

Leading trends in tourism: blockchain in franchising

Svetlana Melnychenko

Faculty of Restaurant and Hotel and Tourism Business

Kyiv national university of trade and economics

Kyoto str., 19, 02156 Kyiv

Ukraine

e-mail: melnichenko@knteu.kiev.ua

Natalia Mazaraki

Faculty of International Trade and Law

Kyiv national university of trade and economics

Kyoto str., 19, 02156 Kyiv

Ukraine

e-mail: n.mazaraki@knute.edu.ua

Tatiana Tkachuk

Faculty of Restaurant and Hotel and Tourism Business

Kyiv national university of trade and economics

Kyoto str., 19, 02156 Kyiv

Ukraine

e-mail: tkachuk_tatiana2017@ukr.net

Abstract This paper focuses on the leading trends in tourism. Recent in-depth research of the tourist services market demonstrated that the timely direction of the development of tourist enterprises lies in their operation in the franchising system. Creation of franchising tourist networks should help the promotion of a tourism brand, the emergence of a competitive tourist product, improving the efficiency of the operation of enterprises within the network and the development of tourism business in general.

At the same time, the current priority of the development in the tourism sector (including - on the terms of a franchise agreement) in online mode provokes tourist stakeholders, including state bodies and public associations, scientific institutions, franchisors and franchisees, and consumers of services for the need for interaction. This will be facilitated by the creation of a franchising portal for the interaction of tourist stakeholders as a tool for improving the efficiency of the operation of franchising tourist networks and ensuring their interaction between themselves and other participants in the tourist services market. Our results of the in-depth study and further research in the chosen direction determined the relevance of creating a portal for tourism business development in the franchising system using blockchain technologies.

1 Introduction

Tourism is a sphere of economic that promotes and ensures the prosperity and development of the country's economy. This is evidenced by data from the statistical report of the World Tourism Organization (UNWTO). The organization conducted a study of the impact of tourism on the world economy in 185 countries and concluded that tourism and related industries created 10.4% of world GDP or 8.3 trillion dollars. In addition, every tenth vacancy in the world is connected with tourism, and solely in tourism about 313 million people are involved. The tourist sector has grown by 4.6%, which exceeds world GDP growth, which is 3%. According to the WTTC, the tourism industry has created about 7 million new jobs - 20% of all job vacancies in the world (World Tourism Organization 2018).

Recently, studies on the implementation of tourism activities in the franchising system have recently become relevant. An overview of domestic and foreign scientific papers indicates a deep systematic analysis of all areas of theoretical, methodological and applied research, which include: important aspects of the functioning and development of the tourism system as a whole (Mazaraki et al. 2018;), the application of information technology, including - blockchain technologies in various spheres of economic activities (Buhalis et al. 2016; Koo et al. 2015; Cornelissen 2017; Makhovka 2018; Melnychenko 2010; Moustafa 2011; Swan 2015), business combinations in franchising networks and legal aspects of franchising and blockchain regulation (Barnett 2018; Koulu 2016; Mazero et al. 2018).

The rapid development of information technology, the emergence of new formats of communication with consumers and popularization of the formation of partner business relations in the franchising system make it necessary to actualize the implementation of tourism activities on the Internet.

Currently, the urgency of the development of virtual tourism business is obvious. However, there're some issues on the possibility of establishing and operating a franchising portal for interaction of tourist stakeholders using blockchain technologies, which is a potential tool for the transformation of the tourism which contributes to the importance of studying this issue.

2 Expansion of franchising development in tourism

Sustainable research tourism industry at the national and international levels allowed to establish that 41% of businesses and 60% of leisure activities are currently being conducted on the Internet (Abramovich 2018; or Shevyakova et al. 2019). Thus, the modern global travel industry faces numerous challenges and provokes professionals in the field to meet the needs of customers not only personally but also online.

