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В статье рассматриваются криптовалюты, которые стали очень популярными в течение последних пяти лет. В частности, автор фокусируется на бизнес-аспекте цифровых валют и рассматривает их возможную интеграцию в деятельность компаний. Рассмотрев преимущества и недостатки криптовалют, а также различные варианты их применения, автор переходит к изучению реальных примеров использования. Кроме того, на основании результатов опроса и интервью с криптоэкспертом, в статье описывается опыт их использования экспертами и анализируется потенциал применения этого инструмента в России.

*Ключевые слова:* криптовалюты, бизнес-сфера, бизнес-применения

Cryptocurrencies have become very popular over the last five years, and many professional financial experts have started studying the crypto-sphere and share new knowledge by writing articles for journals. Moreover, Bitcoin's popularity has increased public interest in the digital money so much that the topic is now studied not only by experts, but also by other non-specialists.

The purpose of the paper was to examine if integrating cryptocurrencies into the business sphere can significantly upgrade companies' current situation and change the way they operate in general. As Norton and Kaduthanum (n.d.) predict, different digital tools, including cryptocurrencies, will redirect the vector of the current financial system making it more flexible (Norton & Kaduthanum, n.d.); as a result, when the entire financial system gets significantly changed, all companies will have to adapt to that shift.

#### Literature Review

For more objectivity, the research dwelled on studies of both Russian and foreign authors. The literature analysis on cryptocurrencies allowed pointing out two main topics discussed by both crypto-enthusiasts and

practitioners: advantages and disadvantages of cryptocurrencies and various uses of such digital tokens. The first crucial advantage that almost all studies point out is decentralization. Tambe and Jain (2023), authors associated with Indian department of Forbes Advisor, note that decentralization is a characteristic that is provided as a means to combat monopoly and bring certain «freedom», which is explained as the independence from governments or other centralized entities (Tambe & Jain, 2023). This advantage characterizes cryptocurrencies as an excellent financial means minimizing bureaucracy, high commissions, and dependence on global policy. However, it is very important to pay attention to a negative effect of decentralization. The team of Indodax (2023), a crypto-academy and crypto-exchange, insist that the absence of any regulators always leads to the emergence of a structure where no one can protect crypto-users from scammers and bugs (Get to Know What Decentralization is in Crypto Assets, 2023). Federal Trade Commission of the US (2022) also warns those interested in digital currencies that decentralization can have a negative effect:

Cryptocurrency payments do not come with legal protections. Credit cards and debit cards have legal protections if something goes wrong. For example, if you need to dispute a purchase, your credit card company has a process to help you get your money back. Cryptocurrencies typically do not come with any such protections (What to Know about Cryptocurrencies and Scam, 2022).

The quotation makes it clear that decentralization cannot be provided as an indisputable advantage of cryptocurrencies, and it is hardly possible to suppose that big corporations will risk their money without any outputs. Nevertheless, many crypto-enthusiasts believe that the currencies of the future have more reliable advantages. Tambe and Jain (2023) point out another positive feature of cryptocurrencies — diversity, which is more reliable (Tambe and Jain, 2023). The team of Exmo (2023), a Russian large crypto-exchange, state that there are a lot of crypto-coins, so it is better to design a crypto-portfolio consisting of different coins (What is Diversification on the Crypto Market? 2023). So, companies looking for a tool for diversifying a list of their assets may consider crypto as a great diversity tool. Other authors, whose attitude to crypto is not so positive, draw attention to the fact that not only do cryptocurrencies have comprehensively positive aspect but they also provide a unique risk that is called the «51 % attack.» Frankenfield (2023) explains that «a 51 % attack is an attack on a cryptocurrency blockchain by a group of miners who control more than 50 % of the network's mining hash rate. Owning 51 % of the nodes on the network theoretically gives the controlling parties the power to alter the blockchain» (Frankenfield, 2023). In other words, such a group controlling more than 50 % of the currency traffic is able to break down any transaction made with the help of that coin, cancel completed transactions, and so on. Although the risk of such an attack is little enough, it is another milestone in the decision-making process associated with integrating crypto into an organization's environment.

