DEVELOPING PROFESSIONAL DIGITAL COMPETENCIES FOR CRYPTOCURRENCY MARKET BEGINNERS (CASE STUDY OF ECONOMICS STUDENTS)

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Abstract. The purpose of this publication is to draw attention to the importance of forming digital competencies in new users of the cryptocurrency market. The relevance of this problem was determined and practical recommendations were provided. The methodological basis is a system-structural analysis of the essence of cryptocurrencies as digital assets; statistical and economic analysis of cryptocurrency market dynamics and own experience of working with cryptocurrencies. Various ways of storing cryptocurrency, some features of mining are considered. Attention was paid to various options for receiving cryptocurrencies for free, practical recommendations were provided. The materials of this publication can be recommended to users when working with crypto assets.

Key words: airdrop, digital competence, cryptocurrencies, cryptoeconomics, crypto exchanges.

Introduction. Time dictates its requirements. The ability to navigate in the digital space, possess digital literacy, operate with the latest data, analyze and interpret new digital resources, predict possible risks – this is far from complete, but an absolutely necessary list of the formation of modern information and digital competencies.

Digital competence involves the ability to navigate in the information space, receive information and operate it in accordance with one's own needs and the requirements of a modern high-tech information society. Ability to evaluate effectiveness, modify, edit, combine, create new digital resources; analyze and interpret data in different types of digital environments; critically analyze the expediency of their use; to predict possible risks – indicates the possession of a high level of information and digital competence, which implies the confident use of digital technologies.

Digital competence is closely related to information and media literacy, involves the ability to communicate effectively in different contexts, work with media content and create digital content. Digital competence is the ability to navigate in the information space, to search and critically evaluate information, to operate with it in professional activities. It combines knowledge and skills to use existing and create new electronic resources, use digital devices, their basic software; working with operating systems, online services, etc.

Virtual assets open up new perspectives and require new information literacy. Such a branch of economic science as cryptoeconomics needs further study. Blockchain technologies, cryptocurrencies, tokemiki, crowdfunding, SMART-staking, stablecoins, SMART-contracts are the realities of today.

Basic theoretical and practical provision. The involvement of new subjects in the cryptocurrency market should be accompanied by the formation of ideas, knowledge and competences in this

area. This especially applies to certain social groups, strata, which must possess professional competences. For example, we are talking about employees of commercial or government structures related to the cryptocurrency sphere, or potential participants.

Students of economic specialties are a vivid example of this kind of subjects. For a number of areas (finance, in particular), the "Cryptocurrencies" course is included in the training programs, which provides certain theoretical knowledge in this area.

But an extremely important component of such training should be practice. It provides skills, professional competences to seekers of this knowledge.

It should be noted that the practical assimilation of the technologies of the cryptocurrency market is extremely doubtful without real activity, without the creation of one's own crypto wallets, registration on crypto exchanges, and certain types of mining. The start of such activity is associated with certain risks – financial, informational. Questions arise, is it necessary to have a certain amount of cryptocurrency when creating a wallet, opening a crypto account? What information resources (RAM, processor, software, etc.) should a beginner have? What should Internet access be like (completely free, with blocking means)? What platforms and tools should the user have?

Answers to these questions, practical experience should be a mandatory component of the professional training of a beginner in the cryptocurrency market.

These points are not sufficiently explored in scientific works on cryptocurrencies. But they are extremely relevant in the preparation of students of economic specialties, especially financial ones.

This work highlights the main problems that arise when studying the course "Cryptocurrencies", based on personal experience, methods and approaches are formulated, with which you can master the skills and abilities of working with cryptocurrency tools. These methods are outlined in the methodological support for the distance course "Cryptocurrencies" in the Moodle system of the V. N. Karazin Kharkiv National University is its component.

Therefore, the problem of deepening education, spreading knowledge about cryptocurrencies is extremely urgent.

The purpose of the publication is to draw attention to the importance of the formation of information and digital competences in new users of the cryptocurrency market, to determine the relevance of this problem, to analyze the situation and to develop practical recommendations for working with the latest financial instruments, such as cryptocurrencies.

