individual business entities and the country as a whole largely depends on the introduction of modern technologies for the use and transmission of data [1], [2]. Such technologies accompany all stages of the formation and subsequent functioning of various business structures, allowing the use of individual specific methods and approaches [3]-[5]. This allows us to talk about the effective use of the digital economy, which determines the possible directions of economic interaction and the functioning of various economic structures, business development.

In this case, special attention should be paid to the initial stages of business development, where the determining factor is the passage of the initial procedures for registering and opening a business. Such indicators are fundamental factors in the implementation of modern digital technologies; characterize the ease and accessibility of implementing various business ideas. At the same time, it is advisable to compare different regions for a deeper understanding of the processes taking place, assess the effectiveness of using modern procedures of the modern digital economy. For the purposes of such a comparison, various methods and approaches are used, both classical from the point of view of economic science [6]-[22], and special ones that can give certain clues for the implementation of innovative ideas of the corresponding analysis [23]-[36].

It should also be taken into account that the time of business registration is affected by the number of permitting procedures; the average time spent on one such procedure; the possible influence of gender factors, which generally allows for extensive comparative studies. It is also important to consider different regions with their own economic and mental specifics. All this allows us to consider the different specifics of business development in the context of the modern digital economy.

Thus, the main objective of this work is to conduct a comparative analysis of the number of initial procedures required to register a business as one of the elements of its development in a modern economy based on innovative digital technologies. For these purposes, a brief analysis of relevant studies, time characteristics and the number of necessary procedures from the point of view of individual regions is carried out.

Related work

The topic under consideration is multifaceted, so there are many works that concern both theoretical and practical aspects of solving individual problems. For a better understanding of the purpose of our study, let us consider some of them.

The study [37] notes that the actions of modern businesses in the digital economy are unique and distinctive. This is due to the growing risks and uncertainty in making strategic decisions. In turn, this is due to the instability of conditions due to dynamic changes at the technological level, increased competition, and the influence of the state on the economy. Therefore, in order to survive and develop in the new environment, companies should improve their competence in the field of digital information technologies [37]. This determines the adaptation of strategic management tools to the external environment, which determines the corresponding comparative analysis. At the same time, it is also necessary to consider the main trends in changing the digital business environment at the macro and micro levels, where the key point is the ability to quickly and easily register a business.

S. Bogachov, T. Pluhatar, O. Plakhotnik, O. Alieksieieva and V. Bondar emphasize that business development in modern conditions requires a comprehensive consideration of internal and external factors of the system under study, which involves a comparative analysis for a better understanding of the processes under study [38]. Therefore, it is also important to consider the theoretical and methodological aspects of managing business development in the digital economy. The authors also note that various indices and ratings can be used for these purposes. At the same time, the time characteristics necessary for starting a business should be highlighted here. This is due to the fact that such procedures indicate the ease and accessibility of starting a business. Therefore, it is also advisable to conduct a comparative analysis in terms of various business opportunities in individual regions. In particular, such regions can be characterized by some mental and economic aspects of doing business.

A. Z. Tayibnapis, L. E. Wuryaningsih and R. Gora examine the importance of digital economy for business development in Indonesia [39]. This analysis is based on the consideration of the number of Internet users, the value of the e-commerce market in Southeast Asia. At the same time, the work notes that on the one hand, the development of digital lifestyle and industries based on digital technologies has become a necessity, but on the other hand, a “serious threat” to traditional and conventional enterprises [39]. This result is a change in consumer purchasing characteristics and the corresponding impact on business development. For the analysis, the authors use primary and secondary data with an emphasis on micro-small and medium enterprises (MSMEs) and consumer behavior as Internet users (smartphones) [39].

A. A. Junaydulloyevich and K. Z. Abdullaevna consider the use of digital technologies in business, as well as their impact on the economy as a whole [40]. The essence of the concept of the digital economy, its positive and negative sides are also revealed [40]. Particular attention is paid to the possibility of conducting a comparative analysis to study the possibilities of doing business in different countries.