Another issue that should be examined when cryptocurrencies are considered as a business tool is ecological influence. Anderson's (2023) point is that all crypto-miners, people or organizations producing crypto coins by using computers and other devices to process data related to crypto-transactions, release 140 million metric tons of CO<sub>2</sub> annually. She also pays attention to the fact that the volume is comparable with CO<sub>2</sub> emissions of entire countries (Anderson, 2023). Because the whole world is going green and paying much attention to reducing the climate footprint, using cryptocurrencies might be a huge reputational risk for any organization. That seems to be the greatest disadvantage of cryptocurrencies when they act as a tool within an organization's environment. On the other hand, that does not mean that the entire crypto-industry is not for business. As Casper (n.d.) explains, there are green blockchains, which are «blockchains whose consensus mechanism does not contribute significantly to climate change through greenhouse emissions» (A

Brief Guide to Green Blockchain Technology, n.d.). In other words, that is an alternative to currencies that are based on mechanisms consuming much energy. For example, Ethereum (2023), which is the second large cryptocurrency after Bitcoin, has recently transited to Proof of Stake, which is one of the green blockchains, so its CO<sub>2</sub> release will not be significant anymore (Ethereum, 2023). Overall, it is possible to state that several cryptocurrencies may be used as a business tool but there are some risks related to the green community, which is able to spoil any company's reputation. Finally, some authors and crypto-enthusiasts believe that the most interesting application of cryptocurrencies for businesses is using it as a payment method. Russian professors Belykh and Egorova (2019) who carried out research on this topic conclude that cryptocurrencies have a significant potential to become a wide-spread method of paying but there are a lot of legal and technical issues making such an application of crypto hardly possible (Belykh & Egorova, 2019). In other words, it is still difficult to state that cryptocurrencies are a reliable means to conduct transactions.

All in all, the analysis of literature on cryptocurrencies revealed that it is difficult to make a univocal conclusion whether cryptocurrencies have a high potential at being integrated into the business sphere. Most studies state that using the crypto may become a great opportunity for companies of all types; however, there are also many other authors that find this opinion controversial. Summarizing the consideration of cryptocurrencies from the business perspective, this financial tool has lists of both advantages and disadvantages. Even though there are a few significant weaknesses, including decentralization's negative effect, a 51 % attack, and some coins' ecological damage, most of reliable cryptocurrencies provide a number of business-opportunities based on the outlined strengths, such as general decentralization, diversity of coins, and variable list of applications. As a result, it is crucially important to consider the practical aspect of cryptocurrencies in business.

#### Methods

The paper used the triangulation methodology to analyze if cryptocurrencies are a useable tool within a company. The methods included a qualitative analysis of several global companies using cryptocurrencies within their business environments, a survey of five cryptocurrency practitioners, and an interview with a crypto-expert.

The first method was the analysis of real cases of applying cryptocurrencies in global companies, including Crypto Emporium, Microsoft, BitDials, American Red Cross, and Ralph Lauren. Due to the fact that the outlined companies' applications of cryptocurrencies are various enough, this method allowed considering the above-mentioned diversity of cryptocurrencies.

The purpose of the survey was to examine the experience of using cryptocurrencies in business 4–5 years ago when it was possible. The respondents were

five juniors and seniors who used to invest in coins. The survey contained five close- and open-ended questions: «Would you say that cryptocurrencies are in demand today?», «Do cryptocurrencies have a potential to become a useful tool within today's business sphere?», «As an entrepreneur, would you use cryptocurrencies as a financial tool in your company?», «How would you integrate them?», «Which type of cryptocurrencies (coins, tokens, stable coins, etc.) fits well the business sphere?» This method allowed gathering psychographic data concerning the respondents' general attitude to cryptocurrency and intention data disclosing the subjects' vision of how to use such coins in business.

The last method, the interview, was aimed at getting more specific information about today's condition of cryptocurrencies in general and their potential use in Russia in particular. The questions focused on advantages and disadvantages of cryptocurrencies, his cryptocurrency market forecasting, and some business applications of the most popular coins. The questions were as follows: «What are three crucial advantages of cryptocurrencies from your perspective?», «What are three key disadvantages of cryptocurrencies?», «Is decentralization an advantage or disadvantage?», «Is it legal to use cryptocurrencies as a payment method in Russia?», «Do cryptocurrencies look like a good asset for a company?», «Do you know any examples of business-applications of cryptocurrencies?», «Are there any applications for crypto other than investing?», «What are the best coins for businesses?»

To sum up, all the methods allowed to consider the issue of using cryptocurrencies at a company from different perspectives and collect relevant data.

