Innovative Perspectives to Apply Blockchain Model for the Saints Cyril and Methodius and Saint Sophronius of Vratsa Historical Sights in the Context of European Cultural Routes

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The focus of the study is the implementation of blockchain as an emerging technology that can radically improve operations when it comes to cultural heritage and in particular in the context of the European cultural routes, and can create new opportunities for innovation. The development of blockchain technologies in the last few years involves examples of networks of various organizations that collaborate to create value and improve competitiveness. This type of network could provide together with local stakeholders and small- and medium- size enterprises (SMEs) on local markets additional assets as to the goods and services between the participants.

Keywords: innovation, tourism, cultural routes, blockchain

Introduction

As it has been for centuries, tourism and commerce rely on two key factors—trust and guaranteed quality. In other words, what is the deal and who is behind it? Nowadays tourist transactions are conducted mostly online and require intermediaries, such as banks, governments, or other local or central authorities to verify the identity of each party in the process and to establish the trust required between them. When you deal with other parties, you end up with problems, like low speed, high cost, and sporadically even fraud.

The study reveals the cultural routes as an important engine to the development of local economics and especially with the new information technology (IT) technologies will bring to a better quality of life. Leisure time will be to a greater extent the factor contributing to the tourist development and this will require new models of cooperation and sharing of the branding of the cultural heritage, thus improving the competitiveness of the cultural routes and yielding the benefits to the cultural and touristic institutions and SMEs.

The interest in the cultural routes established in 1987 as a result of the European Council, European Union (EU), and United Nations Educational, Scientific, and Cultural Organization (UNESCO) decisions is growing and the number is amounting to 34 routes at the end of 2018 already incorporated in the European Map of cultural routes (D'Alessandro, Khovanova-Rubicondo, & Lecci, 2018). Three of those cross Bulgaria and together with the UNESCO cultural heritage and other historical sights in the country represent a good asset for the development of tourism. It was in State University of Library Studies and Information Technologies (SULSIT) last year that the idea of two new routes emerged: those of St. Cyril and Methodius and of St.

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Sophronius of Vratsa. This, in turn, suggested further research of the existing routes and the UNESCO sights considering the correlation to the IT technologies. Thus, we come to the conclusion of a needed digital platform for the management of the cultural routes based on blockchain.

The creation of a new platform together with the IT specialist allows better use of the economic resources of the respective destination related to the cultural routes and will result in the improvement of the local economy.

The study includes analyses of the existing cultural routes connected to the European cultural routes and the UNESCO cultural heritage sights in Bulgaria and the possibilities for the creation of new cultural routes based on blockchain together with private tokens for payment.

Methodology

The study is subscribed within the concept of exploratory research and is based on mixed methods. The analysis is partially laying on the policy and legislative documents produced in the last 10 years by the European Union regarding the creation of the cultural roots. The empirical data are combining qualitative and quantitative methods of research. The survey by questionnaire was carried in 2018 and was designed to answer the research question of whether the industry is prepared and on which agreement is willing to adopt blockchain in its operational structure and functions. The questionnaire was distributed and consecutively semi-structured interviews were conducted with 21 experts from the tourism and cultural industries including the chief executive officer (CEO) of cultural institutions, museums, and specialized tourism agencies. The questionnaire administration was face to face and an interview followed immediately after the questionnaire completion. The questions asked in the questionnaires were two types: the first type was general questions of the socio-economic profile of the respondent, and the second type was the preparedness of the tourism industry for the introduction of new cultural routes, as well as the acceptance of the blockchain technology by tourists and industry and the degree of its introduction at the attractions and along the routes in questions. This section of questions allowed us to produce a strengths, weaknesses, opportunities, and threats (SWOT) analysis of blockchain application feasibility study for South-East Europe.

The interviews with the key-informants experts in cultural industries allowed us to test the understanding of the concept interrogated in the questionnaire and to collect deeper and richer information about the new cultural roots creation and the preparedness of the industries for block chain operations serving these cultural roots. Because of the exploratory nature of this study and the profile of the respondents, the aim of the data collection was no to reach a representative of the sample. Rather, the idea is to seize the opinions of the experts regarding the research questions mentioned previously. In this regard, the analysis that we have done is informed by the qualitative methods and is performed as thematic analysis. Descriptive statistics were not applied because of the small sample size.

