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"Digital Shadow Economy" In The Service Sector And Factors Affecting It

Najmiddin Rakhmatullaevich Abduvokhidov, marjonamamadaliyeva041@gmail.com (*)

Independent researcher of the Samarkand Institute of Economics and Services, employee of the Samarkand regional tax administration, Uzbekistan

(*) Corresponding author

Abstract

General Background The continuous digitalization of macroeconomic indicators and services is widely recognized as a primary mechanism to prevent undocumented financial transactions **Specific Background** Parallel to this technological transition, modern information networks and applications facilitate new forms of illegal financial activities, creating a complex digital shadow economy characterized by electronic fraud and cybercrimes. **Knowledge Gap** Despite widespread technological adoption, there is a substantial lack of scientific research addressing the emergence and prevention of undocumented online financial operations globally and locally. **Aims** This study investigates the underlying problems of undocumented economic activities within digitized service sectors and formulates practical countermeasures. **Results** Findings demonstrate that implementing technological advancements without concurrent safeguards directly triggers undocumented financial expansions, evidenced by massive state budget embezzlements through fake electronic invoices and manipulated cashback applications in various regions. **Novelty** This research reveals the dual nature of technological adoption, where financial digitization acts as a catalyst for undocumented operations rather than a deterrent when deployed in isolation without strict control instruments. **Implications** Government administrations must integrate technological transitions with holistic anti-corruption instruments, deploy artificial intelligence for automated monitoring to reduce human factors, and establish strict blacklisting protocols for fraudulent users to secure state budgets.

Highlights:

- Unregulated technological transitions trigger massive state budget embezzlement via fake electronic invoices.
- Manipulated cashback applications facilitate undocumented financial activities within the service sector.
- Manipulating online cash registers to process fake product sales results in significant misappropriation of public funds.

Keywords: Digital Shadow Economy, Artificial Intelligence, Service Sector, Electronic Invoices, State Budget

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Introduction

International scientists recognize that the digitalization of the economy is the most effective way to prevent and eliminate the shadow economy.

Although the digitalization of the economy and types of services leads to a reduction in the scale of the shadow economy in the sector, on the other hand, in close connection with digitalization, the share of the "digital shadow economy", which is a modern form of the shadow economy, is developing day by day [1].

There is very little scientific research on the "digital shadow economy" and its prevention, both internationally and in our country.

However, in practice, the scale of the "digital shadow economy" is increasing, resulting in negative situations such as a decrease in state budget revenues or the embezzlement of budget funds [2].

This is a very alarming situation, especially for the economies of developing countries.

In order to fill this gap, the author investigated the problems of the shadow economy in the service sector and its integral part, the digital shadow economy, and stated relevant practical proposals and conclusions [3].

Analysis of literature on the topic. We will quote some definitions of the concept of the digital economy given by international and domestic scientists.

In particular, Digital economy is a type of economy characterized by the active implementation and practical application of digital technologies to collect, store, process, transform and transmit information in all spheres of human activity (M. Rose, OECD 2016, World Bank, UNCTAD, R.V. Meshcheryakov, V.I. Tkach, V.M. Bondarenko, I.P. Boyko, N.V. Vasilenko, I.N. Tkachenko) [4]; Digital economy is a complex of forms of economic activity as sectors of the national economy for the production and sale of digital goods in a virtual environment (M. Nikrem, I.S. Adnamakh, E.V. Storozheva, R.K. Asanov, V.P. Kupriyanovsky, O.S. Umarov); Digital economy is a system of social, economic, organizational and technical relations based on the use of digital information telecommunication technologies and networks in real time (A.A. Kuntsman, G.N. Andreeva, S.S. Gulyamov, N.Kh. Jumaev) [5];

Digital economy is a complex combination of various elements (technical, infrastructural, organizational, software, regulatory, legislative, etc.) aimed at the sustainable development of the economy, which is an addition to the real economy (N. Lane, A.V. Keshelava, V.G. Budanov, V.M. Matveeva, V.Yu. Rumyantsev, V.V. Akberdina, O.M. Umarov) [6].

S.S. Gulyamov, a well-known economist of our country, defined it as: "Digital (electronic) economy is an economy whose specific feature is to maximally satisfy the needs of all participants through the use of information, including personal information [7]."

Methodology

In the process of studying the problems of the shadow economy in the service sector and its integral part, the "digital shadow economy", a logical approach, comparative analysis, induction and deduction, space and time, analysis and synthesis, and other methods of economic analysis were used.

Results and Discussion

The concept of the digital economy is a relatively new concept introduced to science, and it was defined by Massachusetts University scientist Nicolas Negroponte in 1995.