The thorough analysis of statistics provided by eMarketer has made it possible to establish that worldwide sales of travel services in the virtual space amounted to \$ 612.91 billion in 2017, which is 11.7% higher than in the previous year. According to experts, the trend of sales growth will continue until 2021 and will amount to roughly \$ 855.07 billion, due to the rapid growth of the touristic popularity of the Asia-Pacific region (Digital Marketing Research Company 2017).

For sustainable maintenance and development of tourism activity and in conditions of increasing competition, increasing demand for both international and domestic tourist products, the growth of consumers' demands for the contents, variety and quality of tourist and recreational services, it becomes important for tourist services providers to cooperate. Therefore, the general common form of conducting the tourism business of the present day is franchising, and the formation of franchising tourist networks will ensure the sustainable development of tourism business. The rapid development of franchising in most countries of the world (in particular, the leaders are the USA, France, Germany, Poland) is due to unquestionable advantages for small tourist enterprises (the minimum business risk and stable income) and for large companies with a well-known name (to expand the sales area for goods and services, to increase of their quality, to receive additional financial income). In addition, the research of the foreign franchising market allowed to reveal its expansion in various spheres of activity and to establish the obvious leaders, which are restaurant business and services (including tourist) (Figure 1).

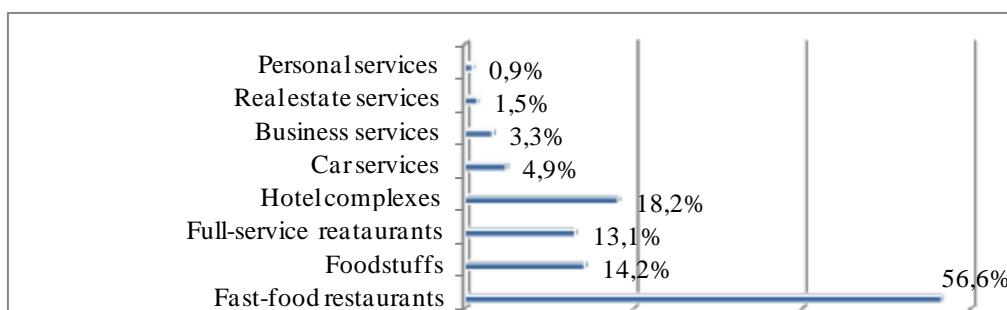


Fig. 1. The expansion of franchising in various spheres of activity

Source: Own results based on Franchise Group (2018)

3 Blockchain technology in the system of interaction between tourist stakeholders

The tourism sphere is rich in information, because it is characterized by the diversity and complexity of business relationships with partners, the individualization and priority of the exclusivity of tourist services, the dynamism of business processes, the need for constant technological improvement and high competition.

Therefore, for the current development of tourism activity, it is necessary to implement modern IT technologies that provide information and rapid data exchange, integration and interconnection of all participants of the tourism market, the possibility of taking into account the individual characteristics of each client in the process of satisfying correspondent needs, increasing the speed of service, operational reverse communication, increasing the efficiency of tourism enterprises. In the practice of tourism enterprises, various types of information technologies are used, namely: global distribution systems, booking and reservation systems, electronic information systems, information management systems, mobile communication systems, services of the global computer network Internet (Melnichenko 2010).

Based on the monitoring of world trends in information technologies, the main strategic trends are identified in technologies that have certain potential and are partly applied in the tourism business (Figure 2).

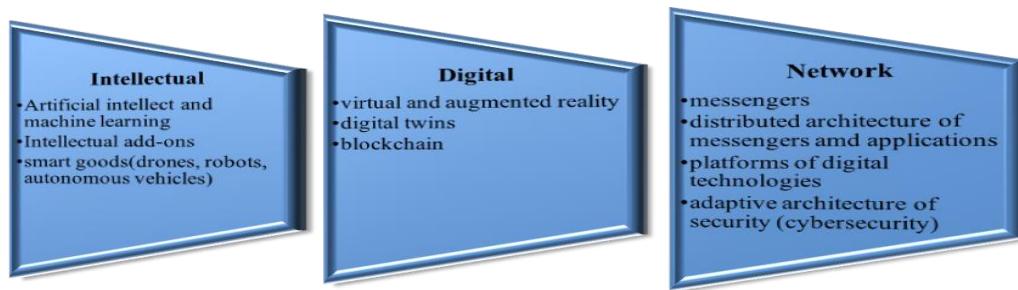


Fig.2. Implementation of Strategic Trends in Technology Development in the Tourist Business
Source: created by authors on the basis of the official website of Gartner company 2017

