Digital tools in shaping international business strategy

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Abstract. This article examines the role of digital tools in shaping strategies for international business. The author focused on three key technologies that have been gaining popularity in the business environment recently, namely blockchain, Internet of Things strategy and business ecosystem. Based on theory and practical cases, the impact of new digital tools on the evolution of the strategic approach to international business was explored, providing companies with effective adaptation, competitiveness, and innovation.

1 Introduction

Digitalisation is fundamentally changing business operations in the modern world, including at the international level. Digital tools have become indispensable elements in the strategic planning of companies, helping them to adapt to rapidly changing conditions, expand their geographical presence and increase the efficiency of communication with counterparties that may be thousands of kilometres away from the head office.

Digital tools are a set of technologies that help an organisation build its strategic plans, identify its opportunities and gaps, and find ways to address global market challenges (Kalyazina E. G. Digital management in project management // Creative Economy. G. Digital management in project management // Creative Economy. - 2021. vol. 15. №. 12. pp. 4747-4766.) This paper focuses on three standalone digital tools that have recently been used extensively in management, namely:

- blockchain technologies;
- Internet of Things strategies;
- the concept of business ecosystems.

This choice was made based on the following factors outlined below.

Firstly, the selected digital tools can be classified as new and innovative approaches that have fundamentally changed the market environment since their emergence and continue to change it at present. Blockchain and the Internet of Things are among the key end-to-end digital technologies shaping the global marketplace (Shevchenko D.A., Bolotin Y.O. Stimulating investments for the development of end-to-end digital technologies // Finance and Management. 2021. № 2. pp. 29-40.)

Secondly, despite the popularity of these technologies, many entrepreneurs and company managers do not have the necessary knowledge to implement them effectively. This

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ignorance is due to the fact that the theoretical basis of these technologies is quite demanding for inexperienced consumers and may seem unattainable at the time of initial familiarisation.

Based on this need for accessible information material, the author of this paper has highlighted both the theoretical basis of digital tools and practical cases of their application. Blockchain, Internet of Things strategy and business ecosystems, if implemented correctly, provide a unique opportunity to rethink and optimise the strategic management of international business. The author's hypothesis is that the integration of these technologies into the strategic planning process will allow companies to significantly improve their competitiveness and adaptability in the global market, as well as contribute to the growth of economic performance and growth of the company as a whole.

Digital tools are actively changing the rules in the market economy, providing companies that can quickly adapt to changing conditions with competitive advantages and new approaches to improve their position in the markets, even forming new requirements for the logic of regulation of international economic relations. The author's analyses will allow us to understand how innovation is shaping new strategic management and changing business practices in the context of the international economy.

2 Main part

Blockchain technology is a decentralised system for storing and transmitting data that ensures its security, transparency and trustworthiness. It consists of a chain of blocks, each of which stores information about a set of records (transactions). New blocks are added to this chain according to the principle of network consistency and coherence. A key advantage of this technology is that the information stored in it cannot be changed without the consent of most participants in the network, a feature that makes blockchain a unique technology for forming business-to-business relationships (Figure 1).

Fig. 1. Scheme of functioning of smart contracts on the blockchain platform for business (Compiled by the author independently on the basis of the study Smart contract in simple words: address smart contract // COINEWS URL: https://coinews.ru/kriptovalyuta/smart-contract (accessed on 23.08.2023)).

Blockchain technology was originally created to provide security in the field of cryptocurrency, but has found its application in the context of international business management. It is a driver of transformation not only in the financial market, but also in the very essence of international business processes.
One of the applications of blockchain in management is supply chain management. It provides rapid confirmation of the originality of goods and tracking of their movement in logistics chains. This automated control reduces the risks of counterfeit and "lost" products.

In addition, blockchain can solve such key problems of international financial transactions as speed, reliability of transfers, high commission payments and the mandatory presence of intermediaries. In this situation, blockchain significantly optimises this process, providing almost instant financial transactions with minimal costs (Lazareva M. V., Mohinur H. Modern management and digitalisation //Talqin va tadqiqotlar ilmiy-uslubiy jurnali. 2023. vol. 1. №. 17. pp. 301-307).