Definition of the Term

The importance of the development of cultural routes for the tourism industry is a part of the overall development of tourism (Denchev, Peteva, & Stoyanova, 2016). United Nations World Tourism Organization (UNWTO) estimates that worldwide international tourist arrivals (overnight visitors) increased 6% to 1.4 billion in 2018, clearly above the 3.7% growth registered in the global economy. The growth of tourism in recent years confirms that the sector is today one of the most powerful drivers of economic growth and

development. It is our responsibility to manage it in a sustainable manner and translate this expansion into real benefits for all countries, and particularly, to all local communities, creating opportunities for jobs and entrepreneurship and leaving no one behind. "This is why UNWTO is focusing 2019 on education, skills, and job creation", said by UNWTO Secretary General Zurab Pololikashvili (UNWTO, 2019).

Tourism undoubtedly creates employment, but the sector faces a large challenge to move towards new technologies based on blockchain and cryptocurrencies. Inspiring positive examples exist, which can open the discussion on making real progress towards economic growth that is both sustainable and creates decent work (Houben, Snyers, & European Parlaiment, 2018).

The cultural route is a good sample of how we can use the blockchain and cryptocurrencies to describe a new and innovative concept for the travel experience. It could be a unique product of creative tourism that from one side brings thematically link together different monuments of cultural and natural heritage throughout various countries and new IT technologies implementing various stakeholders and small- and medium- size enterprises (SMEs) improving their competitiveness.

This is the type of situation where the "routes" or "cultural itineraries" approach can point to a way forward, by revealing riches that others do not know exist—even though, locally, they have been revered since time immemorial. The concept of a "route" is based on the observation that encounters among peoples and among cultures and that is beneficial. It highlights the cross-fertilization of knowledge and know-how, of ideas, beliefs, and representations by integrating the fundamental data of the natural and cultural, tangible and intangible heritage. It identifies the dynamics that, in times of crisis and in times of wellbeing, have set these interactions in motion. In addition, on the basis of analysis over time, it makes for a better assessment of the potential and the modalities for intercultural dialogue in today's pluralistic societies, while at the same time avoiding a return to past disagreements that could once again be our downfall. The routes not only offer history and geography of intercultural dialogue down through the ages but also contribute to forward-looking reflection. Indeed, the encounters and interactions that today's world tends to overlook are actually a stark reminder to us that intercultural processes were happening long before we started discussing them (UNESCO, 2005).

Council of Europe (CoE, 2010) defined cultural route as

> a cultural, educational heritage and tourism cooperation project aiming at the development and promotion of an itinerary or a series of itineraries based on a historic route, a cultural concept, figure or phenomenon with a transnational importance and significance for the understanding and respect of common European values. (p. 1)

Blockchain technology provides the basis for a dynamic shared ledger that can be applied to save time when recording transactions between parties, remove costs associated with intermediaries, and reduce risks of fraud and tampering. Blockchain is a system in which a record of transactions made in bitcoin or another cryptocurrency are maintained across several computers that are linked in a peer-to-peer network (Baars, 2016).

With blockchain technology, a European cultural routes network will allow members to interchange items of value through a distributed ledger. Each member possesses and whose content is always in sync. Its cost-efficiency and responsibility are driven by the next key supporting concepts:

- Distributed ledger;
- Cryptography that ensures the integrity of ledger content;
- The consensus in which the majority of chain nodes confirm transaction validity;
- Smart contracts that authorize and notarize each transaction;

Blockchain is an emerging technology that can radically improve operation in cultural heritage and in particular in European cultural routes and can create new opportunities for innovation. The development of blockchain technologies in the last few years contains many examples of networks of different organizations that collaborate to create value and improve competitiveness. The network in the context of European cultural routes could work together with local stakeholders and SMEs on local markets that could exchange assets in the form of goods and services between the participants.