One of the challenging directions for the efficient functioning of tourist business, including on the terms of a franchise agreement, is the use of blockchain technologies, which reduce the risk of data deception, reduce transaction costs, and increase the level of trust among business partners, which in turn leads to increase in their number, as well as reduce the level of corruption.

According to the Organization for Economic Cooperation and Development forecasts, by 2023 approximately 10% of world GDP will be created with the direct use of blockchain technologies (Organization for economic cooperation and development 2018).

For the moment, the largest number of blockchain startups exist in the US and UK - 341 and 136 companies respectively. Thus, the share of the US accounts for 36.9% and in the UK - 14.8% of all blockchain startups in the world (Tadviser business portal 2018).

A large number of parties is involved in the tourism sector, in particular, franchisors and franchisees (which can be tour operators and travel agents), hoteliers, airlines, insurance companies, payment service providers, government agencies, public associations, etc., so the blockchain technologies can substantially accelerate internal processes and make them as transparent as possible for all parties, including regulators from sectoral associations and the state, as well as other stakeholders.

Table 1. Monitoring of the development and operation of blockchain technologies in the tourism business

| No. | Blockchain title | Main aspects of usage in travel business |
|-----|--------------------|---|
| 1. | LockChain | <ul style="list-style-type: none"> • Combines hotels and companies that lease real estate; • Includes payment, property management and other aspects of the booking process; • Uses a decentralized system, no intermediaries and commissions. |
| 2. | BeeToken / Beenest | <ul style="list-style-type: none"> • Used to communicate clients with hosts so that they can arrange and pay for their accommodation; • No commission; • Availability of payment protocols and reputation of the service provider and, thus, ensuring user safety. |
| 3. | Winding Tree | <ul style="list-style-type: none"> • Innovative channel of sales of tourist services; • Implementation of financial procedures between the subjects of tourism activity; • Booking; • Tracking baggage movements. |
| 4. | ShoCard&SITA | <ul style="list-style-type: none"> • Fast and safe identification procedure of tourists; • Simplifying the procedure for repayment of funds. |
| 5. | Trippki | <ul style="list-style-type: none"> • Functioning of a unified system of loyalty of tourist services; • Use of symbolic tokens recorded on the blockchain platform in the 24/7 mode. |
| 6. | TUI Bed-Swap | <ul style="list-style-type: none"> • Moving a tourist product between different points of sale; • the opportunity to increase the sales margin of a tourism product in real time, based on the level of demand present at that time. |

Source: Own results

A tourist product is both complicated and complex. Thus, it gives a huge space for studying the scale of blockchain application. The obvious advantage for confident competition in the tourism market is the blockchain application. For intermediaries of tourism activities (that's especially relevant for franchising tourism companies), there are two directions: to exit from the market (mainly the disappearance of the fake franchises) or the change of strategic business models.

One of the key advantages of blockchain technology is the absence of intermediaries in the business processes (Booking and Airbnb in the travel industry). The domination of these services will gradually decrease with the penetration of the blockchain in the tourist business. There is a possibility of changing their profile, which will be aimed at their use as informational and promotional resources.

Implementation of blockchain technologies make a positive impact on the image of the company and focuses the attention of the shareholders. Blockchain is cheaper, has higher productivity, and access to it can be obtained from any place - it is obvious optimization of costs.

An in-depth analysis of the implementation of tourism activities using blockchain technologies has allowed to identify the most common platforms that are presented in Table 1 above.