A. Abraham, J. Mathew and S. Thomas study the possibility of using various resources to run a business [41]. The authors assume that most business idea innovators believe that it is difficult to create a company, find funding for its launch and manage it [41]. Therefore, it is important to know the conditions for registering a business and the time required to open it. This confirms the advisability of conducting relevant studies, especially in a comparative aspect.

R. Štefko, R. Fedorko, N. Svetozarová and L. Nastišin study the motivational aspects of starting a business, where the initial business registration procedures and the time required for their

implementation are of no small importance [42]. This study is based on a survey of 100 respondents. The results of the analysis showed that the low level of awareness of potential entrepreneurs may subsequently be reflected in the low efficiency of their business [42]. And this negative effect may be amplified already at the first stage of opening a business, in the case of lengthy opening procedures.

V. Filimonau, U. Matyakubov, M. Matniyozov, A. Shaken and M. Mika examine the specifics of running a business among women entrepreneurs [43]. The authors note that this knowledge is important because it can support regional revival and poverty reduction policies [43]. This study was conducted using 18 companies from Uzbekistan and 15 companies from Kazakhstan as examples and is based on Bourdieu's model of practice [43]. The work shows that local cultural traditions strengthen different types of capital, enhance the knowledge base and shape the habitus of women entrepreneurs in critical times [43]. Therefore, it is important to consider the gender factor in such studies.

Thus, based on the above, it is important to emphasize the importance of conducting the study considered in this article. It should also be noted that various approaches for comparative analysis can be used here. However, the basis for such a comparison is primary data, such as the number of permitting procedures and the time required to complete them. At the same time, it is advisable to select regions for comparison in order to conduct the corresponding study. The following regions are considered: Arab World, Euro area, East Asia & Pacific and North America.

Time costs for starting a business and the number of permitting procedures for a number of studied economies of individual regions

Below are specific examples of the dynamics of the number of permit procedures and the time required to complete them in the regions that were selected for subsequent analysis. Such regions were selected based on their distinctive economic and mental aspects. All data from the website – <https://data.worldbank.org/indicator>. These data are considered for the period from 2003 to 2019, which allows for the corresponding analysis to be carried out in retrospect.

On Fig. 1 shows the dynamics of the number of permitting procedures and the time required to complete them for the Arab World and Euro area countries.

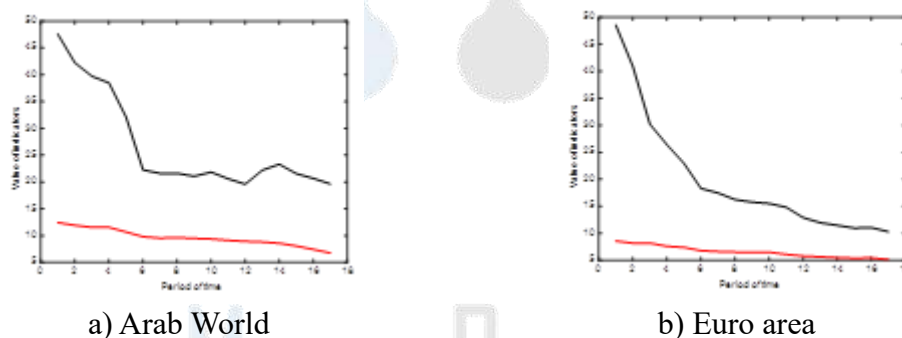


Figure 1: Generalized dynamics of the number of permit procedures and the time required to complete them for the Arab World and Euro area countries

In Fig. 1, the dynamics of the number of initial procedures for business registration are shown in red, and the time (days) required to implement such procedures is shown in black.

First of all, it is worth noting the general dynamics in both the reduction in the number of initial procedures for registering a business and the time required to complete such procedures. This is typical for both the Arab World and Euro area countries. At the same time, for the Arab World countries, the time required to complete permitting procedures has stopped decreasing radically since 2009 and fluctuates around 22 days. For the Euro area countries, the corresponding stabilization has

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been observed since 2016 and fluctuates around 10.5 days. In general, for the Euro area countries, opening a business is easier and more accessible than for the Arab World countries. This is also confirmed by the number of procedures required to register and open a business.