Cultural Routes as a Form of Developing Tourism and Trade Relations in South East and Central Europe

The cultural routes have lasted throughout different periods and ages under the influence of political, economic, and cultural circumstances. Silk Route is one such example. They are incredibly dynamic, as a result of deep inner processes and the tangible external influence on culture and politics. The Council of Europe (2005) provided assistance with institutional capacity-building in the field of heritage management and encouraged the use of heritage as a means for confidence building within and between countries. Council also supports the improvement of management systems and skills in public administration, by harmonizing legislation and by supporting the development of policies and strategies for the preservation of heritage and, equally important, for access to heritage.

The Varna Declaration is adopted at the Regional Forum Cultural Corridors of southeast Europe (Varna, 20-21 May 2005). It is a result of a true dialogue. During the preparatory phase of the Forum, a network of experts from UNESCO, the Council of Europe, the European Commission, International Council on Monuments and Sites (ICOMOS), and Bulgaria constantly exchanged opinions on the project of the Declaration in a virtual forum of experts. The forum was supported by the "Regional Program for Cultural and Natural Heritage" of the Council of Europe to adopt a new perspective on the diversity of heritage as a source of social progress and human development. During the Forum itself, the project fostered the dialogue between politicians and experts. A contribution to it has also the conceptual framework of UNESCO. With the Declaration, the Heads of States undertook particular commitments for identification, preservation, sustainable use, and promotion of the cultural corridors of southeast Europe (Varna, 2005).

The European Route of Industrial Heritage is created as a non-profit organization by the Council of Europe was established in 1998 and its role is: (i) to examine applications for new projects; (ii) to monitor activities in the field and coordinate the work of partner organizations; and (iii) to disseminate and archive information documents. UNESCO has developed the Routes of Dialogue program for exchange and intercultural dialogue promotion that includes cultural routes as a category on the World Heritage List (UNWTO, 2017). The list includes 1,092 world heritage highlights included seven cultural and tree natural monuments in Bulgaria: Boyana Church, Madara Rider, Rock-Hewn Churches of Ivanovo, Thracian Tomb of Kazanlak, Ancient City of Nessebar, Pirin National Park, Rila Monastery, Srebarna Nature Reserve, Thracian Tomb of Sveshtari, and Ancient, and Primeval Beech Forests of the Carpathians and Other Regions of Europe.

The Council of Europe adopted the Enlarged Partial Agreement (EPA) to contribute to the promotion of European identity and citizenship through knowledge and awareness of Europe's common heritage, and the development of cultural links and dialogue within Europe as well as with other countries and regions. It shall seek to shape a shared cultural space through the development of Cultural Routes aiming to foster awareness-raising about heritage, education, networking, quality, and sustainable cross-border tourism and

other related activities. The EPA contribute to reinforcing the potential of Cultural Routes for cultural co-operation, sustainable territorial development, and social cohesion, with a particular focus on themes of symbolic importance for European unity, history, culture and values and the discovery of less well-known destinations, and aim to the development and promotion of the Cultural Routes concept in all its aspects in order to raise awareness globally of Europe as a tourism destination of a unique value and quality.

The European Cultural Routes Institute (ECRI) was established as a European public service and technical body as part of a political agreement between the Council of Europe and the Grand Duchy of Luxembourg (Ministry of Culture, Further Education and Research). Since 1988, the Institute has worked in close collaboration with the Council of Europe in carrying out its responsibilities, namely to ensure the continuity and development of the program of the Cultural Routes in the 51 signatory countries of the European Cultural Convention and, depending on the geographical and historical requirements of the themes, in those countries which have had and continue to have close relations with. ECRI has established 34 cultural routes, stretching across 70 countries on four continents, and including thousands of attractive destinations. The activities of the networks are constantly growing.

Currently, cultural routes provide a basis for hundreds of cultural events, educational projects, and tours (Council of Europe, 2010). In addition, the EICR provides advice and expert assistance for the implementation, development, promotion, and evaluation of cultural routes, as well as training and capacity building for cultural routes operators, Statute of the Enlarged Partial Agreement on Cultural Routes (Council of Europe, 2010, CM/Res[2010]53).