The sphere of tourism is based in many respects on the trust of business partners and it successfully copes with various difficulties due to strong relationships. Detailed analysis of the use of blockchain to attract customers and secure distribution and sales of travel services, carried out by specialists from the leading Travelport distribution services distribution platform, short, medium and long-term prospects for the use of blockchain technologies in tourism presented on Figure 3.

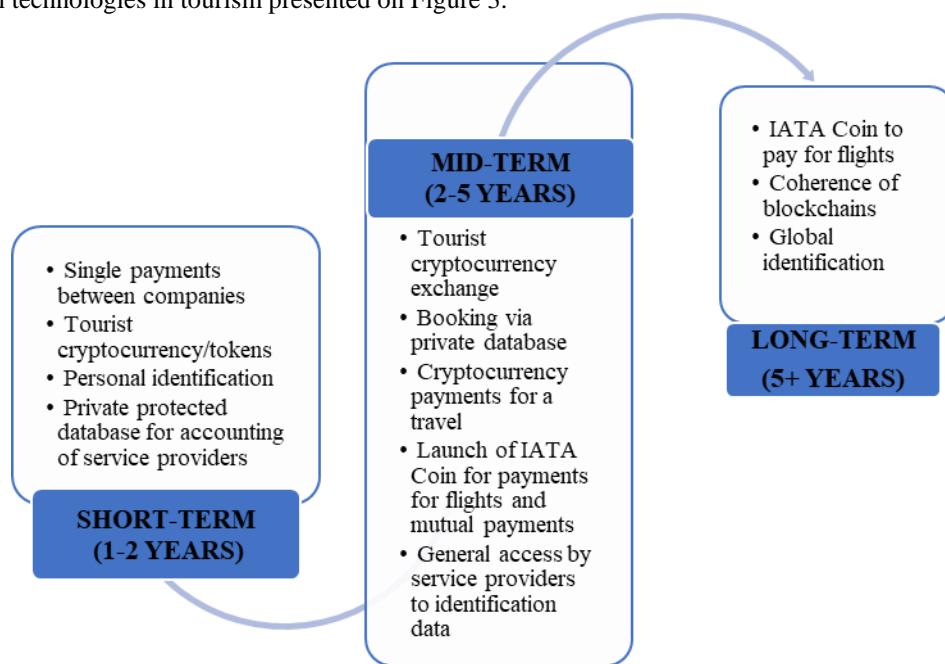


Fig.3. Periodization of the perspectives of blockchain application in tourism

Source: Own results based on Croucher (2019)

According to Travelport's forecast, in the short term, most of the changes will be linked with the creation of a private, protected database (flowcharts) to account for tourism service providers. In the medium and long term, blockchain technologies can have a radical impact on the processing of payments, accounting and management in the sphere of tourism.

At the same time, the relevance of the operation of franchising tourist networks on the servicemarket as an innovative tool of competitive influence and involvement of consumers, necessitates the identification of challenging directions for their development using blockchain technologies, which will have a corresponding positive result both for the franchisor and franchisee.

The advantages of using blockchain technologies in the practical activities of tourist enterprises (including - in the franchising system) are:

- Reduced time for contracts processing (smart contracts) from several days (weeks) required for data verification and document exchange, up to several hours;
- A secure customer identification process;
- Simplified procedure for mutual payments between tour operators (travel agents) and airlines, as well as other stakeholders, which take part in the development of tourism;
- Operation of a single loyalty card for hotels, car rental, airlines, etc.;

- The emergence of new business models and sources of income, which is especially attractive to franchisors and franchisees;
- Increased security and data protection;
- Low cost;
- Optimization of booking and payment processes for consumers of services;
- Enhancement of the security and transparency in transactions for parties, etc.

As long as tourism activities are entering digital domain and extending over the state borders the enforcement and dispute resolution can not remain traditional. Disputes arising from E-commerce are predominantly resolved by means of online dispute resolution, that proved to deliver justice both to consumers and sellers and meet their needs of fast, non-expensive and simple methods of dispute resolution. Though the progress appears to be unstoppable so new technologies – blockchain as well – bring new potential not only as means of business activities, but of dispute resolution also.