Many foreign researchers describe the essence of the concept of "digital economy" with concepts such as "information economy", "knowledge economy", "creative economy", "internet economy", "network economy", "electronic economy", "new economy". All these terms represent separate processes of the digital economy, which is a relatively broader concept [8].

In parallel with the development of the digital economy, the scale of the "digital shadow economy" is also increasing.

In recent years, as a result of the rapid development of information technologies, Internet networks and artificial intelligence systems, the digital form of the shadow economy is also developing rapidly [9].

As a result, a new term "Digital shadow economy" appeared in science, which is a new form of manifestation of the shadow economy.

While the rapid development of digital technologies shows its positive indicators in the economy, the use of modern information technologies in the shadow economy leads to a decrease in state budget revenues and the complication of control mechanisms [10].

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The digital shadow economy can include any informal, undocumented (unregistered), illegal activity that is not reflected in official statistics, based on the use of digital technologies and aimed at obtaining profit or some other material or non-material benefit [11].

International researchers consider it expedient to divide the scientific research conducted on the digital shadow economy into three directions (N.M. Rozanova 2019):

- cybercrimes;

- electronic fraud;

- researching the reasons and motives for the participation of subjects in illegal actions in the digital environment [12].

Although digitalization is recognized by world economists as the most effective factor in preventing and eliminating the shadow economy, unless it is carried out in harmony with comprehensive measures against the shadow economy, digitalization has an inverse effect on the shadow economy and triggers its expansion, including the development of the "digital shadow economy" [13].

As a result of the establishment of 9 fake LLCs by a group of individuals in the Andijan region, the execution of fake electronic invoices between them and the purchase of goods worth 1.1 trillion soums, the issuance of purchase receipts for the sale of these goods to citizens, and the payment of cashback to a total of 100458 citizens via the "Soliq Mobile" application, 35.1 billion soums of budget funds were embezzled [14].

Similarly, during the pre-investigation check conducted by the Department for Combating Economic Crimes under the Prosecutor General's Office - responsible persons of the Tax Committee of the Republic of Uzbekistan, the Bukhara regional tax administration, "Uzbekneftgaz" JSC and the permanent establishment in Uzbekistan of several joint and foreign enterprises colluded criminally. Although services worth 5.3 trillion soums provided for the expansion of the production capacity of the Shurtan Gas Chemical Complex were exempt from VAT, they illegally included the VAT amount in electronic invoices, unjustifiably created VAT funds in the budget, and embezzled 643.2 billion soums of budget funds through misappropriation and embezzlement [15].

According to a pre-investigation check conducted by the Fergana regional department of the Department, 3 citizens colluded and created groups under various names on the Telegram social network.

Through the groups they formed, they were engaged in selling 1 percent cashback amounts to individuals and 12 percent to persons included in the social protection register online for purchase receipts belonging to 7 LLCs.

Although no financial relations were carried out by these 7 LLCs, they formalized fake electronic invoices as if products and services worth 3.3 trillion soums had been purchased.

After that, they entered the money allegedly received from sales through online cash registers and issued purchase receipts indicating that they had sold it to citizens.

In this case, it was found that 28.5 billion soums were calculated as cashback for 211584 citizens via the "Soliq Mobile" application, of which 3.2 billion soums paid out were embezzled by misappropriation and embezzlement of budget funds.

The above observed situations are evidence of how the "digital shadow economy" is developing in parallel with the implementation of mechanisms for digitizing the economy and service sectors, and how large the scale of the damage caused to the state budget is.

Conclusion

Based on the above, the following conclusions can be made.

First, in the prevention and elimination of the shadow economy by the Government, the digitalization process should be developed in a complex manner with instruments against the shadow economy (fighting corruption, developing state institutions, ensuring the rule of law, increasing tax culture, mitigating the unemployment rate, developing citizens' skills in using digital technologies, etc.).

Otherwise, digitalization will have a reverse effect on the shadow economy and trigger the expansion of its scale, including the development of the "digital shadow economy".

Second, along with taking legal action against the 312042 citizens who bought purchase receipts instead of goods or services from fake entrepreneurs in order to collect cashback amounts from the budget in the Andijan and Fergana regions mentioned above, such citizens should be excluded (blacklisted) from this process (receiving cashback from the budget) in the future;

Third, widespread introduction of artificial intelligence technologies in the process of digitalizing the service sector,

controlling and monitoring the sector, i.e., increasing efficiency by reducing the influence of the human factor;

In conclusion, the implementation of these recommendations and proposals will serve the fulfillment of the measures set for reducing the scale of the shadow economy, which is one of the issues envisaged in the "Uzbekistan - 2030" strategy being implemented in our country.

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