If we talk about the gender factor of influence on the time of registration and opening of a business, it should be noted that for the Euro area countries such differences are not observed. For both male and female managers, the number of procedures for opening a business and the time spent on this are the same.

For the Arab World countries, this situation is somewhat different. Thus, in terms of the number of procedures required to register a business and, accordingly, the time required to complete them, it is insignificant, but less for a business run by a man. At the same time, if we consider the average time for one procedure of opening a business, female managers spend slightly less time than male managers (see Fig. 2). It should be noted that the dynamics of the average time for one procedure of opening a business for male and female managers is the same.

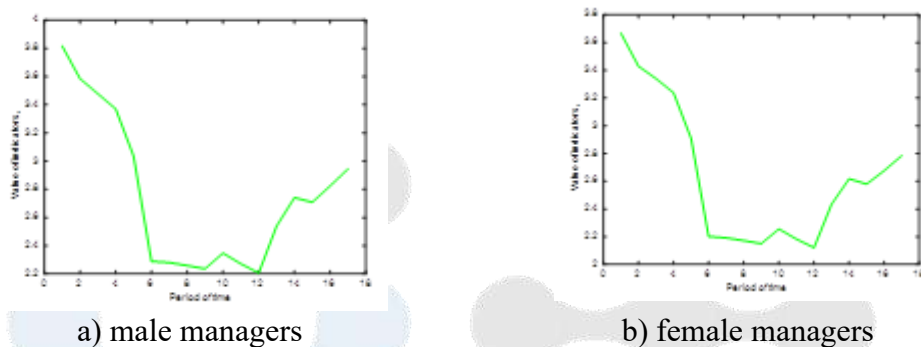


Figure 2: Dynamics of average time for one procedure of opening a business for male and female managers for Arab World countries

On Fig. 3 shows the dynamics of the number of permitting procedures and the time required to complete them for the East Asia & Pacific and North America countries.

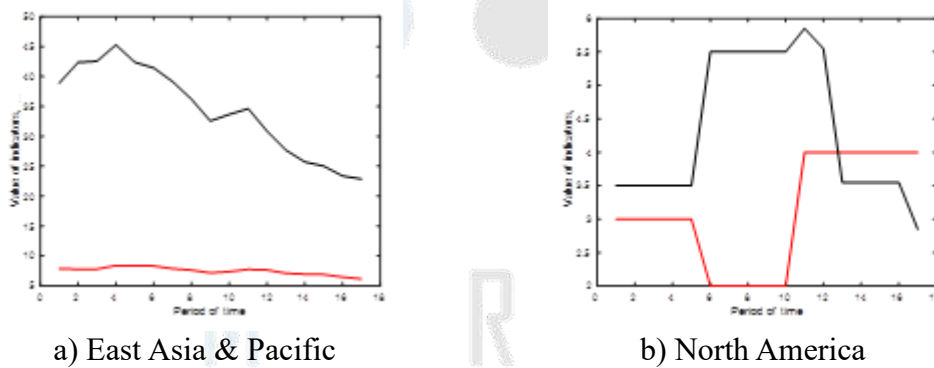


Figure 3: Generalized dynamics of the number of permit procedures and the time required to complete them for the East Asia & Pacific and North America countries

In Fig. 3, as in Fig. 1, the dynamics of the number of initial procedures for business registration are shown in red, and the time (days) required to implement such procedures are shown in black.

At the same time, the dynamics of the data under consideration in Fig. 3 differs from the corresponding dynamics of Fig. 1. In Fig. 3, there is no stable trend in considering the dynamics of the data under consideration. Both the growth of such data and their decline can be observed.

As in the Euro area countries, there are no gender differences in the number of permit procedures for starting a business and the time of their implementation for North American countries.