The lack of relevant dispute resolution would probably limit cross-border transactions within blockchain franchising portals and that may appear to be an obstacle for expanding such types of cooperation among tourism stakeholders.

Consideration of the issue of legal regulation and use of blockchain technology between interested tourist stakeholders, including in the franchising system, necessitates an analysis of the essence of such a concept as a smart contract. Sustainable research on cooperation between stakeholders on the basis of signing such contracts allowed to reveal the following features: the smart contract is an "intelligent" automated program that significantly accelerates the settlement and distribution of the digital currency between the parties; the inclusion in a smart contract of a separate agreement, necessary for the performance of contractual obligations and its actual execution; the use of smart contracts for cooperation implies probable decentralization of powers, the absence of a central supervisory authority, uncertainty in the processes of consideration of proposals and decision-making; the use of smart contracts is not scalable for use by stakeholders owing to the exclusion of disputes (Mazero et al 2018). At the same time, the research of Koulu's works allowed to reveal the following conceptual provisions of smart contracts:

- The process of translating a legal contract into a programming language differs significantly from the generally accepted and customary legal agreement regarding contractual obligations. However, this trend is developing rapidly and in a dynamic trend;
- Active development, the use of e-commerce sites and, consequently, the conclusion of smart contracts dramatically change the current understanding of enforcement (Koulu 2016).

The emergence of blockchain technologies, smart contracts provides additional possibilities to expanding business activities, change the understanding of business, law and enforcement.

The main trend of the efficiency of the operation of the world franchising tourist networks we consider the interaction of the franchisor's tourism company with competitors by merging companies and the formation of joint unions or by signing contracts and forming professional business relationships to achieve the goals and objectives.

At the same time, the tourist market requires not only interaction between enterprises but also interaction between other market participants (stakeholders), in particular, franchises and franchisees (which can be both tour operators and travel agents), state bodies and public associations, scientific institutions, consumers.

On the basis of the abovementioned, we propose to create a franchise blockchain portal for the interaction of tourist stakeholders as a tool for improving the efficiency of the operation of franchising tourist networks and ensuring their interaction between themselves and other participants in the tourist services market.

Each of the isolated tourist stakeholders (except for consumers) is appropriate to divide in accordance with their activities:

- Franchiser - as owner of a tourist franchise and as owner of a tourist company (as a main activity);
- Franchisee - as an individual startup and as a natural person or legal entity carrying out business activities;
- State structures and public associations, which include state administration and public associations in the field of tourism (in particular, in the franchising system);
- Scientific institutions, which combine HEIs, colleges, technical schools.

The basis of the structure of the franchise blockchain portal is the formation of external and internal content modules in accordance with its participants. External content modules of the portal are characterized by the perception of the information that is specified by the relevant participant and is open to others. At the same time, the external module restricts these tourist stakeholders to any transactions in the segment they

are interested in (including obtaining any statistical and financial information) and provides access only if they register on the portal and receive an appropriate confirmation of the request.

Each stakeholder has the right to use the data of other participants only in case of signing in to the portal and at the expense of filling its internal module with actual information on the activities on his personal page. This way, it would allow filtering and identifying those stakeholders who are prioritized for interoperability and further partnership.

For example, in accordance with the defined tourist stakeholders in the structure of the franchise blockchain portal, the franchisor is proposed to be considered as the owner of the tourist franchise and as the owner of the tourist company (as the main activity). In accordance with the first criterion, external filling modules have been formed, which the franchisor is required to submit to the blockchain portal for further interaction with other participants:

- Offers of tourist franchise (cost, amount of necessary investments for development in the franchise network, royalties, service and other payments, which should be taken into account when entering the network);
- Standards and requirements for the franchisee;
- Models of cooperation with the franchisee;
- Training profile centers where professional training of the franchisee is carried out for the effective operation of the franchisor network (conducting trainings and trainings on the basic business concept of network development, providing the necessary consulting services, etc.);
- The dynamics of the development of the franchising tourism network for the period of functioning;
- Formation and development of business relations with international partners;
- Special conditions and development proposals in the franchising tourism network;
- A map of the accommodation of tourist companies of the network (for convenience).