The subject of the study is the theoretical and practical aspects of solving the problem of beginners entering the crypto industry market (using the example of economics students).

The methodological basis of the publication is a system-structural analysis of the creation, essence and legal aspects of the development of cryptocurrencies as digital assets; statistical and economic analysis of cryptocurrency market dynamics and own experience of working with cryptocurrencies.

Getting into the crypto industry is pretty easy right now [1]. The least you need to start using cryptocurrencies is just a browser. You don't even need an email or install separate apps. But this simplicity has a flip side – new and new fraud schemes appear. The easier it is to "enter" the industry, the less a person immerses himself in the study and knowledge of cryptocurrencies, and the less he is protected from virtual threats, and the easier he himself can lose cryptocurrency, due to ignorance, or cryptocurrency. can be stolen by fraudsters.

Cryptocurrency can be stored on crypto exchanges. But not only on crypto exchanges, because new ways of storing cryptocurrencies are constantly appearing. If a cryptocurrency is popular, it will be available on exchanges. To buy and store cryptocurrency, it is enough to register on one of the crypto exchanges and purchase cryptocurrency, for example, using a debit card.

The greater the volume of trades carried out on the exchange every day, the more trust it has from the crypto community.

Usually, to create a profile on the exchange and start trading, you will need an email and a phone number. But you can also connect additional protection methods. When creating an account on any exchange, keep in mind that your funds on the exchange are in its wallets. You don't create your own separate wallet on the blockchain. You do not create a secret passphrase that can be used to recover your wallet without connecting to the exchange. Your funds may be blocked by the exchange or lost if the exchange ceases to exist. This is the main drawback of exchanges.

The ways in which you can buy cryptocurrency are described in video examples on Binance website [2].

Let's consider the details. You can replenish your account on the Binance exchange in the following ways: cryptocurrency deposit (deposit existing cryptocurrency assets via the blockchain); buying cryptocurrency (you can buy cryptocurrency for cash (recommended for new users), bank deposit (you can make a payment deposit from a bank account and then buy cryptocurrency from your cash balance), receiving cryptocurrency (you can easily get cryptocurrency from other accounts)). It should be noted that direct withdrawal of funds from the card on the Binance exchange is temporarily impossible. On some exchanges, you can buy cryptocurrency the same way you buy anything else online, i.e. by direct debit. For example, on the okx.com exchange. Binance now uses a different method, P2P (ie person to person). For example, to buy 0.00097087 BTC, we need to transfer our funds to another person, and then he will transfer the cryptocurrency to our account. Although this method looks quite "strange" to the average person, in the "crypto world" this method of buying and selling is very popular. The security of such an exchange is guaranteed by the exchange itself. You can read more about all the risks and rewards on the Binance website.

We will also pay attention to mining. You can mine and mine cryptocurrency using any computer device: computer, CPU, video card or hard drives, or even a smartphone. Of course, this is not always a profitable business, but it is possible.

The easiest way to start mining cryptocurrency is with ready-made programs that will show you which components of your PC you can mine on and how much money it will bring you. For example, using the Nicehash program [3].

You only need an email to register and start mining cryptocurrency. In addition, with the help of this service, it can be exchanged for common fiat funds, for example, dollars, and withdrawn to your bank account.

For example, an i5-3570 processor can mine about 2-3 cents per day. 80–85% of the processor resource will be used.

You can further develop your mining knowledge and use more advanced programs, miners and operating systems.

For example, for IronFish cryptocurrency mining using several RTX series video cards, it is already better to use specialized mining operating systems such as Hive OS or Rave OS instead of Windows. These systems must run special miner programs, such as lolMiner, which in turn is updated. In this form, miners store a list of versions, for example "1.75". Coins are mined through "ironfish.herominers" pool [4].

Funds are stored not on the exchange, but in a wallet from cryptocurrency developers [5].

Access to the wallet can only be obtained by someone who knows the code words from it, that is, the passphrase. The downside of this wallet is that you need to first update the blockchain on your device to view your current balance and send funds.