For East Asia & Pacific countries, it is worth noting the gender impact in the number of permit procedures for starting a business and the time it takes to complete them. This difference is comparable to the data for Arab World countries. At the same time, the average time to complete the relevant procedures for East Asia & Pacific countries when starting a business where the manager is a woman is slightly less compared to businesses where the manager is a man (see Fig. 4).

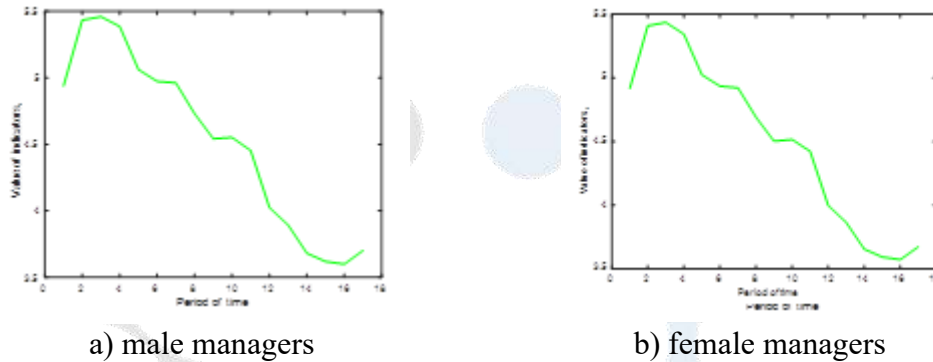


Figure 4: Dynamics of average time for one procedure of opening a business for male and female managers for East Asia & Pacific countries

At the same time, as can be seen from the data in Fig. 4, the trend of the average time to complete one permit procedure for opening a business in East Asia & Pacific countries is decreasing (in comparison with Arab World countries). However, this time in East Asia & Pacific countries is longer than in Arab World countries. In general, in terms of ease of starting a business, the countries of North America should be singled out. Next come the countries of the Euro area, East Asia & Pacific and the Arab World.

For a more detailed analysis, regarding the consistency of the dynamics of the number of permit procedures and the time required to complete them, we will conduct a corresponding comparison. For these purposes, we will use the wavelet coherence methodology.

Comparative assessment of the mutual dynamics of the studied data

The need to conduct the corresponding analysis is due, first of all, to the possibility of expanding the research to different time horizons, determining the possible consistency between the data. This will allow a better understanding of the processes of opening a business in the conditions of the modern digital economy. For these purposes, it is advisable to use the wavelet ideology, where an approach based on the construction and study of wavelet coherence estimates [29], [30], [32]-[35] is distinguished. Such estimates allow for a direct analysis of data dynamics on different time horizons.

Let's consider two time series ($k(t)$ and $d(t)$), each of which reflects the dynamics of an indicator over time t , then we can determine the value of wavelet coherence between the following series of data using the following formula [44]-[47]:

$$S^2(a, h) = \frac{|\Psi(a^{-1}W_{k(t)d(t)}(a, h))|^2}{\Psi(a^{-1}|W_{k(t)}(a, h)|^2)\Psi(a^{-1}|W_{d(t)}(a, h)|^2)}, \quad (1)$$

where:

$W(a, h)$ – values of transverse wavelet spectra,

a, h – the scale and center of time localization that determine the scale of the wavelet

transform,

$k(t)$, $d(t)$ – series of data that we study,

Ψ – smoothing operator,

$S^2(a, h)$ – square of the wavelet coherence coefficient. $0 \leq S^2(a, h) \leq 1$. If these values tend to zero, then we have a weak correlation. Otherwise we have a strong correlation [45].

In general, we can have a whole set of such estimates ($\{S^2(a, h)\}$). By comparing the estimates, we can make more effective decisions and confirm their validity or invalidity.

Based on formula (1), Fig. 5 and Fig. 6 present the corresponding estimates of wavelet coherence for a number of studied regions.