In accordance with the external modules, formed the internal ones that the franchisor (as the owner of the tourist franchise) provides in the open access for other participants in the event of interaction and the formation of business relations, in particular:

- Financial reporting of the activities of the tourist companies in the franchising system;
- The quantity of concluded franchise agreements with business partners (including on the national and international markets of services);
- The creating of innovative models of cooperation with partners.

On the portal of interaction of tourist stakeholders in the franchising, franchisor (as the owner of the tourist company) is obliged to indicate the following external modules:

- The history of the creation and development of a tourist company, indicating the directions of its activities;
- Thematic selection of tours for convenient and quick search of the required trip;
- Making bookings and sales online;
- Tourist offers of the franchiser (including offers of tourist companies of the network);
- Reviews and offers of consumers;
- Partners of accompanying services and their offers for the convenience of users (automobile services, restaurant services, etc.);
- Real-time feedback, including online consultant and direct phone calls.

To fill the internal modules, it is expedient to provide information on the financial statements of the main activities of the franchisor, to create databases of clients, staff and partners, and statistical reporting of market research of the consumer market and the market of competitors for the timeliness of management decisions at the enterprise.

4 Conclusions

Therefore, the tourist industry appears to be the main lever of every country that, even in the times of the economic crisis, global competition, critical differences in political and economic worldviews, continues to function and maintain market positions. However, the modern world is digitized in the global sense, so any activity, including tourism, requires radical changes, which, in turn, should be based on the use of information technologies.

Our analysis of the current trends in tourism development in the world suggests the popularity of the formation and operation of franchising tourism networks mainly in the virtual space. At the same time, the in-depth study in this direction has made it possible to reveal the urgency of using blockchain technologies in the sphere of tourism.

Implementation of blockchain Technologies positively affects the company's image and attracts investors who consider as a priority the formation of business relations with partners that are ready for innovations. However, most companies are developing pilot blockchain projects for reputation to show investors and competitors their flexibility and willingness to make new decisions, but without real intention to create a commercial offer.

In addition, despite the benefits of blockchain in the strategic development of the tourism business, this technology is still developing quite slowly, which allows to identify certain disadvantages, in particular:

- Absence or insufficient regulatory framework for blockchain;
- Insufficient maturity of the blockchain technologies, which need to be refined for large-scale use and compliance with industry standards;
- Lack of qualified specialists in the field of blockchain technologies;
- Limited information about the technology itself and the potential prospects for its development in tourism;
- Absence of the necessary system of regulation;
- High level of distrust from the society;
- In most cases, blockchain technologies use a small part of the necessary changes and can not independently ensure the rapid development of their using;
- Lack of sufficient scientific in this type of activity, etc.

Based on the above-mentioned, a franchise blockchain portal of interaction between tourist stakeholders has been developed, accompanied by a decentralized management structure, the highest level of security for all participants in the portal, the storage of information, the openness and transparency of the system for users, the inability to redo or falsify recorded data, the convenience and speed of contracting between participants through the use of smart contracts.

Thus, the improvement of the standards of application of blockchain technologies in the tourism industry and the willingness of all tourist stakeholders to interact with distributed databases will become a challenging powerful tool for the development of tourism in general.