The Institute usually assists candidates for the Cultural Routes of the Council of Europe certification in preparing applications. Manuela Graf has stated that according to Penelope Denu the time it takes to ECRI to prove the application of a new cultural route is rather variable (between a single year and 10 years), and it depends on the speed of creation of an association or federation with at least three countries, the constitution of a scientific committee, the organization and implementation of activities to show the network is operational (Graf & Popesku, 2016). The Institute requires the signature of an annual contract of €3,000 for advice, an action plan, and administrative costs. For the procedure, applications are accepted each year until 30 September and the evaluation process ends the following year in April.

The Council of Europe certification provided in Resolution CM/Res(2010)53 of establishing an Enlarged Partial Agreement (EPA) on Cultural Routes (CoE, 2013) that drawing in particular on the expertise of the ECRI, shall provide advice and expert assistance for the development, implementation, evaluation, and promotion of Cultural Routes. This involves expertise on: (i) setting up and functioning of project networks and organizations and the development of co-operation agreements; (ii) research on the historical background of the routes and the development of the cultural and educational content and activities of the Cultural Routes; (iii) development of a sustainable tourist offer based on the Cultural Routes, thus contributing to the economic well-being of regions; (iv) preparation and implementation of financing and promotion strategies; (v) training and capacity building for Cultural Routes operators, in particular in relation to Council of Europe and other international standards in the field of heritage and culture, as well as standards of professional practice in the field of tourism; and (vi) promotion, visibility, and all other aspects related to the compliance with the Council of Europe standards. The economic, social, and cultural development of the countries depends on the implementation of international cooperation and support activities (Spassova, 2014).

The EPA shall support networking and exchange between Cultural Routes operators and other partners in the field of cultural tourism, in particular for: (i) the development of a common vision and strategy for cultural routes as tourism products; (ii) the development of partnerships to increase the resources available for cultural tourism in Europe; and (iii) the identification and dissemination of good practice.

In the field of cultural routes and cultural tourism, there is a partnership between the Council of Europe and the European Union. A meeting of all cultural routes representatives and stakeholders takes place annually as a Cultural Routes Advisory Forum. As mentioned above, only 34 cultural routes have received the Council of Europe Cultural Route certification (Council of Europe, 2010).

European Cultural Route of St. Cyril and Methodius and St. Sophronius of Vratsa

Route of St. Cyril and Methodius

Saints Cyril and Methodius (826-869, 815-885; Greek: Κύριλλος καὶ Μεθόδιος [Kýrillos kaí Methódios], Old Church Slavonic: Кѷриллъ и Меѳодїи[more]) were two brothers who were Byzantine Christian theologians and Christian missionaries. Through their work, they influenced the cultural development of all Slavs, for which they received the title "Apostles to the Slavs" (Rohdewald, 2008). They are credited with devising the Glagolitic alphabet, the first alphabet used to transcribe Old Church Slavonic (Liturgy of the Hours, 1980). After their deaths, their pupils continued their missionary work among other Slavs. Both brothers are venerated in the Orthodox Church as saints with the title of "equal-to-apostles". In 1880, Pope Leo XIII introduced their feast into the calendar of the Roman Catholic Church. In 1980, Pope John Paul II (2008) declared them co-patron saints of Europe, together with Benedict of Nursia. The two brothers were born in Thessalonica, Cyril in about 827-828, and Methodius about 815-820 in the family of the Byzantine dynasty Leo—assistant strategist of the Thessalonica region. Their mother, Maria, is supposed to be a Slav (Pavlov, 2008).