In addition to the above, blockchain can act as a guarantor of transparent and unambiguous business relationships between companies and their partners, as data recorded on blockchain blocks cannot be altered or deleted. In this way, blockchain becomes an instrument of trust that helps to reduce the likelihood of conflict situations.

All these aspects make blockchain an important asset in the strategic management of international business. However, to utilise the full potential requires a period of adaptation and implementation, the time span of which will depend on the specifics of not only a particular industry, the market as a whole. Therefore, to confirm the practical significance, let's consider an example of blockchain technology application by a large American company.

Walmart is one of the world's leading retailers of consumer goods. It is the company that has successfully integrated blockchain into its business processes, namely supply chain management. With the help of the technology, "Walmart" automatically tracks its products in the chain of post-acquisition and logistics between different departments. This method reduces the time and resource costs of auditing and reconciling the compliance of real goods with the information in the database. Instead of time-consuming manual checks, "Walmart" can quickly confirm authenticity and determine the origin of goods based only on blockchain records without even seeing the goods themselves (Sam Walton. Made in America. How I Created Wal-Mart. - Moscow: "Alpina Publisher", 2012. - 222 p. - 2000 copies. ISBN 978-5-9614-1900-9. ISBN 0-553-56283-5).

Also, "Walmart" has implemented blockchain to optimise work with products that require special storage conditions, such as food products. Thanks to blockchain technology, it is possible to quickly and accurately identify the source, date of manufacture, and expiration date of a product, which confirms its safety. With the help of a special programme developed by Walmart, the identification code is no longer read when the product expires, thus making it impossible to sell expired products to customers. Thus, this technology minimises the influence of the human factor and the occurrence of logistical supply errors (Bhat M. S., Dubey S. An overview of the effects of blockchain technology in food chain supply: a case study on Walmart //The Online Journal of Distance Education and e-Learning. – 2023. – T. 11. – №. 2).

The Internet of Things strategy is a concept based on the creation of a network of interconnected devices. These in turn are capable of exchanging data and interacting with each other via the Internet or inbuilt sensors, e.g. Bluetooth, Wi-Fi. The Internet of Things is capable of collecting, using and analysing large amounts of data in as short a time as possible. This technology is used both in the industrial sector and in the household sector (Ravikumar K. C. et al. Challenges in internet of things towards the security using deep learning techniques //Measurement: Sensors. – 2022. vol. 24. pp. 100473).
The Internet of Things strategy has great potential for application in management solutions in the international sector. It has reached its maximum potential in the area of processing customer feedback and collecting and optimising customer data. Connecting devices in a single Internet of Things network allows a company to obtain real data on the usage of its products. This data can be valuable marketing information that is used to create an international marketing strategy to tailor a product to audiences in different parts of the world. For example, mobile app and software companies can find out, with the help of the Internet of Things, which features are preferred by users in different countries and develop adapted products specifically in those areas.

The advantage of strategy in international business is the continuous flow of customer data, as this continuity smooths out fluctuations due to cultural and regional differences in audiences that affect customer demand.

One of the authors who studied the implementation of the Internet of Things in management was Erik Brynjolfsson. In his works he suggested ways to optimise business processes and work with customers. As part of the confirmation of the author's hypothesis, we would like to highlight the key theses of Erik Brynjolfsson's research.

Brynjolfsson focuses on product personalisation, which can only be achieved by having a continuous connection with the customer. This connection is the Internet of Things strategy, as according to Brynjolfsson there are currently no analogues that surpass the effectiveness of this technology, and only it can be "the key to the real customer's incorruptible opinion" (Brynjolfsson E., McAfee A. The second machine age: Work, progress, and prosperity in a time of brilliant technologies. – WW Norton & Company, 2014). The author of the article shares this idea, but it should be emphasised that the Internet of Things strategy will be of little use in the context of continuous data collection alone. Without a proper analysis and processing mechanism, a huge amount of data, even constantly updated in real time, will not bring benefits to the firm. This aspect is particularly important in the context of international business, where there are cultural and regional differences that affect the interpretation of the information obtained. Thus, the most important point in dealing with the implementation of the Internet of Things is the correct interpretation of the information.