Let's consider the latest ways of storing cryptocurrency. The most convenient and, at the same time, quite safe way of storing cryptocurrency is a browser extension, for example, the metamask multicurrency wallet. Additionally, there are single currency extensions such as the Toncoin coin. There are also online crypto wallets that can be used directly in the web version. In general, the industry is moving in the direction of simplification and greater protection of potential users' funds in order to reach as many people as possible who want to use cryptocurrencies.

How to get free cryptocurrency? Let's consider several options in more detail:

1. Crypto faucet – sites that give out cryptocurrency for free to conduct some kind of verification, testing or send a transaction. On such sites, you can get a few satoshis if you enter your address there [6].

2. Crypto-airdrops are held from time to time – distribution of cryptocurrency if you have performed some actions or registered a wallet and so on. Always individual quests [7].

An airdrop in the cryptocurrency business is a marketing ploy that involves sending coins or tokens to current or potential users to increase awareness of a new virtual currency. Sometimes you need to perform some actions, after which you can receive a reward, for example, follow the project accounts in social networks and share their publications.

With the number of new coins constantly increasing, it is difficult for investors and traders to keep track of new projects. Thus, some crypto projects offer airdrops to raise awareness. "Freebie" is liked by everyone, so it is often used by fraudsters. You should always do your own research. DYORDYOR (Do Your Own Research) is a very common phrase in the cryptocurrency world that reminds us that you should never blindly trust any information or investment advice. Each person must make their own decisions after weighing all the information and being aware of all the risks. before signing up for any airdrop, especially when you need to connect your wallet to a website.

There are different types of airdrops, but they usually consist of a small amount of cryptocurrency distributed between several wallets (usually on the Ethereum or BNB Chain blockchains). There are also projects that distribute NFTs instead of regular cryptocurrency, but this practice is less common.

Some projects give out coins with no strings attached, while other projects force users to complete certain tasks before receiving a reward. These tasks often include following social media accounts, sending out newsletters, or keeping a minimum amount of coins in your wallet. However, receiving tokens via airdrop is not guaranteed.

3. There are online games by playing which you can get cryptocurrency examples.

Running on MacOS and PC, Spells of Genesis is a free-to-play card arcade game that lets you collect collectibles that are stored on the Ethereum blockchain. They can be exchanged for other artifacts or sold for cryptocurrency.

You can play EOS Knight on smartphones and browsers. This is a knightly saga whose collectibles are stored on the EOS blockchain. They can be exchanged in-game and traded using smart contracts.

Altcoin Fantasy is an educational platform that will help you learn how to trade and also give you the opportunity to earn from it. Here, the user is given virtual points that can be used to trade digital coins. The interface is close to the work of real exchanges.

Altcoin Fantasy runs various trading contests. If a novice trader succeeds in taking one of the prize slots, he can claim a prize in Bitcoin and other cryptocurrencies such as Ethereum and Stellar. The game is free, works on iOS and Android systems.

4. Learn and earn.

Crypto Learn and Earn programs reward users with free cryptocurrency simply for reading crypto materials, watching videos, and answering questions about what they've learned. Most platforms have some training and educational materials about blockchains and digital currencies, but only a few exchanges allow you to earn bitcoins or other cryptocurrencies in exchange for your time.

These methods are used by almost all top exchanges: binance, okx, whitebit and others.

5. Referral bonuses of crypto exchanges.

This method is very popular among crypto industry newbies, students, as well as multi-accounting people.

Referral programs sometimes require referred users to complete a certain amount of transactions before the user receives a bonus in the form of free cryptocurrency. Coupons and other rewards may also be awarded as part of these referral bonus programs.

In most cases, referral bonuses are available for a limited period of time and may include different reward formats depending on the referred user's trading volume. Referrals must use this link or referral code to deposit and trade cryptocurrencies. The more users you attract, the more bonuses you will receive.

For example, the Bybit referral program offers up to $500 in bonuses for you and your eligible referrals. If you have a large circle of friends, a referral bonus is a great way to earn rewards quickly and even combine earnings with profitable betting.