The canonization process was much more relaxed in the decades following Cyril's death than today. Cyril was regarded by his disciples as a saint soon after his death. His following spread among the nations he evangelized and subsequently to the wider Christian Church, and he was famous as a holy man, along with his brother Methodius. There were calls for Cyril's canonization from the crowds lining the Roman streets during his funeral procession. The brothers' first appearance in a papal document is in Grande Munus of Leo XIII in 1880. They are known as the "Apostles of the Slavs", and are still highly regarded by both Roman Catholic and Orthodox Christians. Their feast day is currently celebrated on 14 February in the Roman Catholic Church (to coincide with the date of St Cyril's death); on 11 May in the Eastern Orthodox Church (though for Eastern Orthodox Churches which use the Julian Calendar this is 24 May according to the Gregorian calendar); and on 7 July according to the old calendar that existed before the revisions of the Second Vatican Council. The celebration also commemorates the introduction of literacy and the preaching of the gospels in the Slavonic language by the brothers. The brothers were declared "Patrons of Europe" in 1980 (Martis, 2018).

The cultural tourism route of Saints Cyril and Methodius' ways should include many commemoration sites in many European countries as:

Greece—Thessaloniki, the church of Saints Cyril and Methodius in their hometown;

Greece—Thessaloniki, a monument of the two Saints gift from the Bulgarian Orthodox Church;

Bulgaria—Statue of the Two Saints in front of the National Library in Sofia;

Bulgaria—Statue of the Two Saints in front of the National Palace of Culture in Sofia;

Bulgaria—Statue of the Two Saints in front in Pazardzhik;

North Macedonia—the monument in Ohrid;

North Macedonia—Statue of Cyril and Methodius near the Stone Bridge in Skopje;

Czech Republic—Statue of Saints Cyril and Methodius at the Charles Bridge in Prague;

Czech Republic—Saints Cyril and Methodius monument in Mikulčice;

Czech Republic—Statue of Saint Methodius at the Holy Trinity Column in Olomouc in Moravia;

Czech Republic—Statue, Saints Cyril and Methodius, Třebíč;

Ukraine—the monument in Kyiv;

Ukraine—a monument of Saints Cyril and Methodius in Donetsk;

Russia—the monument of Saints Cyril and Methodius in Khanty-Mansiysk;

Russia—Monument to Saints Cyril and Methodius in Saratov;

Serbia—the monument to Saints Cyril and Methodius in Belgrade:

Italy—Monument and the grave of St. Cyril in Basilica di San Clemente al Laterano;

Route of St. Sophronius of Vratsa

Saint Sophronius of Vratsa, or Sofroniy Vrachanski (1739-1813), was a Bulgarian cleric and one of the leading figures of the early Bulgarian National Revival. He was born as Stoyko Vladislavov in Kotel, the town in the eastern part of Bulgaria, in 1739. At age of three years, he becomes an orphan and attended a monastery school in his hometown where he has studied Slavic and Greek books. He became a cleric in 1762. While working as a teacher and writer he met Paisius of Hilendarin in Kotel in 1765. Paisius showed him his Istoriya Slavyanobolgarskaya, the primary work of the Bulgarian Revival, of which Vladislavov made the first copy, known as Sophronius Copy (Dobreva, 2015). In this period, he traveled to Mount Athos in 1770 and after Sophronius becoming Bishop of Vratsa on 17 September 1794. After the dislocations caused by Osman Pazvantoğlu, the bishop's duties became more and more difficult for Vladislavov and he left Vratsa in 1797 to wander in northwestern Bulgaria. He spent three years in Vidin in a period that helped him determine his goals as a writer. He left for Bucharest in 1803 to serve the people as a high-standing clergyman, being released on his insistence from his bishop's post but continuing to sign under his bishop's name. Between 1806 and 1812, Sophronius of Vratsa was one of the most eminent representatives of the Bulgarian people in their communication with the Russian commanding of the Russo-Turkish War. He spent his last years in a monastery in Bucharest. His date of death is unknown, the last signed document being from 2 August 1813 (Radev, 2007).

St. Sophronius of Vratsa was canonized as a saint by the Bulgarian Orthodox Church on 31 December 1964. After his name was named St. Sofroniy Knoll, it is the hill rising to 107 m on the small ice-free peninsula of President Head in the northeast extremity of Snow Island in the South Shetland Islands, Antarctica, situated 1.3 km southwest of the extreme northeast point of the peninsula.

The cultural tourism route of Saint Sophronius of Vratsa ways should include many commemoration sites in many European countries as Bulgaria, Romania, North Macedonia, Serbia, Ukraine, and Russia.