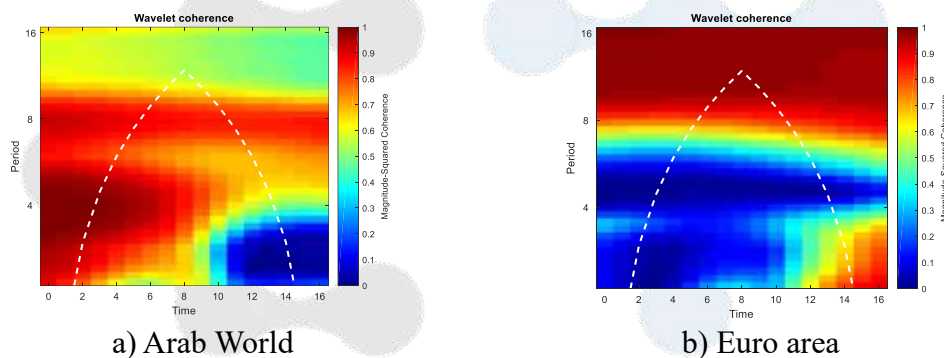


Figure 5: Wavelet coherence estimates between the number of permit procedures and the time it takes to complete them for Arab World and Euro area countries

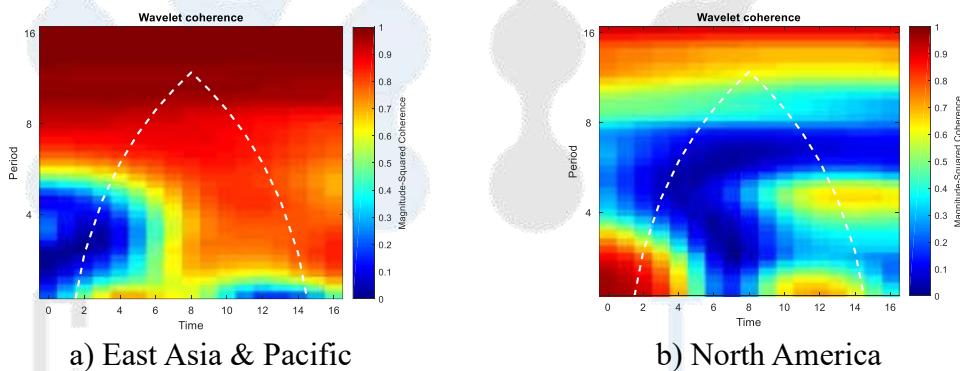


Figure 6: Wavelet coherence estimates between the number of permit procedures and the time it takes to complete them for East Asia & Pacific and North America

First of all, analyzing the data in Fig. 5 and Fig. 6, it should be noted that the obtained wavelet coherence estimates are diverse. This confirms the difference in the economic potential and mentality of the countries in the regions under consideration. At the same time, some similarity can be noted between such estimates for the Arab World and East Asia & Pacific countries. The fundamental difference here lies in the intervals of the most significant estimates. For the Arab World countries, the greatest significance of such estimates falls on the first two-thirds of the period under study. For the East Asia & Pacific countries – on the last two-thirds of the period under study.

The Euro area countries are characterized by the greatest consistency in the long term, which may indicate that the number of permitting procedures and the time for their implementation are considered taking into account the time factor and the development of digital economy technologies.

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It should also be noted that the obtained estimates reflect the corresponding average data of the countries of each region. Nevertheless, these results can be used both to analyze the conditions for the development of business processes and to predict the time to enter a particular market to implement the selected business ideas.

Conclusion

The article considers the issues of analyzing the number of necessary procedures for registering and starting a business as a factor in successful development in the digital economy. For these purposes, the dynamics of the number of necessary procedures for registering a business and the time required for their successful implementation were studied. The following regions were selected as objects of study: Arab World, Euro area, East Asia & Pacific and North America.

For individual regions, the influence of gender factors was noted - women or men business leaders.

In order to conduct an in-depth analysis, wavelet coherence estimates were considered between the dynamics of the number of necessary procedures for registering a business and the time required for their successful implementation in the context of the selected regions. The feasibility of using wavelet coherence estimates for conducting the corresponding analysis is shown. It is noted that the results obtained can be used to analyze the conditions for the development of business processes and predict possible entry into various markets.

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