Another digital tool that was literally created for management applications is the business ecosystem. A business ecosystem is a positioning strategy in which a company seeks to cover all the needs of its customers by providing different products and services under a single brand.
The distinguishing characteristic of a business ecosystem is its comprehensiveness. By being present in all areas of consumers' lives, the company prevents competitors from gaining a percentage of its audience in the market, thereby creating a natural barrier to market entry. In addition to convenience, efficiency and integrity for consumers, the business ecosystem is also beneficial for the company itself, as it "nurtures" a loyal and dedicated audience with an inflated criterion of customer trust.

In the context of international business, this concept plays a key role in creating a sustainable, permanent presence in the global market. By utilising it, a company can avoid duplication of effort, while gaining deeper and longer-term relationships with customers, leading to customer retention and repeat purchases.

The business ecosystem is one of the few digital tools that have taken root and started to develop rapidly in Russian management. A practical example of building a company's entire global strategy on the basis of its own ecosystem is Sber. Sber has transformed from the most famous bank in Russia into a major provider of financial, communication, food products and services. Customers are offered a wide range of options under the Sber brand, from banking services to food products. This has allowed the company to become a subject of daily routine for millions of Russians (Mayorov S. A. Development of the ecosystem of PJSC Sberbank // International Journal of Applied Sciences and Technologies "Integral". 2022. №. 1. pp. 111-117).

In addition to a strong marketing tool and convenient services for consumers, Sber ecosystem has become a catalyst for its development and improvement of many business results, including economic ones. Demonstration of the improvement of indicators under the impact of the creation of a unified ecosystem is presented in the Table 1.

**Table 1.** Dynamics of Sber's performance before and after the creation of the business ecosystem*

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Before the ecosystem is established (2019)</th>
<th>After the ecosystem is established (2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>RUB 870.1bn.</td>
<td>RUB 1.24 trillion.</td>
</tr>
<tr>
<td>Profitability</td>
<td>18%</td>
<td>22%</td>
</tr>
<tr>
<td>Number of customers</td>
<td>96 million</td>
<td>103 million</td>
</tr>
<tr>
<td>Media presence</td>
<td>± 250 media articles</td>
<td>± 480 media articles</td>
</tr>
<tr>
<td>Innovative products and services</td>
<td>-</td>
<td>10 new products and services</td>
</tr>
</tbody>
</table>


In conclusion, it is worth summarising the main methods of applying the digital tools described above in international business management. For this purpose, the author has compiled Table 2.

**Table 2.** Application of digital tools in shaping international business strategy

<table>
<thead>
<tr>
<th>Digital tool</th>
<th>Application method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blockchain</td>
<td>Optimising supply chain management</td>
</tr>
<tr>
<td></td>
<td>Increasing the speed and reducing the cost of international financial transactions</td>
</tr>
<tr>
<td></td>
<td>Transparency and increased trust in relations with international counterparties, avoidance of conflict situations</td>
</tr>
<tr>
<td>Internet of Things strategy</td>
<td>Optimising consumer data across the planet</td>
</tr>
<tr>
<td></td>
<td>Processing information about these consumers</td>
</tr>
<tr>
<td>Business ecosystems</td>
<td>Gaining &quot;long-term&quot; loyal customers</td>
</tr>
</tbody>
</table>
Developing a comprehensive strategy for the company's development  
Capturing global markets in several areas, increasing international presence  
Creation of new branches of influence in different countries

Thus, the application of digital tools in the management of international business is an important competitive advantage for companies that are adapting to technological changes in their industries. Technologies that at first glance seem to be difficult to link to management and strategic management are finding their effective application and even changing the rules of the game.

3 Conclusions

In this study, the author aimed to determine the role of blockchain, the Internet of Things strategy, and the concept of business ecosystems in international management. The author's hypothesis that the integration of these technologies contributes to improving the competitiveness, adaptability, and financial performance of companies in the global market was confirmed by analysing practical cases of the application of these digital tools.

It can be concluded that the integration of digital tools into the strategies of international companies is a key element of success in the global market. Examples of implementation of these technologies in companies such as Walmart and Sber demonstrate their practical potential for implementation in the field of management. In the author's opinion, it is digital tools that save companies from stagnation and lead to the planned financial results, while companies that cannot adapt to the changed environment are left behind in the struggle for consumer demand.

References

9. M.S. Bhat, S. Dubey, The Online Journal of Distance Education and e-Learning 11(2), (2023)