Result in Discussion: Building a Conceptual Framework

From the study, it can be concluded that many managers have no deep understanding of what blockchain is (95% of all respondents), what is the place of cryptocurrencies, and their potential impact on hotel policies but they are keen to improve their knowledge and recognize the opportunities in the business space for

implementation of the system (67% of respondents). It is necessary to develop a solid understanding of the internal functioning of blockchain and cryptocurrencies with detailed explanations of the way of use (88% of respondents), decentralized consensus (5% of respondents), cryptography (2% of the respondents), intelligent contracts (90% of the respondents), and many other important concepts. Managers want to get a wider perspective on innovations associated with blockchain and cryptocurrencies (87% of the respondents), including decentralized organizational structures (55% of the respondents), networks and applications (55% of the respondents), and be better informed about the new paradigm within blockchain technology-based business applications (95% of the respondents).

The result of the SWOT analysis on the use of blockchain and cryptocurrencies for various payments faces the following strengths:

- The blockchain technology offers means to reduce the expenses, time, and risk;
- Cuts some of the bureaucracy and is beneficiary to the performance of the cultural institutions;
- Blockchain is useful in solving complicated problems;
- Smart contracts allow the decentralized network of economic agents to agree, at regular intervals, on the true state of shared data;
- Supports creation of new digital platforms;
- It creates new models for revenue and knowledge accumulation;

The weaknesses in SWOT analysis are as follows:

- Managers do not have an in-depth understanding of what blockchain and cryptocurrencies are and their potential impact on cultural practices;
- It is necessary to develop a solid knowledge of the mechanisms of blockchain and cryptocurrencies with detailed explanations of benefits, decentralized consensus, cryptography, intelligent contracts, etc.;
- In order to achieve real synergy in the activities related to the cultural sights, a blockchain needs to adapt existing practicalities, and not just mechanically to connect them;
- The implementation of a new system requires additional investments;

The following answers resulted as opportunities in SWOT analysis:

- Blockchain is a new technology for European cultural routes and monuments of UNESCO and will have future development;
- It can start with on a limited scale to solve a specific business problem;
- Optimize the number of the business partners;
- Increasing cost-effectiveness and accountability;
- Implementing smart contracts that legally certify each transaction;

Possible threats to the SWOT analysis as follows:

- There is a risk of not a wide enough perspective on innovation for Managers;
- There are concerns about implementing new decentralized organizational structures, networks, and applications;
- Each manager introducing an innovative blockchain system has to deal with the complexity of the technology;
- There is a need to reengineer existing systems;
- Risk of not adequate suffices of modern applications in blockchain conversions;
- Possible hacker attacks targeting cryptocurrencies;

Blockchain Modeling and Application to the Southeast European Context

The modeling of hotel policies in the implementation of cryptocurrencies aims to contribute to the improvement of the management system of a particular tourist site. The creation of a model allows optimizing the form of management, the form of behavior, and the form of action for the respective hotel by identifying the focus of the proposed product, defining the main goals and the processes related to their realization, which is important for achieving a positive final result—increasing competitiveness.