Practical recommendations:

1. Creating an account on the exchange is absolutely free. This operation does not require any costs. Likewise, account registration on any other exchange will be free.

2. When registering on the exchange, you do not need to install any programs and extensions. All actions are performed directly in the browser (Chrome, Mozilla and the like).

3. When registering on the exchange, you do not need to copy the blockchain – the blockchain is stored on the servers of the exchange. This is the advantage of crypto exchanges.

4. When registering on the exchange, it is not necessary to give access to the account to anyone. Keep them only for yourself, do not pass them on to third parties. Access to the account is usually carried out through the login and password, which will be entered during registration.

5. When registering and using the exchange, you do not need additional access to software, a processor, or a video card. Any interaction with the exchange, including buying, selling, transferring or storing cryptocurrency, does not require additional resources of your computer. These steps can be done using a computer, laptop, phone, or an app on your phone.

6. After registration, there will be no funds in your account. But anyone can send you cryptocurrency from their Binance account. Cryptocurrency can also be purchased or replenished in other ways (mining, purchase from a credit card, transfer of cryptocurrency from other exchanges or wallets).

7. You can use the created account even without funds. Of interest – you can view the exchange rate of various cryptocurrencies on the graphs, you can read/take free training on using the exchange, the processes of buying/selling currency, trading, etc. It is also possible to study in the Ukrainian language, binance supports the Ukrainian interface.

8. The minimum account replenishment amount is always individual. It is indicated on the deposit page, after selecting the cryptocurrency and the network to which the cryptocurrency will be sent.

9. If you register on the nicehash.com platform, you need to install an app (only this app, all miners will be installed automatically) [5].

10. After installing the program, the program itself will tell you whether mining is possible on your device and will offer to automatically install the appropriate miner programs. Usually, the user just clicks on the buttons little by little – then he agrees.

11. As for the load on the computer, Nicehash programs, it is usually insignificant, since the program has a lower execution priority than other user commands. Therefore, if your PC has 2 or more cores, it will be usable even with the miner running.

12. At the end of the installation, the program will select the optimal miner and show your profitability in bitcoins.

Therefore, economic operations with cryptocurrencies require certain information and digital literacy. Future specialists in economic cybernetics must be able to use digital services, devices and their software, technologies for their professional communication, for professional development; work with different types of data; take care of the protection of personal data; be able to check the reliability of sources and the reliability of information; avoid dangers in the digital space.

Conclusions. Thus, the key to the successful entry of new users into the crypto industry is the formation of high-quality digital professional competencies. Entities-users of cryptocurrencies must have knowledge about understanding the essence of cryptocurrencies, the principles of emission of its

various types, the infrastructure of the cryptocurrency market, their impact on traditional currencies, the banking system, real business, etc. provided with fundamental theoretical knowledge regarding the implementation of blockchain technologies, the organization and functioning of distributed ledger technologies, virtual exchanges and the cryptocurrency market, knowledge that is relevant and in demand in the market.

The materials of this publication can be recommended to all new users of the cryptocurrency market.

References:
1. This is Crypto. An educational platform about cryptocurrencies and blockchain technology. (2023). Retrieved from: https://tsecrypto.com/
2. Where & How to Buy Bitcoin (BTC) Guide. (2023). Retrieved from: https://www.binance.com/en/how-to-buy/bitcoin
3. World's leading hashpower marketplace. (2023). Retrieved from: https://www.nicehash.com/
4. Best Iron Fish (IRON) Mining Pool. (2023). Retrieved from: https://ironfish.herominers.com/
5. Iron Fish. Repositories. (2023). Retrieved from: https://github.com/iron-fish
6. What Is a Crypto Faucet? (2023). Retrieved from: https://coinmarketcap.com/alexandria/uk/article/what-is-a-crypto-faucet
7. What Is a Crypto Airdrop? (2023). Retrieved from: https://academy.binance.com/uk/articles/what-is-a-crypto-airdrop