References

- Abramovich G (2018) 15 Mind-Blowing Stats about digital trends in travel and hospitality. <https://www.adobe.com/insights/digital-trends-in-travel-and-hospitality.html> Accessed 18 February 2019
- Barnett J, Treleaven P (2018) Algorithmic dispute Resolution: The automation of professional (dispute resolution using AI and blockchain technologies). *The Computer Journal* 61(3):399-408. doi:10.1093/comjnl/bxx103
- Buhalis D, Viglia G, Werthner H (2016) Disruptive innovations. *Information Technology & Tourism Journal* 16:327. doi:10.1007/s40558-016-0072-1
- Cornelissen S (2017) The global tourism system: Governance, development and lessons from South Africa. <https://books.google.com.ua/books?id=QgokDwAAQBAJ&printsec=frontcover&hl=ru#v=onepage&q&f=f> also Accessed 18 February 2019
- Croucher M (2019) 2019 Trends in Travel Technology: What will be BIG this year? <https://www.travelport.com/blog/2019-trends-travel-technology-what-will-be-big-year> Accessed 10 February 2019
- Digital Marketing Research Company (2017) Worldwide sales of travel services in the virtual space. <https://www.emarketer.com/Chart/Digital-Travel-Sales-Worldwide-2016-2021-billions-change/209433> Accessed 16 February 2019
- Franchise Group (2018) Analytical report of the franchise market. <https://franchisegroup.com.ua/ru/about-company/franchising/> Accessed 12 February 2019

- Gartner company (2017) Top 10 Strategic Technology Trends. <https://www.gartner.com/smarterwithgartner/gartners-top-10-technology-trends-2017/> Accessed 15 February 2019
- Koo C, Gretzel U, Hunter W, Chung N (2015) The role of IT in tourism. *Asia Pacific Journal of Information Systems* 25(1):99-104. doi:10.14329/apjis.2015.25.1.099
- Koulu R (2016) Blockchains and online dispute resolution: Smart contracts as an alternative to enforcement. *Scripted Journal of Law, Technology and Society* 13(1):40-69. doi:10.2966/script.130116.40
- Makhovka V (2018) Interactive and Smart-Technology in Tourism. <http://deposit.pntu.edu.ua/handle/PoltNTU/3196> Accessed 16 February 2019
- Mazaraki A, Boiko M, Bosovska M, Vedmid N, Okhrimenko A (2018) Formation of National Tourism System of Ukraine. Problems and Perspectives in Management 16(1):68-84. doi:10.21511/ppm.16(1).2018.07
- Mazero J, Sentell W (2018) "The Blockchain Is Real" Understanding blockchain and its role in global supply networks. https://www.franchising.com/articles/the_blockchain_is_real_understanding_blockchain_and_its_role_in_global_supp.html Accessed 17 February 2019
- Melnichenko S (2010) Information technologies in tourism: theoretical and practical aspects. http://web.znau.edu.ua/herald/issues/2010/Vest_Ek6-2-2010-PDF/129-138.pdf Accessed 18 February 2019
- Moustafa M (2011) Evaluating the potential of Mobile Technology in Tourism Destination Marketing. <https://repository.cardiffmet.ac.uk/handle/10369/3273?show=full> Accessed 18 February 2019
- World Tourism Organization (2018) UNWTO Tourism Highlights: Annual report. <https://www.e-unwto.org/doi/pdf/10.18111/9789284419876> Accessed 18 February 2019
- Organization for economic cooperation and development (2018) Secretary general's report to ministers. https://read.oecd-ilibrary.org/economics/secretary-general-s-report-to-ministers-2018_sg_report-2018-en#page4 Accessed 15 February 2019
- Shevyakova A, Munsh E, Arystan M (2019) Information support for the development of tourism for the diversification of the economy of Kazakhstan. *Insights into Regional Development* 1(2):138-154. doi: 10.9770/ird.2019.1.2(4)
- Swan M (2015) Blockchain: Blueprint for a New Economy. <https://sites.google.com/site/tewiikobooks26/pdf-download-blockchain-blueprint-for-a-new-economy-by---melanie-swan-read-online> Accessed 18 February 2019
- Tadviser business portal (2018) The leader in quantity a blockchain startups. [http://tadviser.com/index.php/Article:Blockchain_\(world_market\)](http://tadviser.com/index.php/Article:Blockchain_(world_market)) Accessed 12 February 2019