Blockchain modeling is a process in which patterns are constructed and studied, reflecting the objects studied. At the same time, the model itself is a complex object with certain characteristics that match the elements of the original. Depending on the level of research, the degree of adequacy of the model is determined. The model is a copy or abstract reflection of the main features of the studied process or phenomenon. The closer the copy of the real object is to the model, the more accurate the results are subsequently obtained (Ivanova & Borovska, 2011).
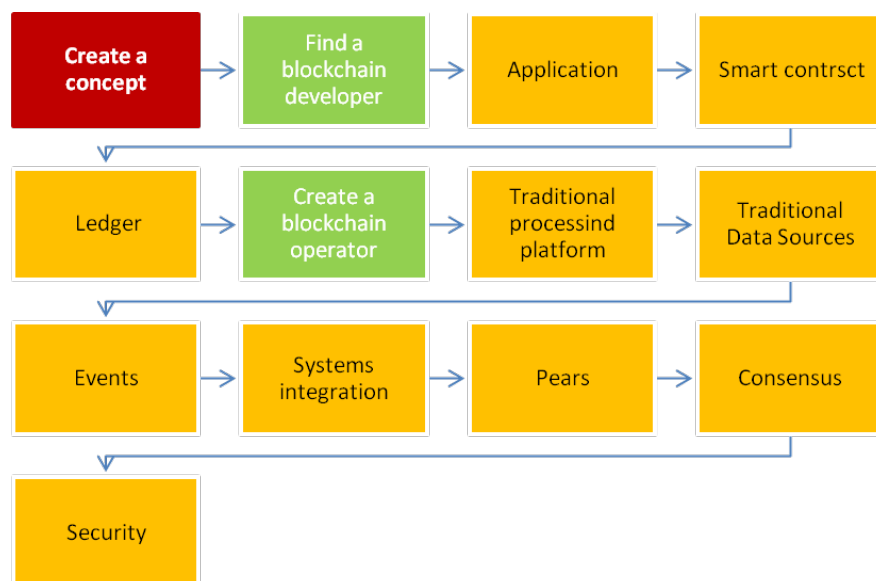

Figure 1. Modeling a blockchain system for European Cultural Routes (Created by the author based on the idea of the blockchain implementation roadmap [Deloitte analysis: 2018]).

Modeling a blockchain system for the European Cultural Routes is based on the scheme proposed by Deloitte in the 2008 Annual Analysis and represents a road map for the action needed to create the system. It involves the necessity of finding an IT specialized company to make the platform work and to put the system into operation. The drafting of the conceptual design and the technical specifications for the roadmap should be made in agreement with the contractor. It also describes the necessary requisites for the smart contract and the system registry.

The creation of an operator to manage the standalone software product developed specifically for the consortium of cultural institutes to manage European cultural routes is important in the second phase of the project. It involves creating and operating of the system platforms, operators of initial information and mechanisms of access to the operating system, the operators of information about events in the process of operation of the system, its integration with existing and emerging sources of information, management system and confirmation, and security systems.

Conclusion

The digital transformation (according to 91% of the respondents) and blockchain technology will have four potential applications in the hospitality industry:

• The large hotel chains, such as Marriott, which works with thousands of suppliers in different geographic areas when using a public or private version of blockchain technology (as the International Business Machine [IBM] Blockchain Platform), could introduce smart contracts to trace the supplies and to rationalize the supply logistics—from contracting supply management to deals with suppliers, consumers, etc. (Petko Russkov-Sofia university St. Kliment Ohridsky);

• Reliability with negotiation: Blockchain can feed smart contracts between hotel chains and multiple legal entities, from franchise agreements and preferred supplier contracts to corporate groups and managed business travel contracts, etc. (Soyan Denchev—SULSIT);

• Universal digital identifiers: in the future, the blockchain could provide universal users with travel information, for online and hotel reservations, membership in loyalty programs, and ultimately easier and safer online transactions. (Elena Kosseva—St. Constantine and Helena resort);

• Another use of a blockchain is the tokenization of the current loyalty programs by replacing old-fashioned mileage plan or service collection, the loyalty customers cards, and even the rewarding with blockchain digital cards (Vania Dobreva—IAPIST).

According to Max Starkov (president & CEO at HeBS Digital), artificial intelligence (AI) will have a more immediate impact on hotel loyalty programs than machine training for marketing and pricing. The AI will dramatically improve customer service through chat blogs and AI voice assistants and others. In order to achieve any optimization of the block system, one must anticipate the integration of all previous legacy systems, and not just to interface with them. And the key questions are: "Who will pay for this huge investment?", and "When will a block distribution system payback its investments in the Application Programming Interface (API), and when the current API management, will replace the previous distribution systems?" (Starkov, 2014)

In conclusion, we should not overlook the business capabilities of blockchain system applications and the introduction of cryptocurrencies (public and private), as the market obviously not only follows but also increasingly responds to their effectiveness. The introduction of blockchain systems in the management of European cultural routes will certainly take time before it happens in practice but that time comes.

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