#### Results

For more objectivity and clarity, it is necessary to outline a set of parameters for the comparison: the market segments in which the above-mentioned companies operate, the use of the digital money as a payment method, and other possible applications of cryptocurrencies.

Considering the first parameter, the companies under study work in various market segments. While both Crypto Emporium and BitDials are classified as completely crypto-based marketplaces, the other companies differ significantly. Microsoft is one of the biggest retailers of various technology products, including operational systems, laptops, software, and so on. Ralph Lauren is «an American publicly traded fashion company that was founded in 1967 by American fashion designer Ralph Lauren» (Ralph Lauren Corporation, n.d.). Finally, American Red Cross is a large nonprofit organization whose primary activity is providing vital services for those in need (About Us, n.d.).

The next parameter of the case study is the companies' practice of using digital currencies as a payment method. Although some companies' processes of accepting crypto payments are not quite valid and universal, it is possible to state that all the companies involved in the analysis allow paying with various tokens; however, two organizations impose significant

restrictions. Specifically, the way of accepting crypto-payments by American Red Cross is overcomplicated since the company needs a third party to accept the payments; in other words, American Red Cross still uses another person to receive crypto donations, which is outdated. However, Crypto Emporium, Microsoft, and BitDials deal with professional companies that established the automated payment-processing systems, such as BitPay. As for Ralph Lauren, its integration into cryptocurrencies is significantly less noticeable than that of the others due to the fact that it does not allow paying with the digital money online. The only way to pay for Ralph Lauren's clothing items with crypto is to attend the store in Miami and ask the salesman to process this payment.

Thus, some of the companies found other ways of implementing cryptocurrencies in order to develop non-financial aspects, such as marketing and general PR. Although Ralph Lauren decided not to pay much attention to using crypto as a payment method, the company accented on the key technology of cryptocurrencies in general, which is blockchain, and launched an NFT-collection. In other words, Ralph Lauren diversified its pool of applications of crypto tools and strategically develops both financial and PR directions. Another way of implementing cryptocurrencies is making a crypto-based reward program that functions as a typical loyalty program but rewards its users with crypto coins rather than bonuses. It was put into practice by Crypto Emporium. Even though the company was able to develop such a program as others do, it not only implemented a new technology but also supported its general marketing area, which is positioning itself as a crypto-platform.

The next method was the survey. To make it more objective and diversified, a list of surveyed people involved 5 practitioners that are well experienced in the sphere of cryptocurrencies.

Examining the respondents' answers to the first question, all of them stated that cryptocurrencies are in demand; moreover, some of the experts supposed that this asset is getting more popular daily.

Answering the next question, all the respondents consider that the digital currencies are applicable within the business sphere. However, the experts did not concur when they answered the third question, disclosing the idea of integrating cryptocurrencies into a company from a businessman's perspective. While four respondents admitted that they would use cryptocurrencies as a financial tool within their companies, one of the experts replied that using cryptocurrencies as a business financial tool is not the best application.

Considering the answers to the next question, the respondents' ideas of how to use cryptocurrencies in the business environment were various and comprehensive. While the first expert replied that cryptocurrencies might be used as an element of today's marketing campaigns only, the second respondent was sure that crypto-coins should be implemented as a financial tool. Another application provided by the third practitioner

was designing platforms that are generally based on cryptocurrencies, which are similar to the mentioned-above Crypto-Emporium and BitDials. The fourth expert considered cryptocurrencies both as a financial and investment tool. Finally, the last respondent provided a list of applications that fit today's business sphere well: using smart contracts as a means of international trading, saving a company's funds, and designing decentralized apps.

The final third method was an interview with a crypto expert, mainly aimed at finding out how cryptocurrencies and business are connected. Considering cryptocurrencies' advantages, the respondent outlined three ones: versatility of the currencies, which means that this financial tool has a lot of applications in various segments of today's global economy, low transactional costs, and little time spent on conducting transactions. However, there were a few disadvantages that the respondent also paid attention to. They included decentralization, which makes the adequate emission control impossible, central banks' negative attitude to anonymous crypto-coins promoting one of the crucial ideas of cryptocurrencies in general, and the fact that most of cryptocurrencies and related elements, such as stocks and coins, are controlled by those having personal interests and opinions. The next issue that was covered during the interview was decentralization of cryptocurrencies that was explained as both advantage and disadvantage. Since decentralization does not allow centralized manipulations with coins, this aspect is the considered advantage; however, the fact that most of crypto-coins are decentralized makes it impossible to design a general policy of controlling these currencies. In other words, the expert's opinion is similar to those stated in the literature review section. After considering the general questions, the respondent was asked to describe Russian government's attitude to cryptocurrencies. The specialist explained that «even though Russia has presented its official cryptocurrency called the digital ruble, using other cryptocurrencies is still illegal». As for the business applications, the expert stated that cryptocurrencies cannot be described as a good business asset due to their high volatility of this financial tool. However, cryptocurrencies may be implemented in the business field in a variety of different ways, including a payment method and even a platform-analog of SWIFT. According to the expert, the best way of implementing such currencies is using them as a payment method due to low transactional costs and fast transactions. Finally, answering the last question, which was about the best coins for business-applications, the respondent outlined bitcoin because this asset is the most popular, which means many crypto-users would prefer paying with this coin.

#### Discussion

The key goal of this paper was to examine if it is possible to successfully integrate cryptocurrencies into the business field in order to upgrade organizations' current conditions and improve their market-conditions

in general. All the methods of this research, including the case studying, survey, and interview, were aimed at gathering the most relevant data related to the crypto topic.

For more objectivity and clarity, a few companies' crypto-strategies were analyzed. The most important idea was that the companies' applications of cryptocurrencies are differently scaled and variable enough. As for the organizations' crypto-schemes, it is clear that some companies paid attention to this element of today's financial system and started developing their crypto-portfolios. However, the progress is not sudden due to the risks explained in the literature review. Since cryptocurrencies are a relatively new sphere in the business field, the financial aspect and consumers' unpredictable reaction to that make such investments uncertain. Thus, the considered companies' crypto-products and general applications may be described as the first steps of crypto in business.

Regarding the results of the conducted survey, the situation with crypto significantly differs from that outlined within the case study section. Most of the respondents state that they would implement cryptocurrencies in their own companies explaining it by this financial tool's various applications, such as a payment method, a means for conducting international transactions, and so on. In other words, the surveyed crypto-practitioners believe that cryptocurrencies may be successfully integrated into any organization's business environment in any mentioned-above ways and even provide a few applications.

Finally, the conducted interview connected the case study's and survey's results. Even though the expert outlined a number of significant disadvantages of today's cryptocurrencies, including legal issues and negative aspects of the decentralization, he also paid attention to the fact that cryptocurrencies are significantly important in the modern business in terms of financial effectiveness and versatility. Thus, the expert both described cryptocurrencies as a useful business tool that can significantly influence various aspects of a company, such as marketing, finances, operations, and so on, and emphasized the risks of this type of currencies.

In other words, cryptocurrencies are a multifunctional tool that may be integrated in companies' environments due to a large number of applications outlined and discussed above. However, now it is still hardly possible to develop a long-term strategy based on cryptocurrencies since this tool itself is very unstable due to legal terms, decentralization, high volatility, and so on. Therefore, any company that is going to use cryptocurrencies should be aware of the benefits and risks discussed above.

To sum up, cryptocurrencies have not become a must-have tool for most of today's companies yet. Even though there are a few significant advantages describing crypto-coins as useful and even crucial elements of the modern business field, the discussed disadvantages are also important and make these digital currencies risky

and unstable. Moreover, some issues, such as legal terms, do not allow using cryptocurrencies somewhere. For instance, Russia's government does not classify this financial tool as a legal element of the financial system, so it is hardly possible to openly provide services and products related to cryptocurrencies.

In other words, these coins may become a good initiative for those companies whose opportunities and market positions are not generally restricted. Since such organizations always look for new competitive advantages, the cryptocurrency may well complement their overall systems and even redirect some specific vectors, including marketing and some operations. Moreover, development and progress of new technologies is a responsibility of those able to take these risks. ■

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## **Cryptocurrencies in business**

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The article discusses cryptocurrencies which have become very popular in the last five years. In particular, the author focuses on the business aspect of digital currencies and examines how they can be successfully integrated into a company's business activities. After considering advantages and disadvantages of cryptocurrencies, as well as their various uses, the paper goes on to study real cases of using this technological tool. Furthermore, with help of the survey and an interview with the crypto-expert, the article describes the first-hand experience of using them and analyzes their potential use application in Russia.

*Keywords:* cryptocurrencies, business field, business applications